railcore

A) Introduction

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INTRODUCTION

Background

RailCore® Mini is a [CoreXY-based RepRap 3D](#) printer designed by J. Steve White and Tony Akens and published under the [CC Attribution Only](#) license.

The Mini is based on the RailCore® II ZL and features many of the same landmark features of it's bigger brothers.

Overview

The frame is designed to use 1515 aluminum extrusions. This was a space-efficient choice, which makes building the printer easier, as standard M3 hardware fits nicely into the extrusion like T-Nuts would. To add rigidity, we use sides made from Acrylic or HDPE to stiffen the frame. (These can alternatively be cut out of any material you prefer, including melamine, plywood and aluminum.) The total cost for the actual frame components (extrusion, corner cubes, and sides) is roughly $100 USD.

Notable aspects of the design include:

- 3 trapezoidal lead screw Z-axis, stacked idlers, and duo-planar belt path
- The electronics in the design are the Duet 3 Mini 5+, Duet 3 Expansion Mini 2+, Options Raspberry Pi, 24v PSU and 0.9 degree steppers.
- We use an E3D Revo Micro for the design, as it's the lightest avaliable at this time.
- Support for other hotends such as E3D Revo 6, V6, Volcano, Slice Mosquito, and many others are also available.
- Semi-direct drive or full bowden are both supported
- The current Mini kit is assembled and sold by Filastruder. This guide should cover the "standard" kit configurations they sell. It may work with other variations including self source builds, and "add-ons", with minor variation.

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If you need assistance with your build, a strong community of support is available at our [Discord](#) channel.

A special thanks to Filastruder, Duet3d, E3D, 713Maker, and Mandala Roseworks for supporting the project.

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