

scAnt for DSLR cameras



PeThR

[VIEW IN BROWSER](#)

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Summary

A modified scAnt version that houses any DSLR camera instead of the original FLIR camera.

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Tags: [photogrammetry](#) [diy](#) [opensource](#) [macro](#) [scanner](#)
[scant](#)

The following changes were made to house DSLR cameras and make construction easier and to avoid the use of special parts (not yet complete):

- replaced all press fittings with readily available store products
 - increased hole size in laser cut base plate to house M5 screws
 - changed hole design in the gimbal stands to house M5 bolts and M5 hex-nuts at their connection to the base plate
 - added three more holes in base plate because now the M5 bolts act as feet of the whole scAnt and otherwise the base plate would bend
 - increased hole size in gimbal weight container lid so the can house M3 screws
 - changed hole design in gimbal weight container so it can house M3 screws and M3 hex-nuts.

- increased length of the endstop holder along the focus stacking rail so that the z-axis endstop can be moved further away from the specimen to prevent crashing of DSLR lenses into the specimen sphere
- increased distance of the new sliding z-axis endstop holding side from the focus rail so that it can move along the endstop holder in case a camera setup is in use that needs to get close to the specimen
- increased the screw slots in the camera stands so longer screws can be used to attach the focus rail to it

The following changes will be implemented in the future

- increase the size of the specimen sphere viewing window to allow large DSLR lens to take photos and maybe even move into the sphere
- change motor holding part of the big gimbal stand to the NEMA17 motor can be installed with more ease
- add a second indentation in the z-axis endstop holder to allow additional PCB components to sink in
- change LED cable hole position in both half spheres

Available DSLR camera mounts:

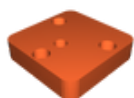
- Nikon D850
- Nikon D3500
- Nikon D7200 (not tested)
- Canon EOS RT (not tested)

Check out the accompanying code at [GitHub](#) which does not ask for FLIR camera drivers and skips all FLIR-related checks of the [original code](#) does.

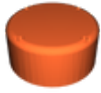
A mount for the Raspberry Pi HQ camera model is available [here](#), and code to control it via a Raspberry Pi [here](#).

Category: Learning

Model files



mount_nikon_d850.stl



weight_lid.stl



focus_rail_holder.stl



big_stand.stl



sphere_inner_with_window_enlarged.stl



z_endstop_holder.stl



mount_canon_eos_rt.stl

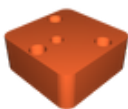


weight_base.stl



small_stand.stl

scant_dslr_mods.blend



mount_nikon_d7200.stl



specimen_stand_array.stl



sphere_outer_new_cable_hole.stl

Other files

cam_rail_top.svg

gimbal_connector_round.svg

diffuser_plate_x2.svg

cam_rail_side_x2.svg

stepper_base_x2.svg

base_plate.svg

electronics_box_side.svg

cam_rail_base.svg

gimbal_arc_x2.svg

electronics_box_back.svg

gimbal_connector_motor_shaft.svg

[Find source .stl files on Thingiverse.com](#)

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