Summary

It was time to try a design from scratch with CAD, build prototypes and share it with the community. This is how the "Filament Buffer Cassette Clip System 2000 (FBCCS2k)" was born and created as a project. I'm a little proud of it, that's why the whole story is posted in pictures from the design, through the prototypes and the finished design.

Thanks Karkovski and TNDave (https://www.prusaprinters.org/prints/3793-fully-printable-prusa-mmu2-filament-retract-bank-b) and TheZeroBeast (https://www.thingiverse.com/thing:3847626) for the inspiration with the clip system, brilliant idea!

The pictures are more or less the assembly instructions. Beware of the Recorder with its 28h print: a raft and an enclosure would be an advantage (at the last inch it wrapped off the bed and the rest was reprinted and glued). The FBCCS2k is actually under a Ikea Lack table. Therefore the guidance of the filament is optimized from the spool to the MMU2S (no twists).

The PTFE-tube is 4mm outside and 2mm inside, like those from Prusa Printers. The screws to hold the tubes are 25x3mm. Screw in until the tube can no longer move, no further.

Bearings are classic 608 Z or ZZ.
The Box for the filament buffer is made of rigid pvc (hope that's the english term). The design is made for 3mm thickness, otherwise there is no automatic pressure for stability. With it's 300mm lenght, the buffered filament will stay inside the box. The front is open, but if you want to close it for a more humidity-controlled system (e.g. PVA filament), the cover would measure 128mm x 53.5mm.

List of parts
1x Recorder
5x Cassette
5x Closer
5x Wheel
1x Holder
2x Spacer
6x Graber
1x Writings (optional for the Cassette)

5x 608 bearings

10x screws 25x3mm

6x walls for the box (300mm x 128mm)
2x sides for the box (270mm x 53.5mm)
1x cover for the box (optional 128mm x 53.5mm)

Estimated print time ~ 80h xD

I hope you like the design and "May the First Layer be with you!" :)  

Best Claudens

**Printer Brand:** Prusa  
**Printer:** i3 MK3S  
**Rafts:** No (maybe for the Recorder)  
**Supports:** No (yes for the Graber)  
**Resolution:** 0.2  
**Infill:** 20%  
**Filament:** Fillamentum PLA

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**Model Files** (.stl, .3mf, .obj, .amf)

**1_recorder.stl**
updated 24. 4. 2020

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