



Analog film scanning modular platform

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[VIEW IN BROWSER](#)

updated 27. 4. 2023 | published 27. 4. 2023

Summary

Digitize analog film with a digital camera and macro lens. Works with e.g. slides and 35mm film strips.

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Tags: [camera](#) [film](#) [slides](#) [cameraadapter](#) [35mm](#)
[filmsscanning](#)

Status: This is a work-in-progress ("beta version") and updates will be made to accomodate a larger range of camera and lens combinations, as well as other improvements.

This is a modular platform for scanning / digitizing analog film using a digital camera with a macro lens.

Important caveat: The length of the tube must work with the focus distance of the lens used. The idea is to provide a variety of tube lengths so you can print the appropriate length for your lens. If you would like to print this model and cannot find a tube in the print files which would produce an appropriate

distance from the lens filter thread to the film plane, please inquire about it and I can add it.

The whole contraption is attached to the lens using a standard so-called filter adapter ring (made out of metal). The front of this ring fits snugly in a circular cutout and is held tightly by a screw-on tightener and will not rotate by itself. Please note that if the lens has a moving focusing element this may not be the best solution. However such lenses sometimes have a larger second filter thread that is fixed, e.g. the Nikon Micro AF-D 105/2.8.

The exact distance to the film plane can be adjusted at both ends of the main tube. The current tube is 135 mm and allows for adjustment of the distance between the thread of the lens to the film plane of circa **160 - 184 mm**

The distance and rotation of the film holder is held in place by two tightening rings at the end of the tube.

Non-3D-printed parts needed:

- Filter adapter ring with a step-up size of 67 mm (multiple step-up rings may be needed). This means that **at the moment only lenses with filter thread less than 67 mm are compatible.**
- 8 pcs M3 nuts
- For 35 mm film strip holder:
 - 6 pcs M3x20mm screws, 2 pcs M3x10mm screws
 - For each roller: 2 pcs of rubber O-rings with about 16 mm inner diameter and about 2.6 mm thickness
- For slide mount holder:
 - 4 pcs of very small rubber bands, about 15 mm in flattened length (those used for hair works well), and two normal size rubber bands
 - 4pcs M3x25mm screws, and 8 pcs of M3x10mm

Other features of note:

- An opening in the tube allows for visual centering of frames if it's not desirable to view the live-image feed from the camera sensor, which may be the case with some DSLRs.
- The tube has a large threading on the inside in order to minimise reflections (this is its only purpose).
- The film adapter mount and the end can accomodate different film holders. Provided are a 35 mm film strip holder, and a slide mount holder for 50 mm square slide mounts.
- The reason for the small disk on top of one of the film advance roller is to push the other roller down and to avoid it drifting up, therefore the grip should be put on the roller with the disc. Which roller goes on

which pin is a matter of ergonomics and does not matter for function.

Printing tips

The settings I've used is mostly 0.1 mm layer height with a 0.4 mm nozzle. Using variable layer height can speed up prints somewhat. 0.15 mm layer height should work fine for many parts but has not been tested.

The option "Avoiding crossing perimeters" or equivalent is valuable to make surfaces smoother.

No supports should be needed anywhere.

Print two 2pcs of "tube position tightener".

For the roller pins in "film advancer base", the number of perimeters should be increased to 4-5 to provide increased rigidity (or use a lot of infill).

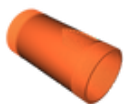
Model files



camera-adapter-tightener.3mf



camera-adapter-67-mm.3mf



tube-135x67-mm.3mf



tube-position-tightener.3mf

☐ Print 2 pieces



film-adapter-mount.3mf



film-advancer-base.3mf

☐ Printing only the right or left as a start is recommended.



film-advancer-roller.3mf



film-advancer-roller-with-top-disc.3mf



film-slit-upper.3mf



film-slit-lower.3mf



slide-mount-parts-ready-to-print.3mf

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