

Collidoscope new Physical Build

(v0.1)

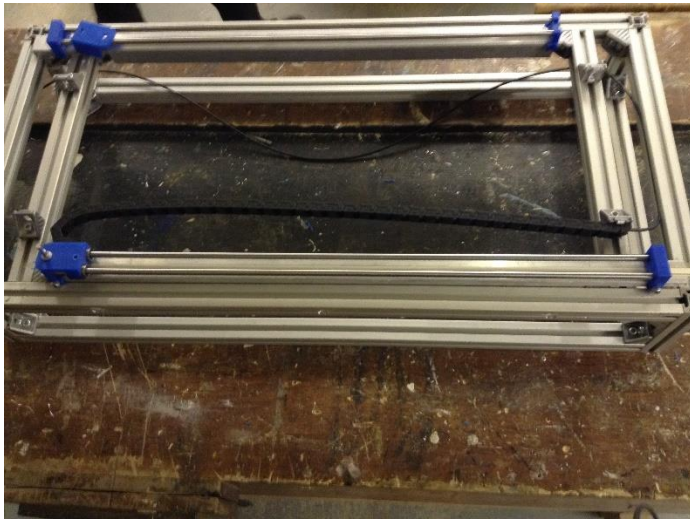


We start by constructing the Aluminium frame that is the main support structure of the whole instrument. This is made from standard 30mm x 30mm Aluminium extrusion and joined together with the 30mm x 30mm aluminium angle brackets and M6 steel extrusion nuts and bolts designed for Aluminium extrusion. The XLR mount plate can then be added loosely for later adjustment. (Drawings: A-1-1, PT-1-1, PT-1-2, PT-1-3, PT-1-4, PT-1-5 & PT-2-3)



Once the main frame has been constructed the work can start on the long linear rails. The mountings and housings for the 8mm chromed slider rods and the housing for the Potentiometer and bearings are all 3D printed for ease of manufacturing but could feasibly be cast or milled in Aluminium. These are mounted to the hollow Aluminium square section with M6 steel bolts and to the frame

(Drawings: A-1-2, PT-3-1, PT-3-2, PT-3-3, PT-3-4, PT-3-5, PT-3-7, PT-3-8, PT-3-9, PT-3-10, PT-3-11)



Now the wooden parts can be made. This version uses 3mm layers of Ply-wood that are laser cut and glued together with guide holes to insert 4mm dowels to ensure the correct orientation and alignment with each layer. These parts do not necessarily need to be laser cut and could easily be machined out of a sheet of any wood or plastic on a large enough CNC router.

(Drawings: PT-2-1, PT-5-1, PT-6-1)







These parts require the holes in the sides of wood to be bored out to accommodate the hinges so the sides can hinge up for transport. This is done on a precision mill with the correct mill bit for the hinge size.



Now the wood has to be sanded and polished (if required) for a smooth finish. The lower wooden frame (PT-2-1) can be screwed to the Aluminium frame. All the 2.5mm holes must be tapped to M3 threads for the Perspex to be mounted. The Ply-wood is now screwed into the lower wooden frame.

Work can continue to stripping the keyboards down being careful not to break and wires or loose and parts, the built in fades are not used and can be discarded. These are then mounted to the keyboard Ply-wood sides with the original screws.

(Drawings: PT-6-1)

The short slides can now be manufactured and mounted to the upper wooden frame (A-1). In the same way as the long slides.

(Drawings: A-1-3, PT-4- 1, PT-4-2, PT-4-3, PT-4-4, PT-3-4 & PT-3-5)

The Screen can be mounted with either a Vesa mount or a surround support. This will attach to the Aluminium frame to ensure stability.

The Perspex is now cut and etched, (Drawings: PT-5-6 & PT-6-2), once this is done the record and loop switches can be mounted and the Perspex bolted to the Ply-wood tops. Making sure that the screen is flush with the underside of the Perspex. (Drawings: A-1-1 & A-1-4)



Now the Instrument can be slid into its custom made case (Drawing: PT-2-2).

