**Description:**

This holder secures a 1”x1” filter on the front of a standard 6mm 3MP Wide Angle Lens for Raspberry Pi Cameras. The filter slips into the pocket (held by friction), and then the holder attaches to the front of the lens via a simple friction mount. A [FreeCAD 1.0](https://www.freecad.org/downloads.php) compatible parameterized model is included here along with .stl files.

The [DIY golf launch monitor project](https://hackaday.io/project/195042-diy-golf-launch-monitor) is using this filter to restrict the light entering a Pi Global Shutter Camera sensor to just infrared (IR) light. The filter for the project is a [1" x 1", Optical Cast Plastic IR Longpass Filter](https://www.edmundoptics.com/p/1quot-x-1quot-optical-cast-plastic-ir-longpass-filter/5421/) (1.5mm nominal thickness), but the model is parameterized, so the holder can easily be modified to fit other thicknesses (or sizes) by modifying the parameter in the “Master Document” spreadsheet named “'PiFilterHolderFilterThickness”.

Consider supporting this work and the DIY LM project here: <https://ko-fi.com/PiTrac> Please and Thank You!

**Printing Notes:**

PETG works better for flexibility of the holder, but PLA also works. The holder is modeled in two pieces because we struggled with the mess added by supports in a single filter. But, if folks can improve on this, that would be great! Maybe print the whole thing at 45 degrees?

Recommended print settings: 2 perimeter layers, 20% infill, gyroid infill patterns, no supports. Does not required glue-stick or brim assists.

**Assembly Notes:**

Use just a few small drops of cyanoacrylate (super) glue to attach the outer filter holder to the part of the holder that slips over the lens. Otherwise, the glue may restrict the passage into which the filter is placed. Use the little lip around the holder to position the two pieces while gluing. Avoid gluing top portion of filter window where the little retainer bumps are. This allows the retainer to flex a bit when the filter moves past it. After setting/drying, a 1” filter should just slip in and click securely into place.

To remove the filter, if necessary, use a small screw-driver to push the filter out using the little window on the bottom of the holder.