



ArduCam B0290 16MP IMX298 USB Autofocus Camera Module User Guide

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ArduCam[®]

ArduCam B0290 16MP IMX298 USB Autofocus Camera Module



INTRODUCTION

- **About Arducam**

Arducam has been a professional designer and manufacturer of SPI, MIPI, DVP and USB cameras since 2012. We also offer customized turnkey design and manufacturing solution services for customers who want their products to be unique.

- **About this USB Camera**

The B0290 is a new member of the Arducam's USB camera family. It's an 16MP, autofocus, UVC com-pliant, USB 2.0 camera. This USB camera is based on the 1/2.8" IMX298 image sensor, and you can read more about its specs in the next chapter. Arducam also provides the sample application that demonstrates some of the features of this camera.

- **About UVC**

The B0290 is a UVC-compliant camera. The native UVC drivers of Windows, Linux and Mac shall be compatible with this camera so that it does not require extra drivers to be installed.

- **About Customer Service**

If you need our help or want to customize other models of USB cameras, feel free to contact us at support@arducam.com If you need our help or want to customize other models of USB cameras, feel free to contact us at support@arducam.com If you need our help or want to customize other models of USB cameras, feel free to contact us at support@arducam.com

Camera	
Sensor	IMX298
Optical Size	1/2.8 inch
Resolution	16MP 4656H x 3496V
Data Format	MJPEG/YUY2
Frame Rate	MJPEG: 10fps@4656×3496/4160×3120/3264x 2448/2592×1944; 30fps@2320×1744/1080P/720; YUY2: 10fps@1024×768/800×600/640×480
Lens	
Field of View (FOV)	60°(H)
Focusing Range	100mm to infinity
IR Sensitivity	Integral IR filter, visible light only

Functionality and Compatibility	
Auto Controlled Features	Brightness, Contrast, Saturation, Sharpness, Gamma, White balance.
Audio	Single channel microphone
System Compatibility	Win7/8/10, Linux, Mac and OS with UVC driver
Power	
Power Supply	DC 5V
Working Current	MAX 200mA
Physical	
Operating Temp.	-4°F~158°F (-20°C~+70°C)
Dimension	38x38mm
Hole Pitch	34x34mm, 28x28mm

Cable Length	Default 3.3ft (1M)
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QUICK START

- **How to download the program**

Download the APP Amcap from the following link <https://www.arducam.com/downloads/app/AMCap.exe>

NOTE:

1. If used with the Android device, USB Camera APP and connect adapter are needed.
2. For Mac OS, please open the native software facetime and select the video camera “USB Camera” .

- **How to connect the camera**

Connect the one end of the USB 2.0 cable to the USB 2.0 connector provided on the back of B0290, and connect the other end to the USB 2.0 host controller on the computer.

How to use the program

(Windows demo only)

The Menu bar at the top of the shown image contains few menu items and the current preview resolution and the frame rate are displayed on the bottom bar when the application is running. The following sections describe each of the menu items in detail.

- **Menu>Devices**

This menu will show the available video devices to host PC. The B0290 named “Arducam imx298 AF Camera”. This camera support capturing audio, so the menu shows the “Microphone (Arducam IMX298 AF Camera)”.



- **Menu>Options**

The options menu can be used to select the pre-view, video and image parameters supported by this camera.



(Windows demo only)

– Video Capture Filter -> Video Proc Amp/Camera Control

How to use the program

(Windows demo only)

– Video Capture Filter -> Video Proc Amp/Camera Control

Properties

The screenshot shows the "Video Proc Amp / Camera Control" dialog box. It has two tabs: "Video Proc Amp" and "Camera Control", with "Camera Control" currently selected. The dialog contains several sliders and input fields for video adjustment, each with an "Auto" checkbox. The settings are as follows:

Property	Value	Auto
Brightness	0	<input type="checkbox"/>
Contrast	32	<input type="checkbox"/>
Hue	0	<input type="checkbox"/>
Saturation	64	<input type="checkbox"/>
Sharpness	3	<input type="checkbox"/>
Gamma	100	<input type="checkbox"/>
White Balance	4600	<input checked="" type="checkbox"/>
Backlight Comp	1	<input type="checkbox"/>
Gain	0	<input type="checkbox"/>

Below the sliders, there is a "ColorEnable" checkbox (unchecked) and a "PowerLine Frequency (Anti Flicker)" dropdown menu set to "60 Hz". At the bottom of the dialog is a "Default" button. At the very bottom of the window are "OK", "Cancel", and "Apply" buttons.

Properties



Video Proc Amp Camera Control

Auto

Zoom	<input type="range"/>	<input type="text"/>	<input type="checkbox"/>
Focus	<input type="range"/>	100	<input checked="" type="checkbox"/>
Exposure	<input type="range"/>	-6	<input checked="" type="checkbox"/>
Aperture (Iris)	<input type="range"/>	<input type="text"/>	<input type="checkbox"/>
Pan	<input type="range"/>	<input type="text"/>	<input type="checkbox"/>
Tilt	<input type="range"/>	<input type="text"/>	<input type="checkbox"/>
Roll	<input type="range"/>	<input type="text"/>	<input type="checkbox"/>

Low Light Compensation ☒

Default

OK Cancel Apply

How to use the program (Windows demo only)

– Video Capture Pin

Properties



Stream Format

Video Format

Video Standard: None

Frame Rate: 30.000

Flip Horizontal: ☐ Snap Shot

Color Space / Compression:

MJPEG

Output S: MJPG

YUY2

1920 x 1080

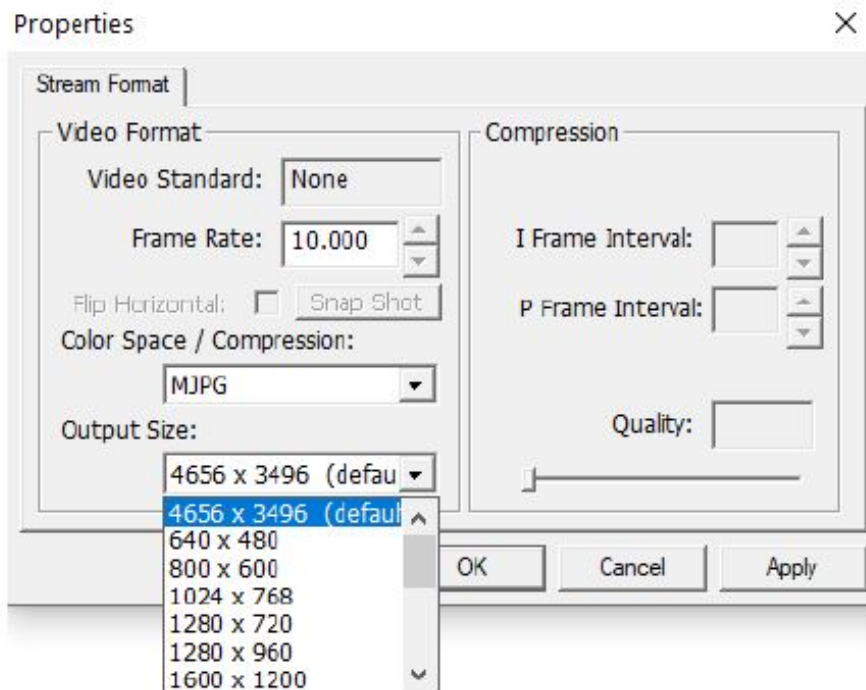
Compression

I Frame Interval:

P Frame Interval:

Quality:

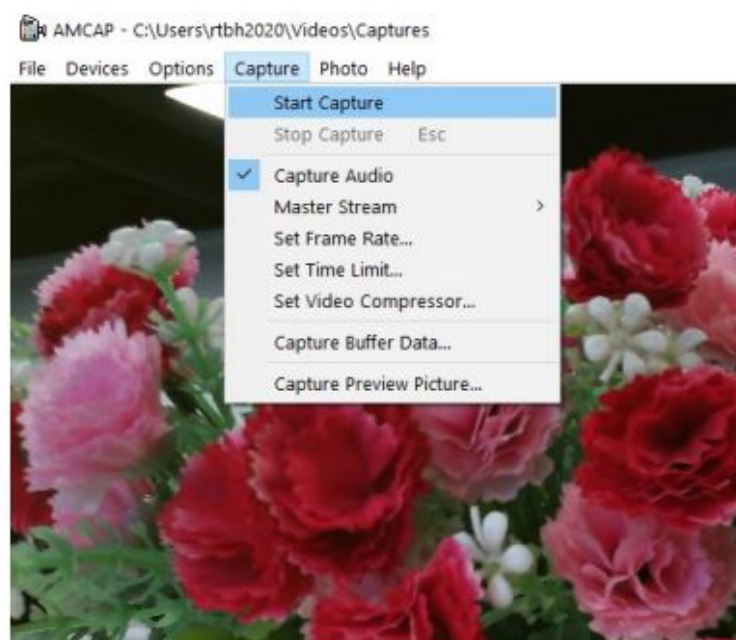
OK Cancel Apply




• Menu> Capture

The capture menu is used to capture the still image and video by using this application. You can also select the related parameters.

NOTE: If you want to get the voice from the micro-phone, you need to select the option “Capture Audio” before capturing video.



Documents / Resources

	<p>ArduCam B0290 16MP IMX298 USB Autofocus Camera Module [pdf] User Guide B0290, 16MP IMX298 USB Autofocus Camera Module, B0290 16MP IMX298 USB Autofocus Camera Module</p>
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References

-  [arducam.com/downloads/app/](https://www.arducam.com/downloads/app/)

Manuals+.