INTRODUCTION

This multi-camera adapter board is designed for Raspberry Pi ZERO and let you connect two 5MP or 8MP cameras to Pi Zero. It is also compatible with the Raspberry Pi 4B, 3B+/3B.

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. 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
HARDWARE CONNECTION

Connect the multi-camera adapter board to Pi ZERO through 24 cable pin. And connect two SMP Pi cameras to Camera A and Camera B ports as the following photo shows. Unlike Pi Zero, when using with Pi 4, you need to connect the multi-camera adapter board to the GPIO interface, as shown in the right photo.

Quick start

- **Download the Raspberry Pi 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.

  If you are using Raspberry Pi 4, please execute the following command to install the plugin first.
  
  cd /tmp
  
  wget https://project-downloads.drogon.net/wiringpi-latest.deb
  
  sudo dpkg -i wiringpi-latest.deb

- **Run the script** (Available for all platforms)
  
  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_uc444/shell
  
  ls 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