

Prusa SL1 Resin Calibration Mode

Instructions by Phil Cyr

Background

The files produced by PrusaSlicer for the SL1 do not contain gcode as for other printers, but instead are zip files (named .sl1) that contain PNG images of each layer and a config.ini that specifies information about the print. By modifying the config.ini we can enable the resin calibration mode that is already built into the printer.

Calibration Mode

Calibration mode is enabled by the presence of the calibrateRegions config variable, and controlled by the presence of three other configuration variables: calibrateTime, CalibrateInfoLayers, and raw_calibrate_penetration. Add these config variables to the config.ini file to enable and configure the mode.

To edit the config.ini file, simply unzip the .sl1 file to a directory, open config.ini in notepad++ and make the edits desired. Rezip the config.ini and the PNG files together to make a file ready for the printer. Ensure the file name ends in .sl1.

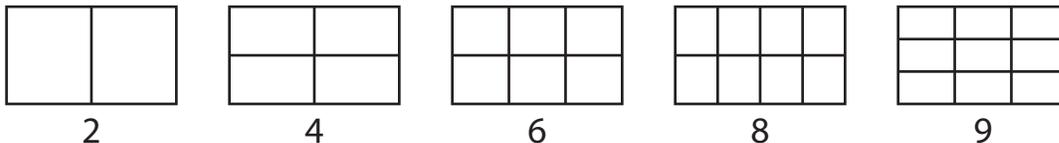
From the source code (libConfig.py):

calibrateTime: Time added to exposure per calibration region. [seconds]

calibrateRegions: Number of calibration regions (2, 4, 6, 8, 9), 0 = off

calibrateInfoLayers: Number of layers that will include a label with exposure time.

Calibration Region Layouts



Example Config.ini File

```
action = print
jobDir = AmeraLabs_Town_Calibration_test_part
expTime = 8.5
expTimeFirst = 35
fileCreationTimestamp = 2019-10-16 at 02:41:20 UTC
layerHeight = 0.05
materialName = Prusa Grey Tough 0.05
numFade = 10
numFast = 300
numSlow = 0
printProfile = 0.05 Normal - Phil
printTime = 4262.000000
printerModel = SL1
printerProfile = Original Prusa SL1
printerVariant = default
prusaSlicerVersion = PrusaSlicer-2.1.0+win64-201909160915
usedMaterial = 5.889627
```

Modified Example Config.ini File

```
action = print
jobDir = AmeraLabs_Town_Calibration_test_part
expTime = 2
expTimeFirst = 35
calibrateTime = 3
calibrateRegions = 4
calibrateInfoLayers = 10
fileCreationTimestamp = 2019-10-16 at 02:41:20 UTC
layerHeight = 0.05
materialName = Prusa Grey Tough 0.05
numFade = 10
numFast = 300
numSlow = 0
printProfile = 0.05 Normal - Phil
printTime = 4262.000000
printerModel = SL1
printerProfile = Original Prusa SL1
printerVariant = default
prusaSlicerVersion = PrusaSlicer-2.1.0+win64-201909160915
usedMaterial = 5.889627
```

Learn More

<https://gitlab.com/prusa3d/sl1/a64-fw/blob/master/firmware/sl1fw/libConfig.py>