Webcam PW515
User Guide

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Introduction

This document is your User Guide for the Webcam PW515. We have written this guide to provide you with the information you need to quickly and smoothly use the webcam.

After a quick introduction of the webcam and who this product is intended for, we will dive into its key features, system requirements, and technical specs and show you how to set up and install the device. Lastly, this guide will finish with a link to our technical support team and with some brief information on AVerMedia's background.

Thank you for taking the time to use and try out our latest webcam, we hope you enjoy using it as much as we enjoyed making it. If you have any questions or suggestions on our products or need any further editorial assistance, please don't hesitate to contact us.

Webcam PW515

The World's Most Intelligent 4K Webcam

The Webcam PW515 boasts a large 4K sensor, and captures more light than the average webcam, while the inclusion of HDR and 3DNR makes for impressive color, and clever technology adjusts well for challenging lighting conditions. There's even AI-driven auto framing that keeps you at the center of the screen.

It's our premium 4K webcam with incredible color and clarity. The exceptional video quality keeps users looking their best in a variety of lighting conditions when video conferencing, live streaming, or learning remotely.

Key Features

- Vivid, ultra-clear 4K quality.

- AI-driven auto framing and gesture control keep participants effortlessly in the shot.

- HDR and 3DNR adjust well for various lighting conditions.

- Variable Ultra Wide FoV 100°– 65°.

- Features premium camera optics that capture a wide field of view without distorting.

- Built-in privacy shutter which is robust and easy to apply.

System Requirements

Webcam
- Operating system:
  Windows 10 or later;
  macOS 10.14 or later;
  Chrome OS 85.0.4183.131 or later
- Software Compatible: Facebook, YouTube, Facebook Messenger, FaceTime, Line, GoToWebinar, Cisco Webex, Microsoft Teams, ZOOM, OBS, StreamLab OBS, Skype, Skype for Business, Slack, Google Meet, Lifesize, Amazon Chime, Whereby (Appear.in)
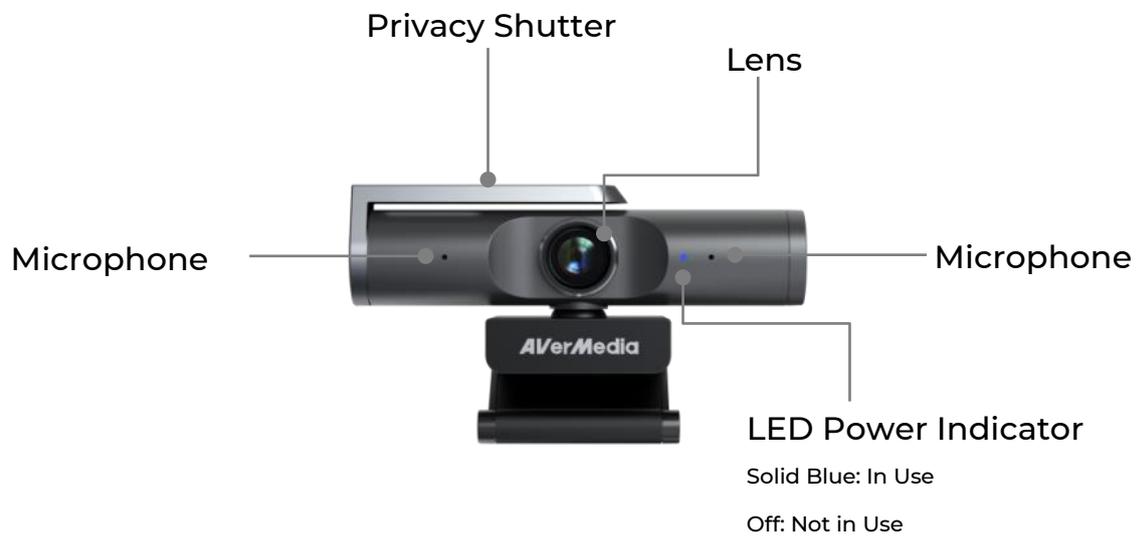
Hardware System Requirement
- CPU: 3.2 GHz Intel® Core™ i5-4460 processor or better
- RAM: 4 GB or more
- USB: USB 3.1 Gen 1 compatible with USB 2.0 (lower resolution)
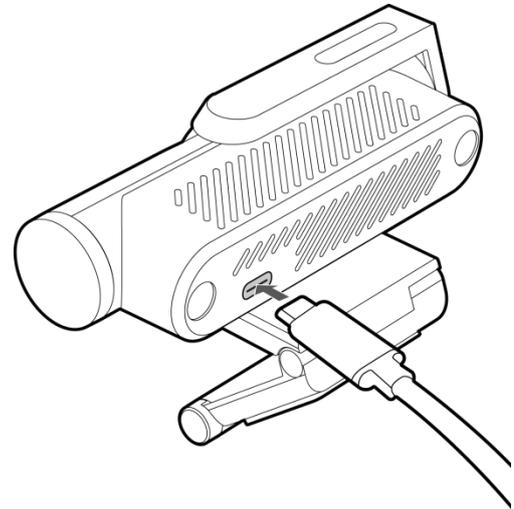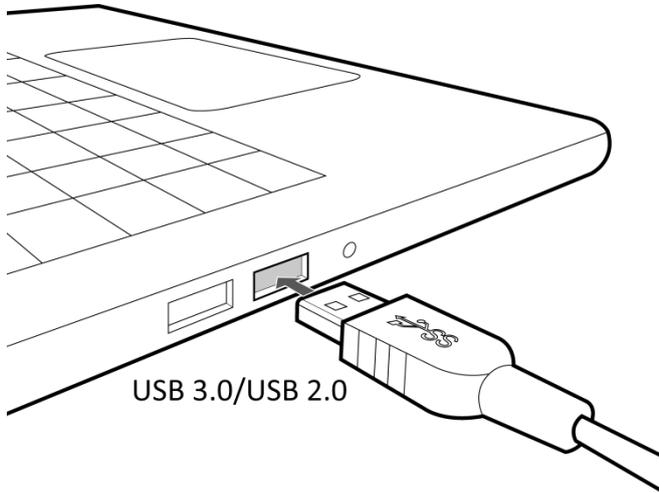
Technical Specifications

|	
Image Sensor	SONY STARVIS™ 4K CMOS Image Sensor
Maximum Resolution/Frame Rate	3840x2160/30fps; 1920x1080/60fps
Focus Method (Lens type)	Autofocus
Format	MJPEG, YUY2, and NV12 of UVC 1.0
Microphone	Dual Omnidirectional Stereo Microphones
Microphone Pickup Distance	3 m/9.8 ft.
Acoustic Noise Reduction	Yes
Firmware Update	Yes
Privacy Shutter	Yes
Swivel Pan	Yes (360°)
Sensitivity	-28 db
Mounting	Monitor Clip, Desktop Stand, Tripod Thread
Image Process	3D Noise Reduction, High Dynamic Range, Auto Framing, Gesture Recognition
Dimensions (W x D x H)	130 x 58.1 x 56.75 mm/ 5.12 x 2.29 x 2.23 in.
Weight	190 g/6.70 oz.

Product Overview

Privacy Shutter

Lens

Microphone

Microphone

LED Power Indicator

Solid Blue: In Use

Off: Not in Use

Air Vents

USB Type-C Port

Flexible Base

Tripod ¼" Thread

Installation

1. Plug the USB cable into a USB 3.0 port.

USB 3.0/USB 2.0

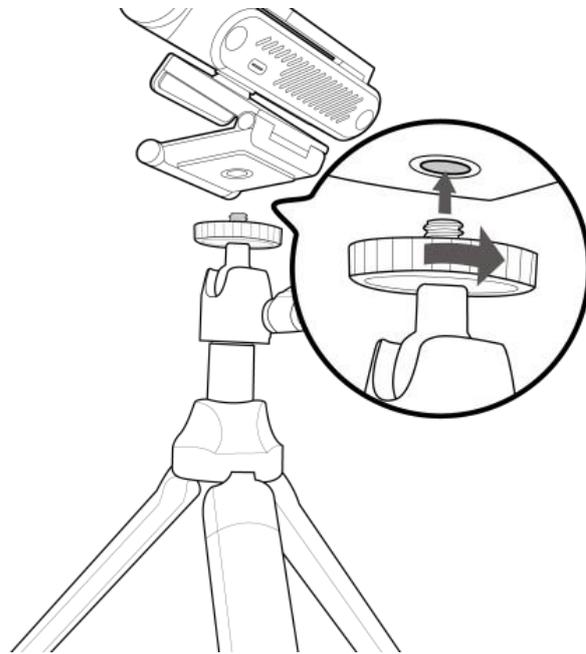2. Plug the Type-C end into the webcam.

Note:

- USB 3.0 is required for 4K recordings.
- PW515 also supports USB 2.0.

3. Adjust the clip/base to secure the webcam on your monitor.
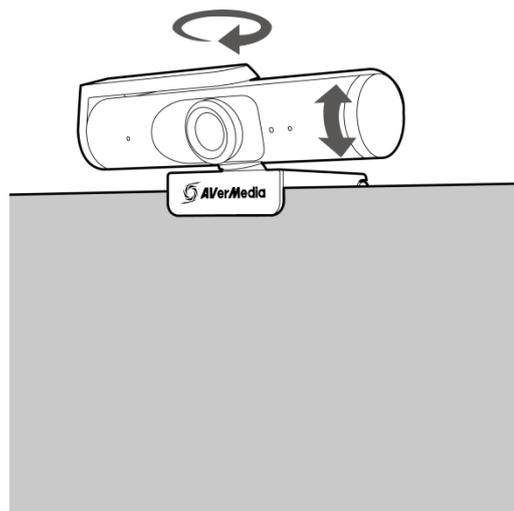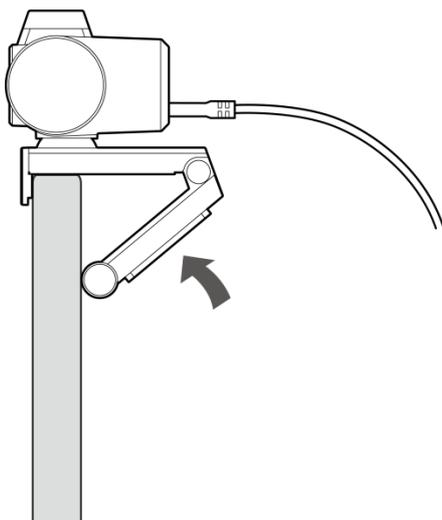
# Flexible Mounting and Setup

(Tripod not included)

AI Framing Function with Gesture Control

The **AI Framing** feature enables the webcam to automatically adjust and recenter the image when additional people enter its field of view.

It can be turned on or off using a hand gesture—just hold up your hand with your palm facing the webcam for three seconds until the power indicator flashes twice.

Note: the image has an AVerMedia logo top right.
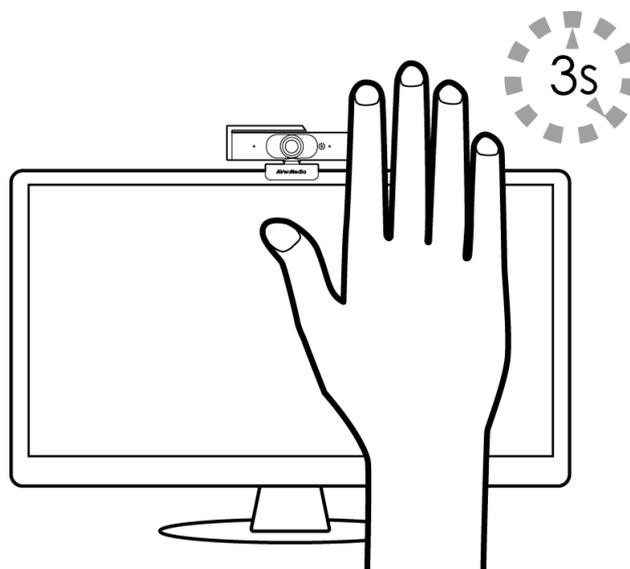
Using CamEngine 4

CamEngine is designed specifically for AVerMedia's webcam series. CamEngine allows you to customize video settings and access the full suite of features the webcam has to offer.

Download CamEngine at
https://www.avermedia.com/usecase-detail/CamEngine-4-Solutions

Note: To use the useful functions on the PW515, you first need to download and install our CamEngine 4 software.

Note: Filters, effects, and ePTZ consume a considerable amount of system resources and may slow down your computer. We recommend you test them before using them in a video conference or live stream.

On the top-right corner of the CamEngine, you will find options for rotating the video, or flipping it vertically (mirroring) or horizontally. You can also digitally zoom in up to 400% (this will reduce image resolution). Select your video source by right-clicking on your mouse in the live view area.
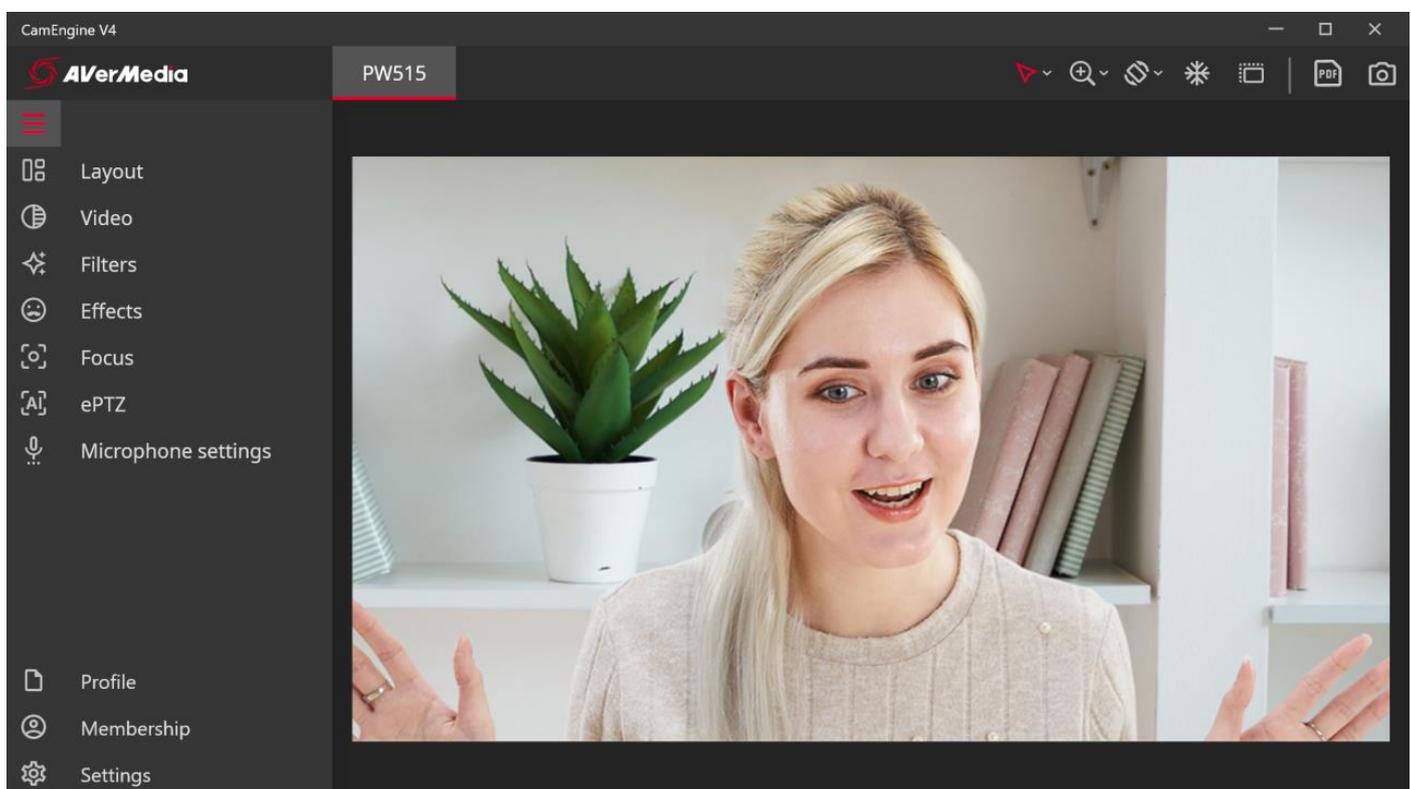
▽ ∨ ✋ ∨	Drag	Drag frame and video/ drag video only.
⊕ ∨	Zoom	Digitally zoom in up to 400%. *Will be disabled when enabling the ePTZ (AI Framing) function.
◌ ∨	Rotate/Flip	Rotate the video, or flip it vertically (mirroring) or horizontally.
✳	Freeze Video	Freeze the current video.
▢	Window Mode	Click to display the live view area in the full-screen Window.
PDF	Save PDF	Capture the current video image into a PDF format file. *The file save path can be changed in Settings > File Save Path.
📷	Snapshot	Capture the current video image into a png format file. *The file save path can be changed in Settings > File Save Path.

On the left side of the window, you will find other shortcuts containing most of CamEngine's controls. You can select the 'Layout' 🔲 of the live view area from the single to PIP (picture-in-picture) /dual display mode.

The 'Video' ◉ shortcut contains the video settings adjustments, which are also separated by 'Basic' and 'Advanced' subtabs.
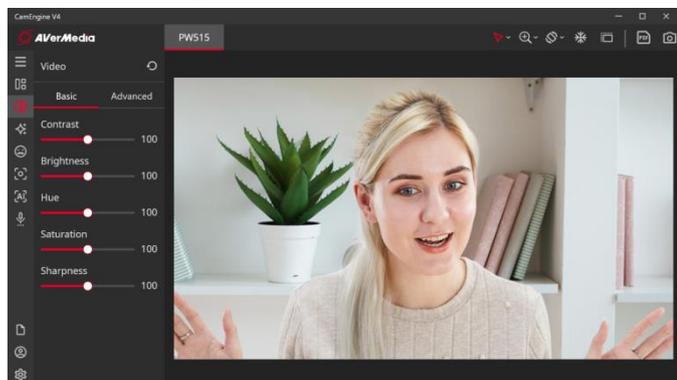

You can set up the Contrast, Brightness, Hue, Saturation, and Sharpness value on the 'Basic' subtab.

You can set up the Exposure, and adjust the Field of View, Anti Flicker, and White Balance on the 'Advanced' subtab.

- **Auto Exposure:** Automatically adjust the exposure value.
- **Manual Exposure:** Manual adjust the video exposure and gain value
- **Face Exposure:** Automatically recognizes and autofocus on your face then highlight it.
- **High Dynamic Range (HDR):** The PW515 provides highly sensitive HDR and great low-light capabilities in any light and always looks your best.
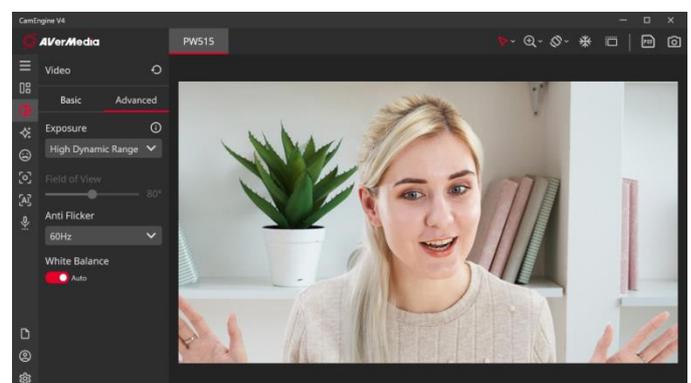
The 'Filters' ✧ shortcut contains filters designed to make your appearance look better when streaming:
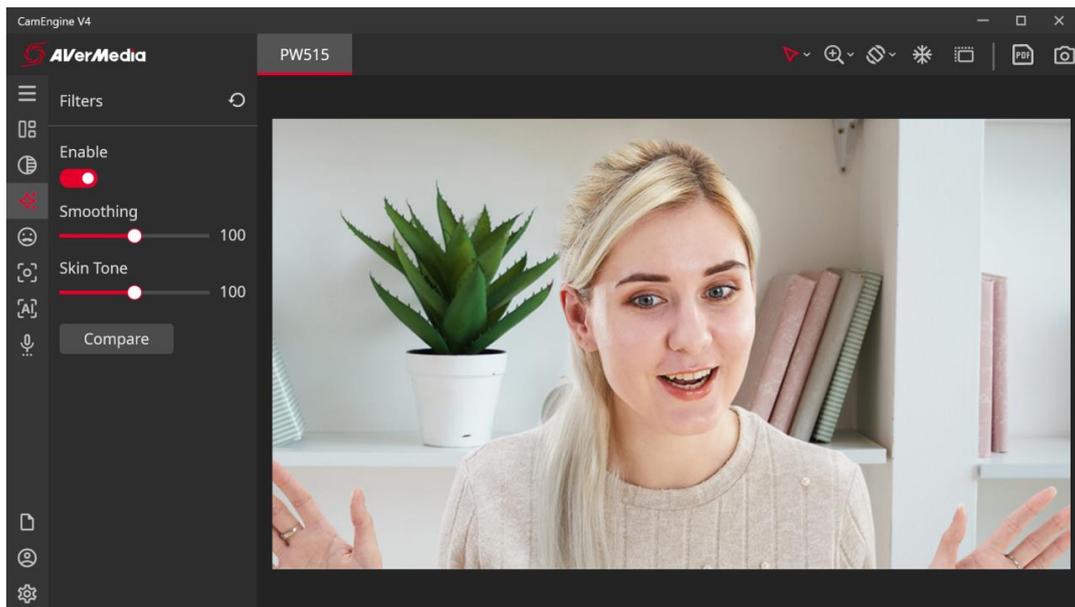
- **Smoothing:** Apply a soft blur to remove small details that can reduce graininess.
- **Skin Tone:** Adjusting this helps balance and clarifies skin tones with the rest of your settings and colors. It isn't totally necessary if your front lighting is sufficient, but it can be helpful for extra color balancing.

The 'Effects' ☹ shortcut contains augmented reality effects that can give you a fun and silly appearance.
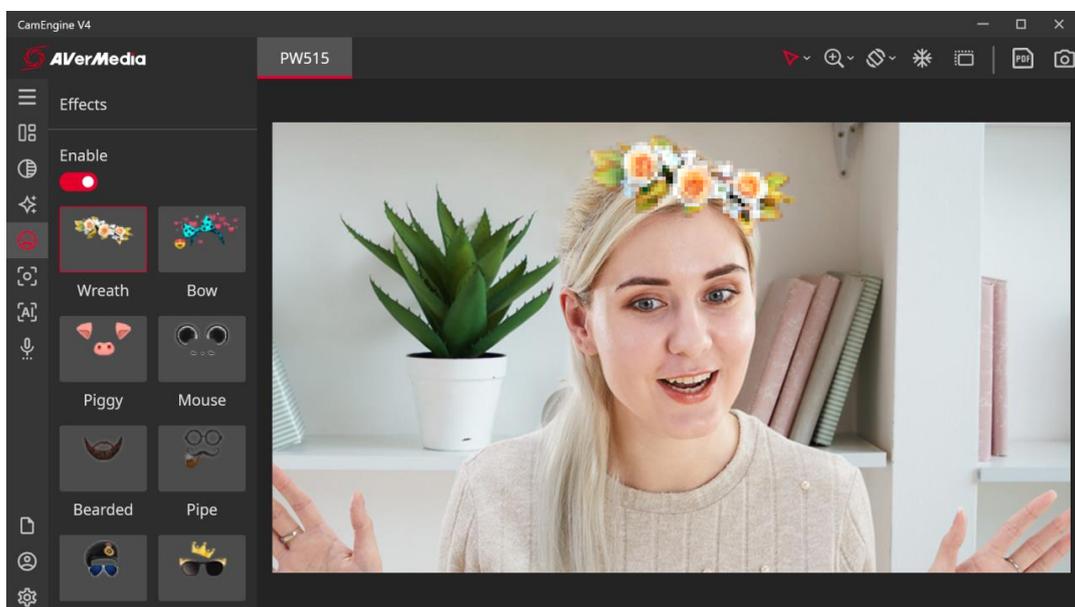
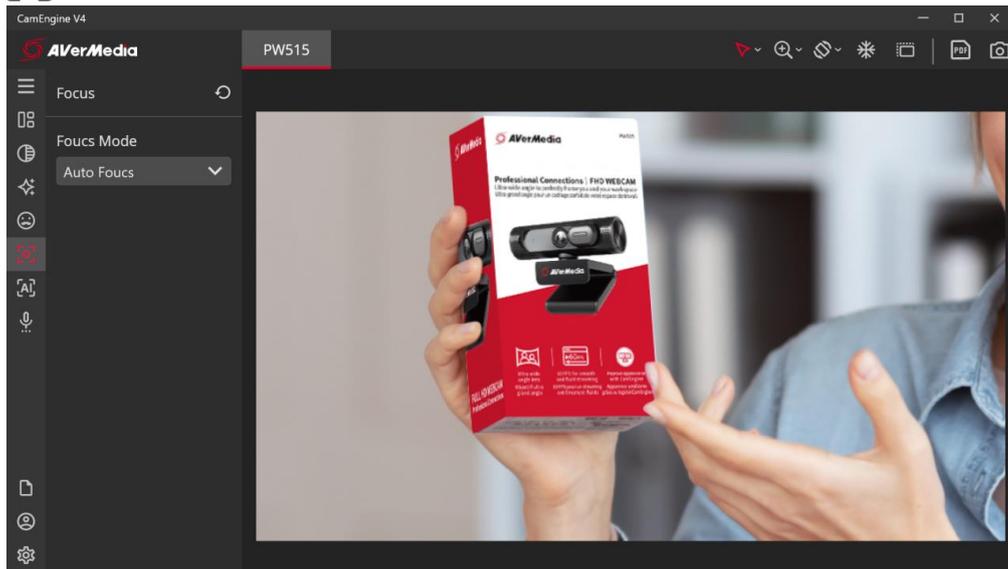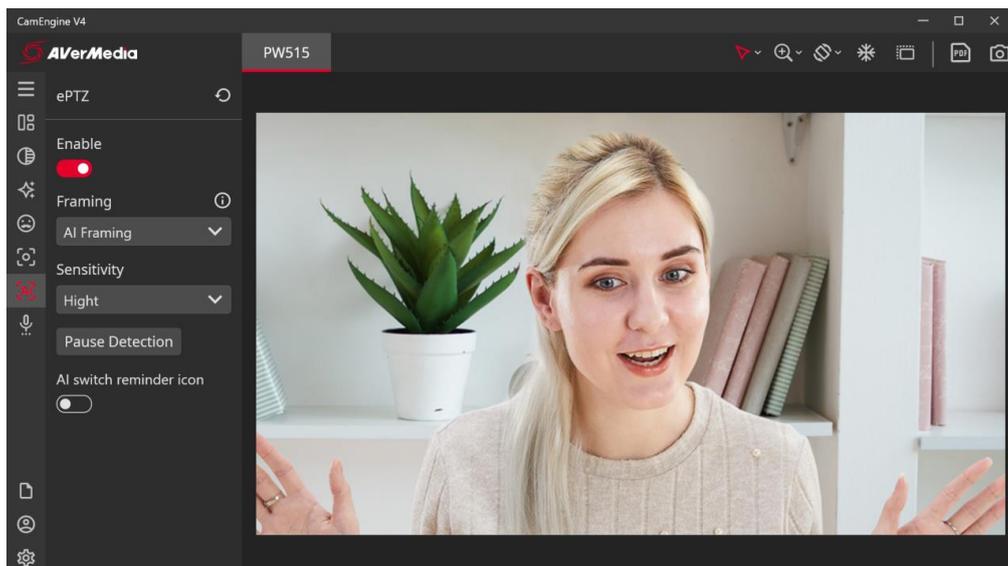The 'Focus' ⟨◎⟩ shortcut provides a selection to help users always stay focused.


- **Auto Focus:** Provides clear video at all times

- **Manual Focus:** Adjust the focus to how you want.

The 'ePTZ' shortcut helps users find their optimal composition: AI Framing and Custom ePTZ.

- **AI Framing:** When the AI Framing function is selected, the webcam will automatically detect human faces and figures and find the best composition to include and center everyone in the shot. You can set up the sensitivity and turn on the AI reminder icon.

- **Manual:** This allows to save an ePTZ preset for later use. When in the middle of a conference or a live stream, the user can quickly return to an ePTZ frame that has been saved. Follow the steps below to set up your shots.

  Step 1: Select a thumbnail.

  Step 2: Zoom in, zoom out, flip, or rotate to your liking.

  Step 3: Click inside the preview window and drag the screen to your desired position.

  Repeat the steps to create more shots. Each shot is represented by a thumbnail. Now you can click the thumbnails to effortlessly switch among those shots. You can update all the thumbnails by clicking the Thumbnail Refresh button.

The '**Microphone Settings**' 🎤 shortcut can enable/disable the Noise Reduction function of the built-in microphones.
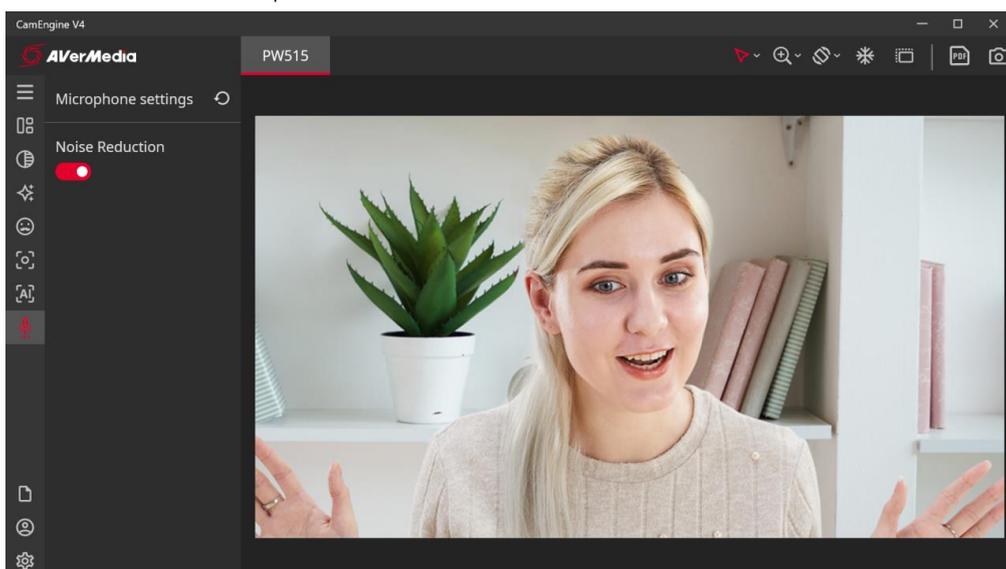
- **Note:** If a user is in a well-shielded space with minimum ambient noise and wants to record an unaltered voice, then we recommend turning it off.

Additional features

The screenshot save path can be accessed by clicking on '**Settings**' at the bottom left corner of the CamEngine window. You can select the resolution displayed on the other video applications from the drop-down list and select the UI Appearance mode as your desired on the **General** tab in settings.

For easier access to presets, you can set hotkeys. The hotkeys can be accessed by clicking on the **Hotkey** tab in settings. Hotkeys allow you to go immediately to a preset command simply with a press of keyboard shortcuts.

CamEngine System Requirements

Windows

Desktop

Usage	CPU	GPU
Image Adjustment, Picture in Picture, Skin Filter, AR Effect, AI Framing	Intel® Core™ i5 6th or better	NVIDIA® GeForce® GTX 1060 or better
NVIDIA® Virtual Background	Intel® Core™ i5 8th or better	NVIDIA® GeForce RTX 20 or 30 Series, or NVIDIA® RTX professional GPUs, or NVIDIA® Quadro RTX

RAM: 8 GB or more

Laptop

Usage	CPU	GPU
Image Adjustment, Picture in Picture, Skin Filter, AR Effect, AI Framing	Intel® Core™ i7 7th 2.8GH 4 core or better	NVIDIA® GeForce® GTX 1050 Ti or better
NVIDIA® Virtual Background	Intel® Core™ i5 8th 3GH 6 core or better	NVIDIA® GeForce RTX 20 or 30 Series, or NVIDIA® RTX professional GPUs, or NVIDIA® Quadro RTX

RAM: 8 GB or more

Mac

OS: macOS 10.15, 11, 12

Display: 1280 x 800 or higher resolution

iMac 2017

CPU	GPU
3.8GHz quad-core Intel Core i5 or better	AMD Radeon™ Pro 580 or better

RAM: 8 GB or more

MacBook Pro 2019

CPU	GPU
2.6GHz 6-core Intel Core i7 or better	AMD Radeon™ Pro 5300M or better

RAM: 8 GB or more

The DSP Bandwidth Limitation:

Mutually exclusive	HDR	Facial exposure	Auto/Manual exposure	Manual focus	Auto white balance	Auto framing	ePTZ (include FOV change)	ANR
HDR	-					•	•	
Facial exposure		-	•	•				•
Auto/Manual exposure		•						
Manual focus		•						
Auto framing	•						•	•
ePTZ (include FOV change)	•				•		-	
ANR		•				•		-

● : The column needs to be disabled if 'row' is enabled

Contact Us

Please contact us here should you have any questions or suggestions.

About AVerMedia

AVerMedia empowers people to easily connect and boldly create through innovative audiovisual technology. Our solutions help people work productively, build new relationships, and expand their horizons in ways that weren't possible before. Our products include a wide range of powerful yet easy-to-use devices such as webcams, video capture cards, and microphones for content creators, schools, and businesses. We also provide hardware design services for a range of AI and IoT applications, from smart retail to smart cities.

AVerMedia is guided by a philosophy of contributing to society- whether through products that change customers' lives for the better or by ensuring our operations are socially responsible.

Connect with AVerMedia:
Website: https://www.avermedia.com/
LinkedIn: https://www.linkedin.com/company/avermedia-technologies

Appendix – F.A.Q.

1. <u>How to enable Auto framing (AI Framing, ePTZ)</u>?
   Method #1. By hand gesture:
   You may turn on Auto Framing by hand gesture. Just hold your right or left hand with your palm facing the webcam for three seconds until the power indicator flashes twice.

   The following are sample hand gestures. The correct one is an open hand palm, showing number five:

   Please show a complete hand palm, without being hidden by shirts.

   Method #2. By CamEngine software:
   To enable Auto Framing, another way is to use CamEngine software. Please check our tutorial video.

2. <u>How to disable Auto framing?</u>
   The steps to enable or to disable this feature is the same.

3. <u>How far is the range for Auto Framing detection? How far is for hand gesture control?</u>
   For hand gesture control: the range is within 1 meter with all human upper bodies covered.
   For Auto Framing: detection range is within 3 meters with all human upper bodies
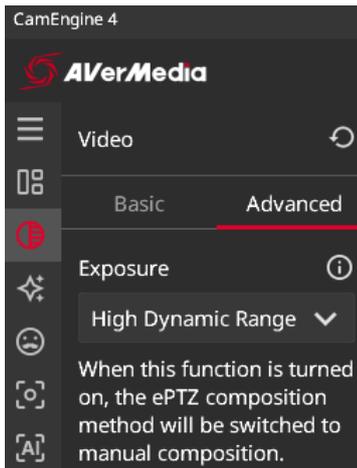
covered.

4. <u>When Auto Framing is enabled and webcam has zoomed in, how to reset back to webcam's widest range?</u>
   When there is no one within camera's field of view, the position will reset to default.
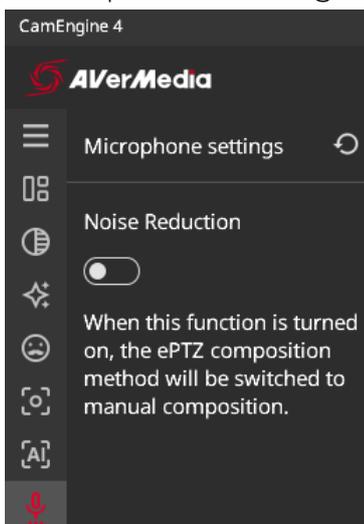
5. <u>How to enable HDR, high dynamic range?</u>
   It can be activated by CamEngine software. After installing CamEngine, go to: "Video" -> "Advanced" -> "High Dynamic Range"

6. <u>How to enable sound noise reduction?</u>
   It can be activated by CamEngine software. After installing CamEngine, go to: "Microphone Settings" -> "Noise Reduction"

7. <u>AI Framing, high dynamic range, and sound noise reduction functions' reminder:</u>

These functions can be activated with each one only at the same time. So once one of these functions are turned on, the other two will be turned off.
For example, if you enable AI Framing, high dynamic range and sound noise reduction will be turned off automatically.
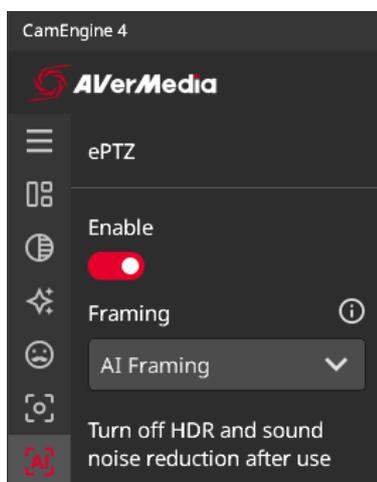
As indicated in the chart below, the symbol, "X", means these two functions cannot be enabled at the same time:

	High Dynamic Range	Facial Exposure	Auto / Manual Exposure	Manual Focus	AI Framing	Manual Framing / Field of View	Audio Noise Reduction
High Dynamic Range					X	X	
Facial Exposure			X	X			X
Auto / Manual Exposure		X					
Manual Focus		X					
AI Framing	X					X	X
Manual Framing / Field of View	X				X		
Audio Noise Reduction		X			X		