XPI Cabinet for Raspberry PI 4

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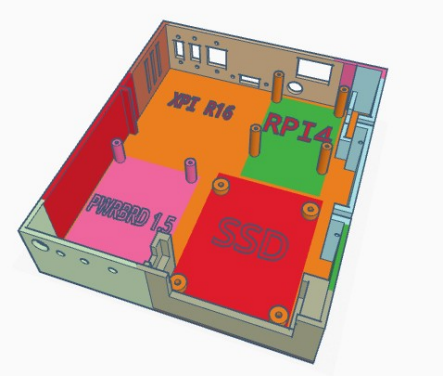
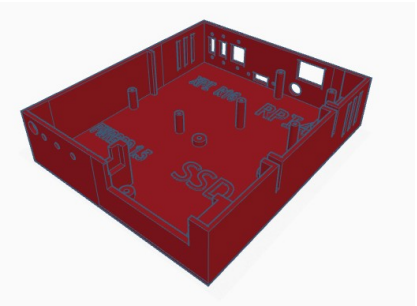
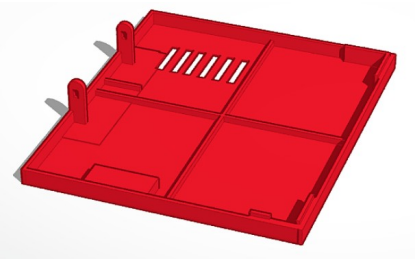
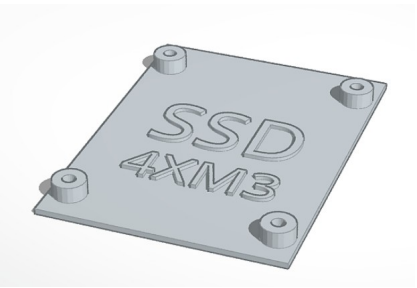
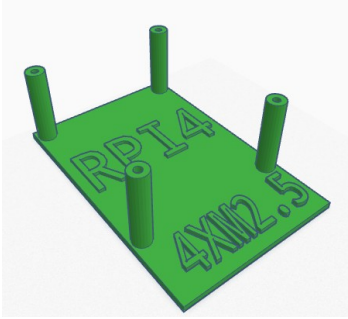
- Builds with height 1.8mm & 2.4mm width in wall & floor.
- It can be printed with 0.8mm nozzle (0.8 width/0.6height). PLA.
- Total height: 45mm + 1.8mm. Width: 200mm x 170mm.



Revision : 1.6 (2020 June)

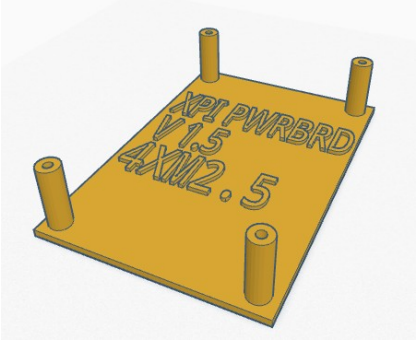
Assembled parts	
	**xpi_asm_b#r16** The complete bottom of the cabinet. This can be printed in one print. The size is 200mm x 170mm. Height 45mm. Screws needed: 8 x M2.5 for RPI Power Board and Raspberry Pi 4, and 4 x M3 nylon for the SSD disk. Corresponding stl file **xpi_asm_b#r16.stl**
	**xpi_asm_t#r16** The complete top of the cabinet. This can be printed in one print. This part with the bottom completes a cabinet without connectors. You need 2 x M3 screws and nuts for holding the top case. Corresponding stl file: **xpi_asm_t#r16.stl**
All parts (build your own XPI cabinet)	
	**xpi_floor#r16** This is the bottom plate everything stands on. This has a size of 200mm x 170 mm and 1.8mm height. Remember to place all wall/side parts on top of this plate. 1.8mm above ground. This already has 3 hole to assign the RPI 4, RPI power management board, and the SSD at the default places. You can hide these holes and rearrange if you want. Corresponding stl file: **xpi_floor#r16.stl**
	**xpi_ssd_t#r4** This can be directly dropped to the floor plate. This has the right drill places for 2.5” SSD harddisks. This will fit under the USB hub and under the Raspberry Pi 4. Remember you need a SATA to USB3 adapter. Remember to use 4 x M3 nylon screws only!! Corresponding stl file: **xpi_ssd#r4.stl**



xpi_rpi4_t#r2

This is the Raspberry Pi 4 plate. M2.5 screws fit directly into the 4 holes. Remember to mount power connector and SSD harddisk with adapter before you mount the Raspberry Pi 4!

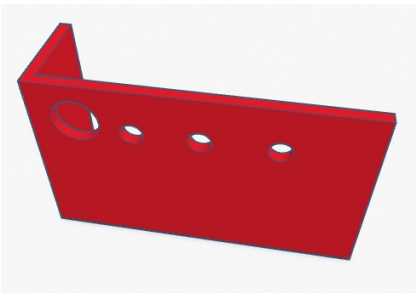
Corresponding stl file:
xpi_rpi#r2.stl



xpi_pwrbrd1_5#r4

This fits the new Raspberry Pi power management board. Remember to align the board to fit the LEDs in the front.

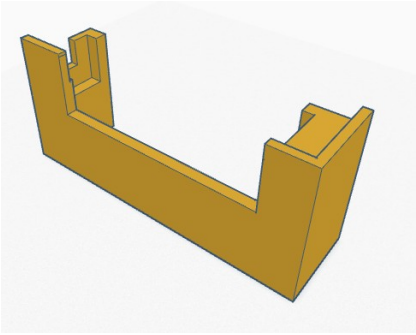
Corresponding stl file:
xpi_pwrbrd#r4.stl



xpi_dispdplay#r3

This is the left front of the xpi cabinet. This already has 1 hole for push button and 3 holes for the 5mm LEDs. Remember you can replace this with a solid wall – check under.

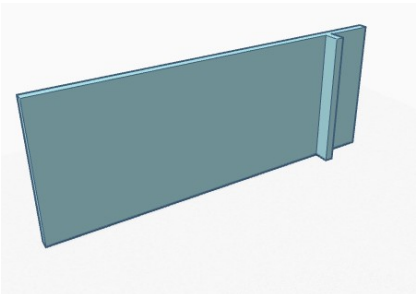
Corresponding stl file:
xpi_display#r3.stl



xpi_usbhub#r10

This is the right front of the cabinet. Here a 3-ports USB3 hub with memory card fit. If you don’t want the USB hub there is an options part under in the list. Mount the SSD harddisk before you place the USB hub here.

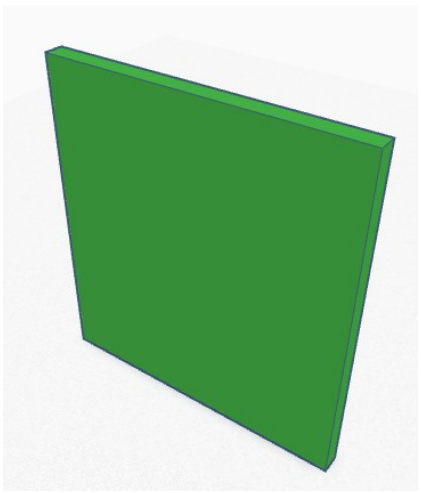
Corresponding stl file:
xpi_usbhub#r10.stl



xpi_leftwall#r1

This is the part (seeing from the front) on the left after the display plate and before the left vent plate.

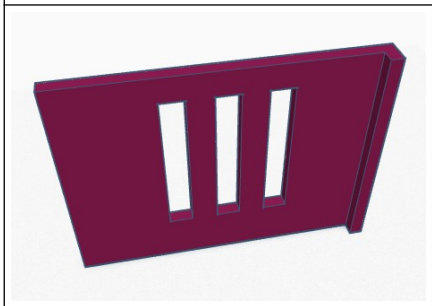
Corresponding stl file:
xpi_leftwall#r1.stl



xpi_rightwall#r1

This is the part (seeing from the front) on the right after the USB hub plate.

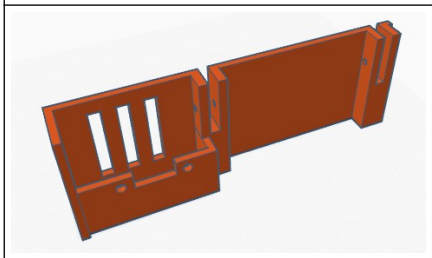
Corresponding stl file:
xpi_rightwall#r1.stl



xpi_ventholde#r1

This is the left (seeing from the front) vent hole plate before the connectors back-plate.

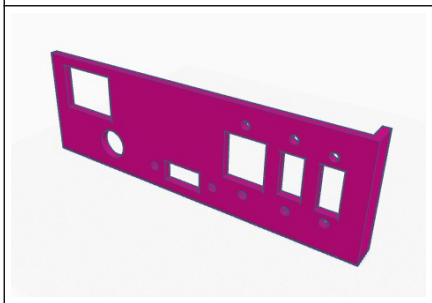
Corresponding stl file:
xpi_ventholel#r1.stl



xpi_fan#r8

This is the right (seeing from front) fan holder and top case holder. Use 2 x M3 screws and nuts.

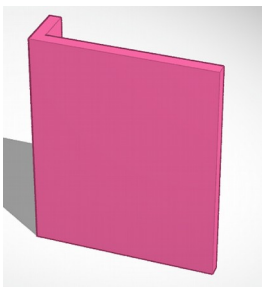
Corresponding stl file:
xpi_fan#r8.stl



xpi_connectors#r7

This is the right back-plate on the cabinet. Seeing from left is: Hole for SD card on Raspberry Pi 4. 2.1 or 2.5mm power connectors 5V 3-5 amp. USB connectors (can be used to only drain power to external CD/DVD Drive). Ethernet RJ45 connectors to Raspberry Pi. USB connector. And at last regular HDMI connector.

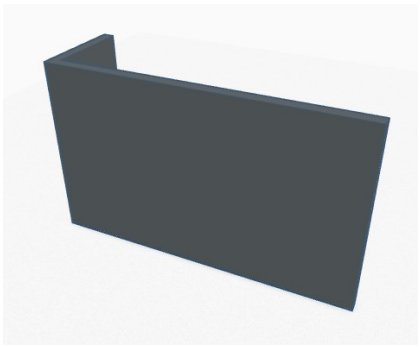
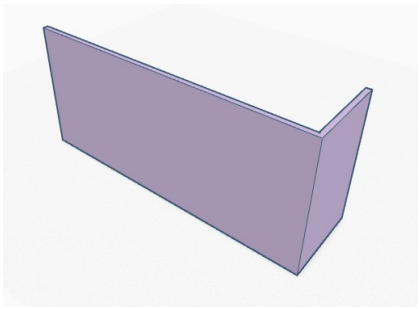
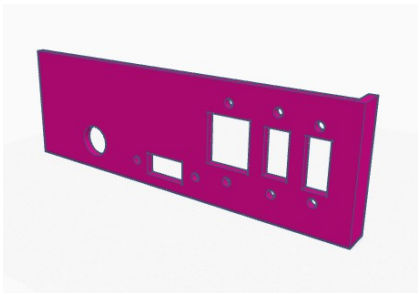
Corresponding stl file:
xpi_connectors#r7.stl



xpi_backwall#r1

This is the plate between fan and the connectors plate.

Corresponding stl file:
xpi_backwall#r1.stl

Optional parts (only for use if you don't want the standard design)	
	`xpi_nodisplay#r1`
	This is an optional part. Only use this part if you don't want the 4 holes in the original part for push button and 3 leds.
	Corresponding stl file: **xpi_nodisplay#r1.stl**
	`xpi_nousbhub#r1`
	This is an optional part. Only use this part if you don't want to use the 3-ports USB hub in the original design.
	Corresponding stl file: **xpi_nousbhub#r1.stl**
	`xpi_nocardconnectors#r1`
	This is an optional part. Use only this part if you don't want to use the memory card on the raspberry pi 4. Remember with the new firmware of May 2020 you don't need any memory card. It can boot directly to external USB drives.
	Corresponding stl file: **xpi_nocardconnectors#r1.stl**

Other parts

I have included a complete parts list for all the used parts and cables I used to construct the complete mini computer. **This file is not found here, and are included in the original STL-files to the XPI Cabinet**. Please download to see the complete lists.

There are also links to eBay and AliExpress for all used parts in this project.

Assembly

pmb = Power Management Board, Rev. 1.5.

1. Mount the fan with 2 x M3 screws and nuts. Remember the way air flows! Is into the Raspberry pi 4. Connect red cable (+5V) on the fan to pin 4 on the Raspberry Pi 4 and the black cable to the pin 6 on the Raspberry Pi 4.
2. Mount the top plate with 2 x M3 screws and nuts. There is no need to tighten these screws.
3. Soldier a 8-inch power cable (minus and plus 5V) on the power connector before mounting this connector on the backside.
4. Mount the power connector on the backside (do point 3 first!). Other ends of thees 2 cables go to 5V INPUT on the blue terminal on the pmb. Remember the external power supply must deliver 5V and minimum 3 amp. 5 amp if you want to use an external CD/DVD Drive in the system.
5. Mount all 4 connectors on the backside. All 4 cables go under pmb.
6. Mount the SSD harddisk with the SATA to USB3 cable. Use only 4 x M3 nylon screws here, no metal! You can also stretch this cable under til pmb.
7. Mount the Raspberry Pi 4 with 4 x M2.5 screws.
8. Mount the 3 x 5mm LEDs in front.
9. Mount the push button in front with cables.
10. Mount the XPI power management board with 4 x M2.5 screws, and connect the ends on the cable to the push button to POWER BUTTON pins on pmb. Then Connect the 2-wire to Raspberry Pi 4 pin 37/40 and at last connect 3 x 5mm LEDs and connect the push button. If you don’t use this board connect cable directly from power connector on backside the the cabinet and the USB C connector on the Raspberry Pi 4. Let the 4 cables from the backside and HDMI cable and the USB SATA cable goes under the pmb.
11. Mount a 2-wire cable about 10 inches long from P4 on the pmb to pin 37 and pin 40 on the Raspberry Pi 4. The pin nearest XPI text goes to pin 40 on Raspberry Pi.
12. Mount a cable from RELPWR on the pmb to a USB C connector and connect this USB C to the USB C connector on the Raspberry Pi 4. If you use CMOS Switch transistors, use QPWR terminal.
13. Mount the USB HUB and connect this to one of the USB 3 output on Raspberry PI 4.
14. Connect HDMI cable to Raspberry Pi 4 and other USB cables from backside til USB 2 ports on the Raspberry Pi 4.