Arducam Stereo Camera Adapter Board

User Guide: Set-Up Instructions

SKU: B016601

INTRODUCTION

This multi-camera adapter board is designed for Raspberry pi ZERO and let you connect two 5MP or 8MP cameras to Pi Zero.

Only one of the two cameras can be activated at a time; they are working in alternate ways. It cannot run two cameras at the same time, but we build a simple software which can run two cameras and make it looks working at the same time.
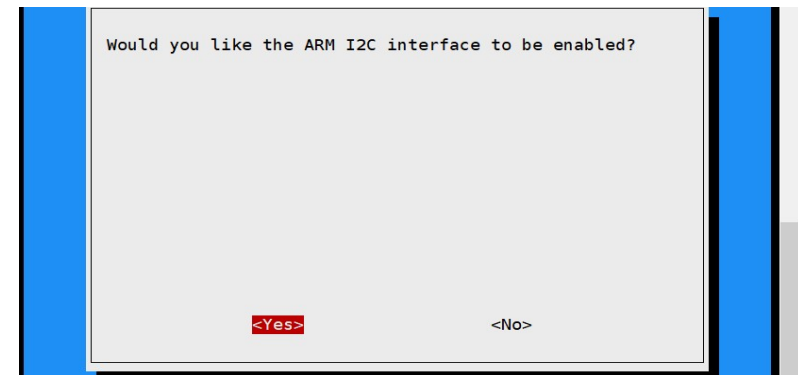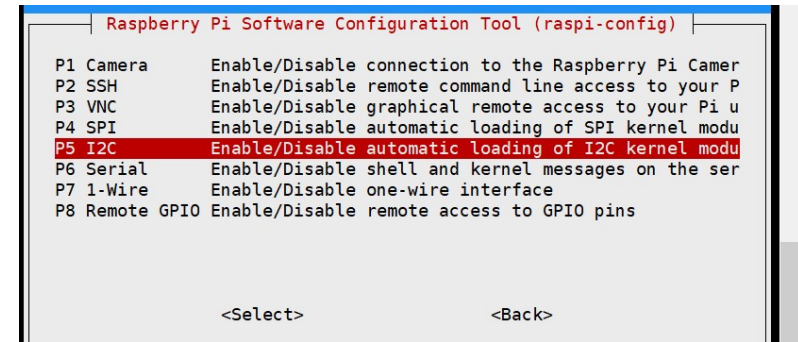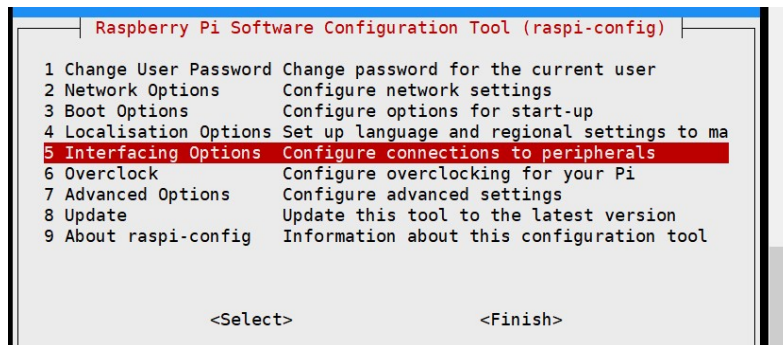
But the drawback is the frame rate, and resolution will be fairly low, may be useful for surveillance.

Please note that Raspberry Pi multi-camera adapter board is a nascent product that may have some stability issues and limitations because of the cable's signal integrity and RPi's closed source video core libraries, so use it on your own risk. This version doesn't support 8MP Pi camera board. And it also can be used for other Raspberry Pi boards with minor software modifications.

PREREQUISITES

Because the camera switching is done through the camera led pin. You have to disable the automatic management of camera led in /boot/config.txt. The following command helps you disable the led control from the GPU firmware.

```
pi@raspberrypi:~ $ sudo raspi-config
```

```
┌─────┤ Raspberry Pi Software Configuration Tool (raspi-config) ├─────┐
│                                                                       │
│   1 Change User Password  Change password for the current user        │
│   2 Network Options       Configure network settings                  │
│   3 Boot Options          Configure options for start-up              │
│   4 Localisation Options  Set up language and regional settings to ma  │
│   5 Interfacing Options   Configure connections to peripherals         │
│   6 Overclock             Configure overclocking for your Pi           │
│   7 Advanced Options      Configure advanced settings                  │
│   8 Update                Update this tool to the latest version       │
│   9 About raspi-config    Information about this configuration tool     │
│                                                                       │
│                                                                       │
│              <Select>                      <Finish>                    │
│                                                                       │
└───────────────────────────────────────────────────────────────────────┘
```

```
┌───┤ Raspberry Pi Software Configuration Tool (raspi-config) ├───┐
│                                                                  │
│   P1 Camera      Enable/Disable connection to the Raspberry Pi Camer
│   P2 SSH         Enable/Disable remote command line access to your P
│   P3 VNC         Enable/Disable graphical remote access to your Pi u
│   P4 SPI         Enable/Disable automatic loading of SPI kernel modu
│   P5 I2C         Enable/Disable automatic loading of I2C kernel modu
│   P6 Serial      Enable/Disable shell and kernel messages on the ser
│   P7 1-Wire      Enable/Disable one-wire interface
│   P8 Remote GPIO Enable/Disable remote access to GPIO pins
│                                                                  │
│                                                                  │
│              <Select>                      <Back>                │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

```
┌──────────────────────────────────────────────────────────────┐
│                                                                │
│   Would you like the ARM I2C interface to be enabled?          │
│                                                                │
│                                                                │
│                                                                │
│                                                                │
│         <Yes>                      <No>                        │
│                                                                │
└────────────────────────────────────────────────────────────────┘
```

HARDWARE CONNECTION

Connect the multi-camera adapter board to Pi ZERO through 24 cable pin And connect two 5MP pi cameras to the Camera A and Camera B ports as the following photo shows.
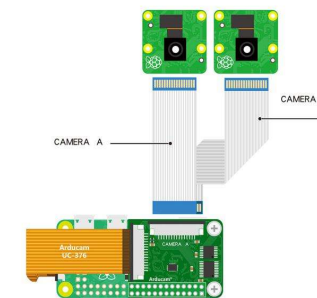
Quick start

■ Download the Raspberrypi library

git clone https://github.com/ArduCAM/RaspberryPi.git

```
pi@raspberrypi:~ $ git clone https://github.com/ArduCAM/RaspberryPi.git
```

■ Shell version

This shell script demonstrates how to take two still images from two cameras in turn. Each camera will preview for 5 seconds and then take a photo saved to the local file system. Users can directly see the tested pictures.

● Run the script

cd RaspberryPi/Multi_Camera_Adapter/Multi_Adapter_Board_2Channel_uc444/shell
sudo chmod +x pi_cam_uc444.sh
sudo ./pi_cam_uc444.sh

● Run the demo

```
pi@raspberrypi:~/RaspberryPi/Multi_Camera_Adapter/Multi_Adapter_Board_2Channel/shel
l $ sudo ./pi_cam_uc444.sh
Choose camera A
Choose Camera B
Test OK
```

■ C++ version code

This example demonstrates to run two cameras and make them looks at the same

● Install the opencv library

sudo apt-get install libopencv-dev

● Compile and run

cd RaspberryPi/Multi_Camera_Adapter/Multi_Adapter_Board_2Channel_uc444
sudo make
sudo ./arducam_multi_adapter_uc444

● Run the demo