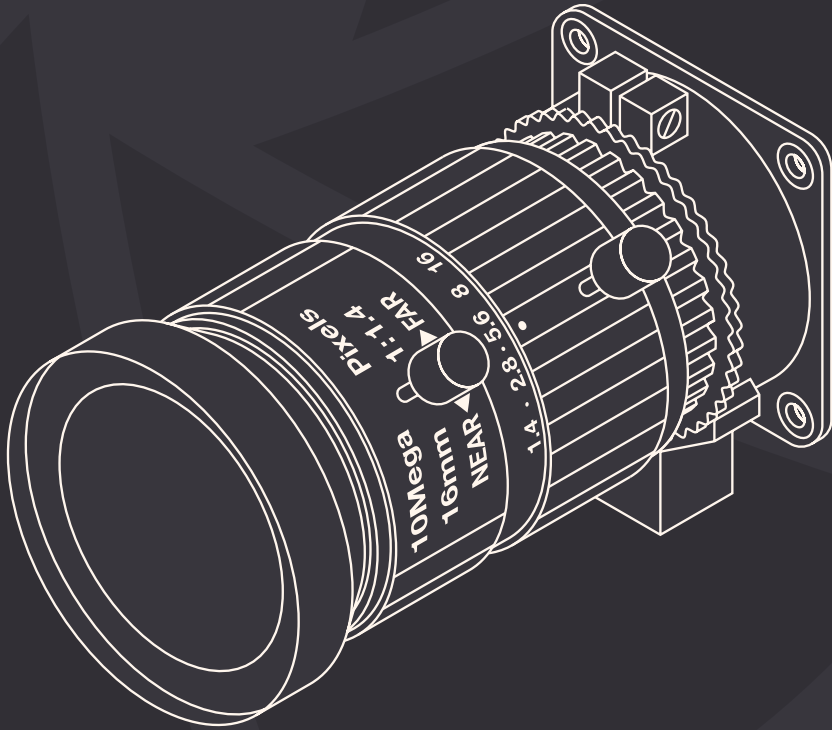


THE OFFICIAL RASPBERRY PI

CAMERA GUIDE



FOR CAMERA MODULE & HIGH QUALITY CAMERA

Chapter 1

Getting started

Find out how to connect your High Quality Camera or Camera Module, enable it, and take your first shots

In this chapter, we show you how to connect the High Quality Camera or Camera Module to your Raspberry Pi using the supplied ribbon cable. We will then enable it in Raspbian, before entering some commands in a Terminal window to start shooting photos and video. Let's get started...

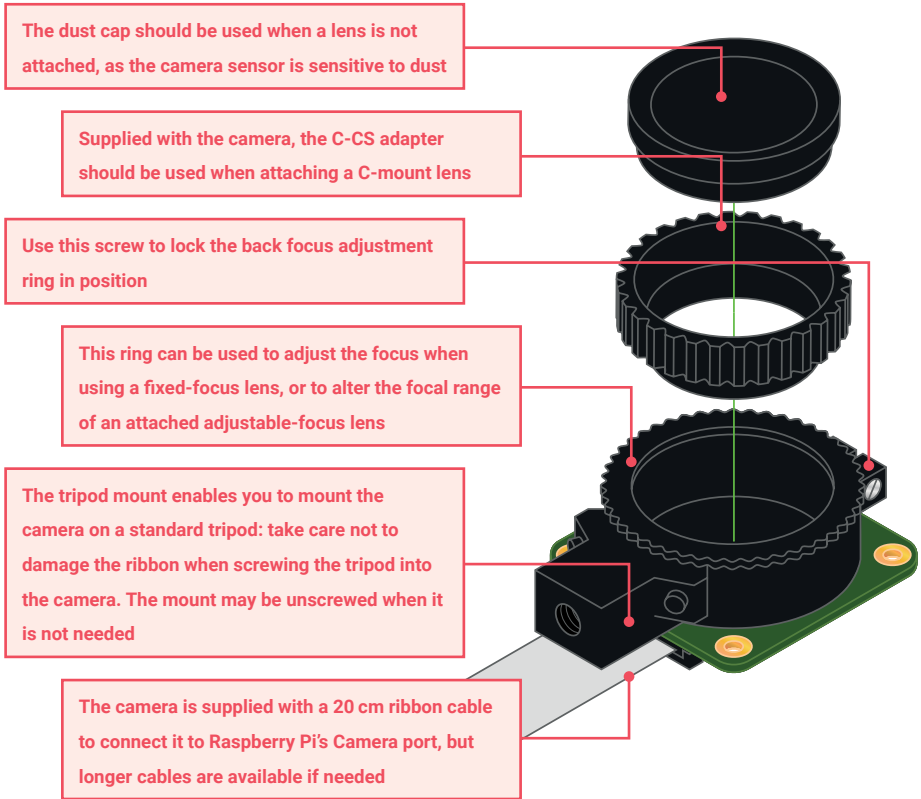
01. High Quality Camera

The High Quality Camera (HQ Camera for short) can capture higher-resolution images than the standard Camera Module. Unlike the latter, it doesn't have a lens already attached. Instead, it can be used with any standard C- or CS-mount lens; 6 mm and 16 mm lenses are available to purchase with the camera to help you get started.

6 mm CS-mount lens

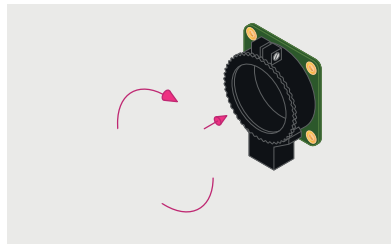
A low-cost 6 mm lens is available for the HQ Camera. This lens is suitable for basic photography. It can also be used for macro photography because it can focus objects at very short distances.





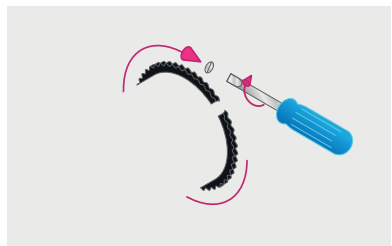
01 Fitting the lens to the camera

The 6 mm lens is a CS-mount device, so it has a short back focus and does not need the C-CS adapter that comes with the HQ Camera. Rotate the lens clockwise all the way into the back focus adjustment ring.



02 Back focus adjustment ring and lock screw

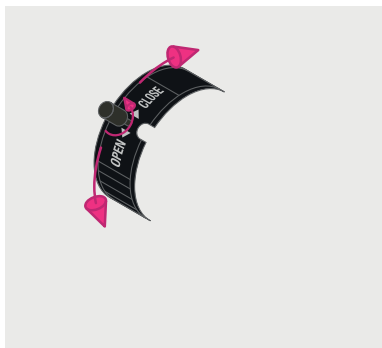
The back focus adjustment ring should be screwed in fully for the shortest possible back-focal length. Use the back focus lock screw to make sure it does not move out of this position when adjusting the aperture or focus.



03

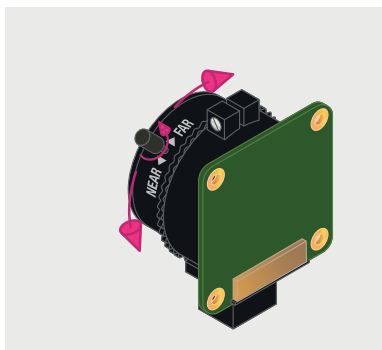
Aperture

To adjust the aperture, hold the camera with the lens facing away from you. Turn the middle ring while holding the outer ring, furthest from the camera, steady. Turn clockwise to close the aperture and reduce image brightness. Turn anti-clockwise to open the aperture. Once you are happy with the light level, tighten the screw on the side of the lens to lock the aperture.

**04**

Focus

To adjust focus, hold the camera with the lens facing away from you. Hold the outer two rings of the lens; this is easier if the aperture is locked as described above. Turn the camera and the inner ring anti-clockwise relative to the two outer rings to focus on a nearby object. Turn them clockwise to focus on a distant object. You may find you need to adjust the aperture again after this.



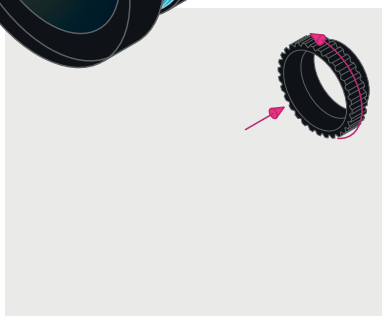
16 mm C-mount lens

The 16 mm lens provides a higher-quality image than the 6 mm lens. It has a narrow angle of view which is more suited to viewing distant objects.

**01**

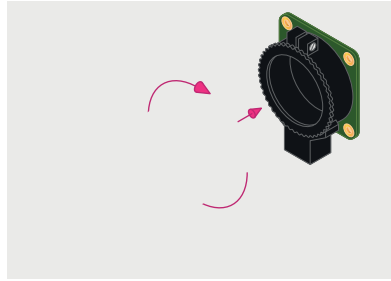
Fitting the C-CS adapter

Ensure the C-CS adapter that comes with the HQ Camera is fitted to the 16 mm lens. The lens is a C-mount device, so it has a longer back focus than the 6 mm lens and therefore requires the adapter.



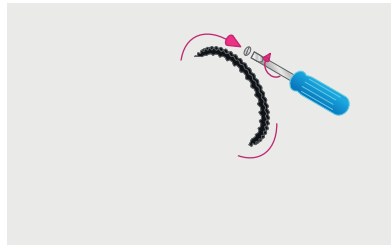
02 Fitting the lens to the camera

Rotate the 16 mm lens and C-CS adapter clockwise all the way into the back focus adjustment ring.



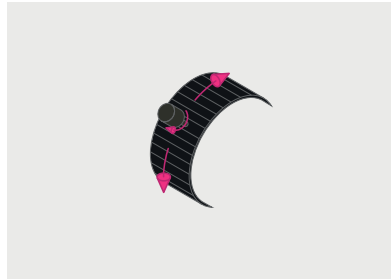
03 Back focus adjustment ring and lock screw

The back focus adjustment ring should be screwed in fully. Use the back focus lock screw to make sure it does not move out of this position when adjusting the aperture or focus.



04 Aperture

To adjust the aperture, hold the camera with the lens facing away from you. Turn the inner ring, closest to the camera, while holding the camera steady. Turn clockwise to close the aperture and reduce image brightness. Turn anti-clockwise to open the aperture. When happy with the light level, tighten the screw on the side of the lens to lock the aperture into position.



05 Focus

To adjust focus, hold the camera with the lens facing away from you. Turn the focus ring, labelled 'NEAR ◀▶ FAR', anti-clockwise to focus on a nearby object. Turn it clockwise to focus on a distant object. You may find you need to adjust the aperture again after this.

