

# Project Documentation

Commodore PET/CBM80xx/40xx IEEE-Extender Riser

Project number: 170

Revision: 0

Date: 01.11.2020

# Commodore PET IEEE-488 Extender – Riser Board Rev. 0

## Module Description

### Introduction

The IEEE-488 extender riser board is connected to either the base board with edge connector (Project 169) or the base board with Centronics connector (24p. = IEEE-488 connector, Project No. 204). It serves for connecting IEEE cables with and edge connector or a peripheral like the SD2PET, which has an edge connector installed.

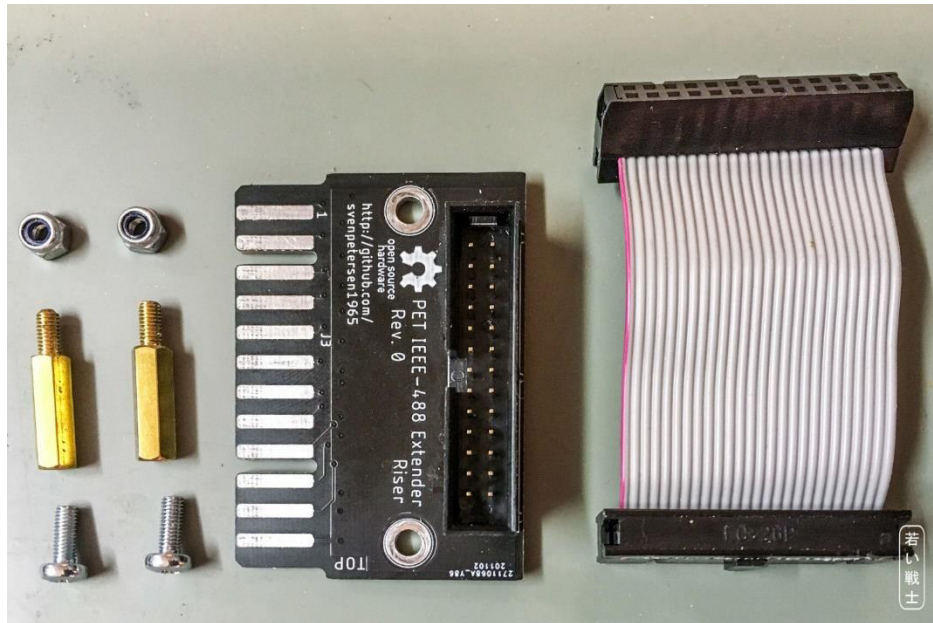


Figure 1: Riser Board with jumper cable and mounting material

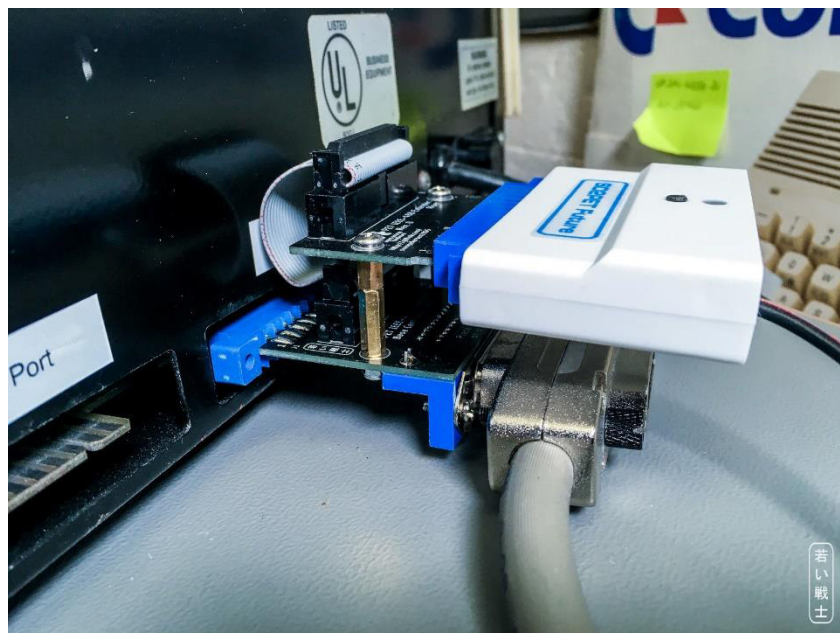


Figure 2: Riser Board on a Centronics Base Board with an SD2PET

## Dimensions

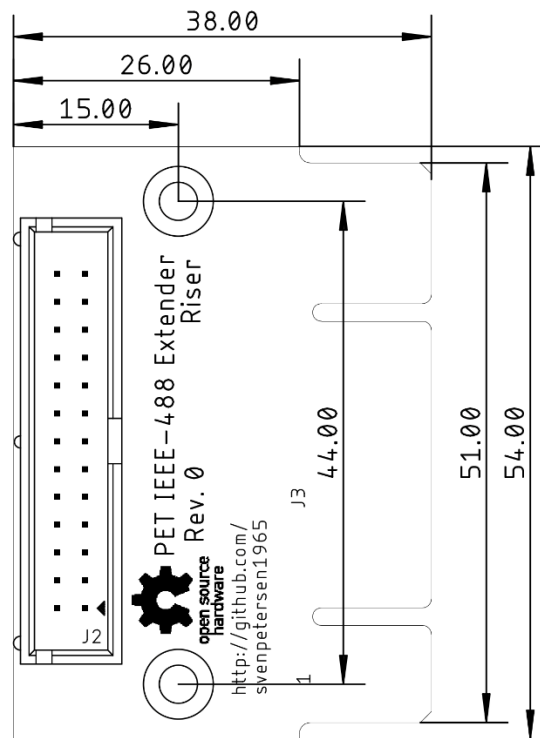


Figure 3: Dimensions of the IEEE-488 Extender

## Connectors

J3/top	Signal	J2	J2	Signal	J3/bottom
1	DIO1	1	2	DIO5	A
2	DIO2	3	4	DIO6	B
3	DIO3	5	6	DIO7	C
4	DIO4	7	8	DIO8	D
5	EOI	9	10	REN	E
6	DAV	11	12	GND	F
7	NRFD	13	14	GND	H
8	NDAC	15	16	GND	J
9	IFC	17	18	GND	K
10	SRQ	19	20	GND	L
11	ATN	21	22	GND	M
12	GND	23	24	GND	N
-	GND	25	26	GND	-

Table 1: IEEE-488 signal pinouts

**J3** is a card edge structure on the PCB, which connects to the IEEE-488 peripherals via the PET-IEEE-488 cable or directly (in case of the SD2PET future). **J2** is a 2x13 pin header/box connector for the jumper cable to the respective base board.

## Cable

The jumper ribbon cable connects J2 or the Riser Board to J2 of the desired base board. Since this cable is usually installed only once, there is no need for a strain relief. This way, the standoff between riser board and the base board can be 15mm only.

## 3D-Printed Case

The bottom Shell of the Case for the Centronics Base can be used to support the board stack.

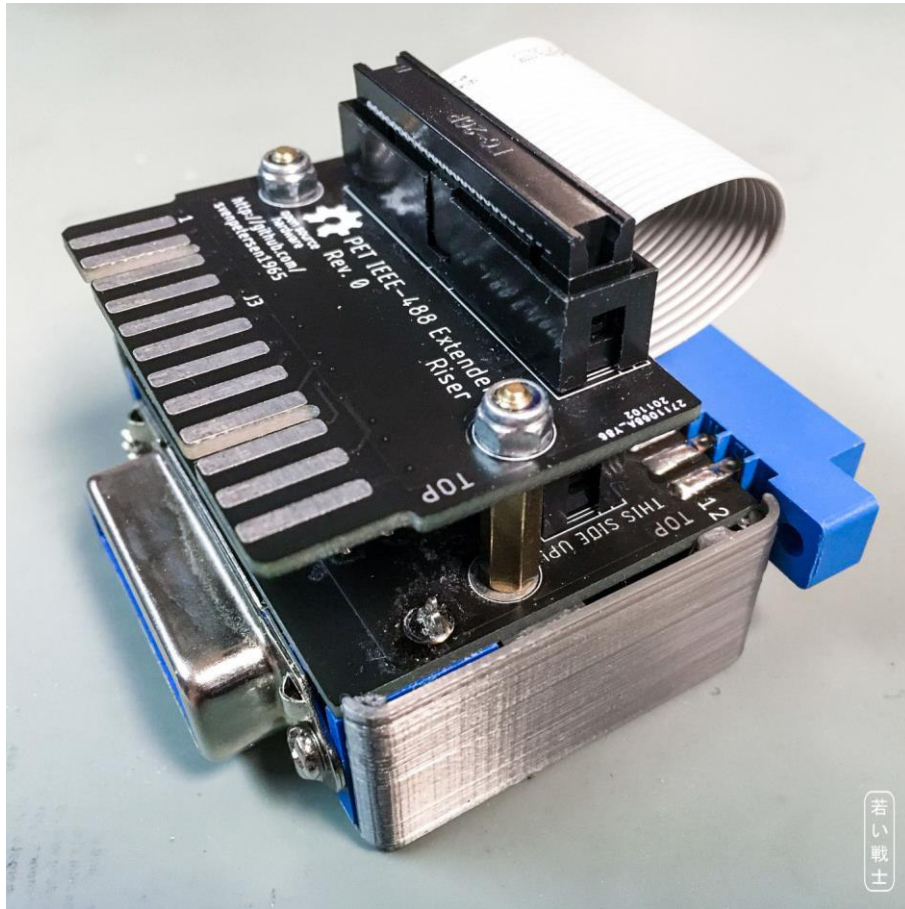


Figure 4: Board stack with Centronics Base and the bottom shell of the Centronics case

The recommended mounting material:

- 2x 15mm standoffs
- 2x M3x8 Screws (e.g. DIN 7985, Philips dead)
- 2x Nut M3 self-locking (DIN 985)

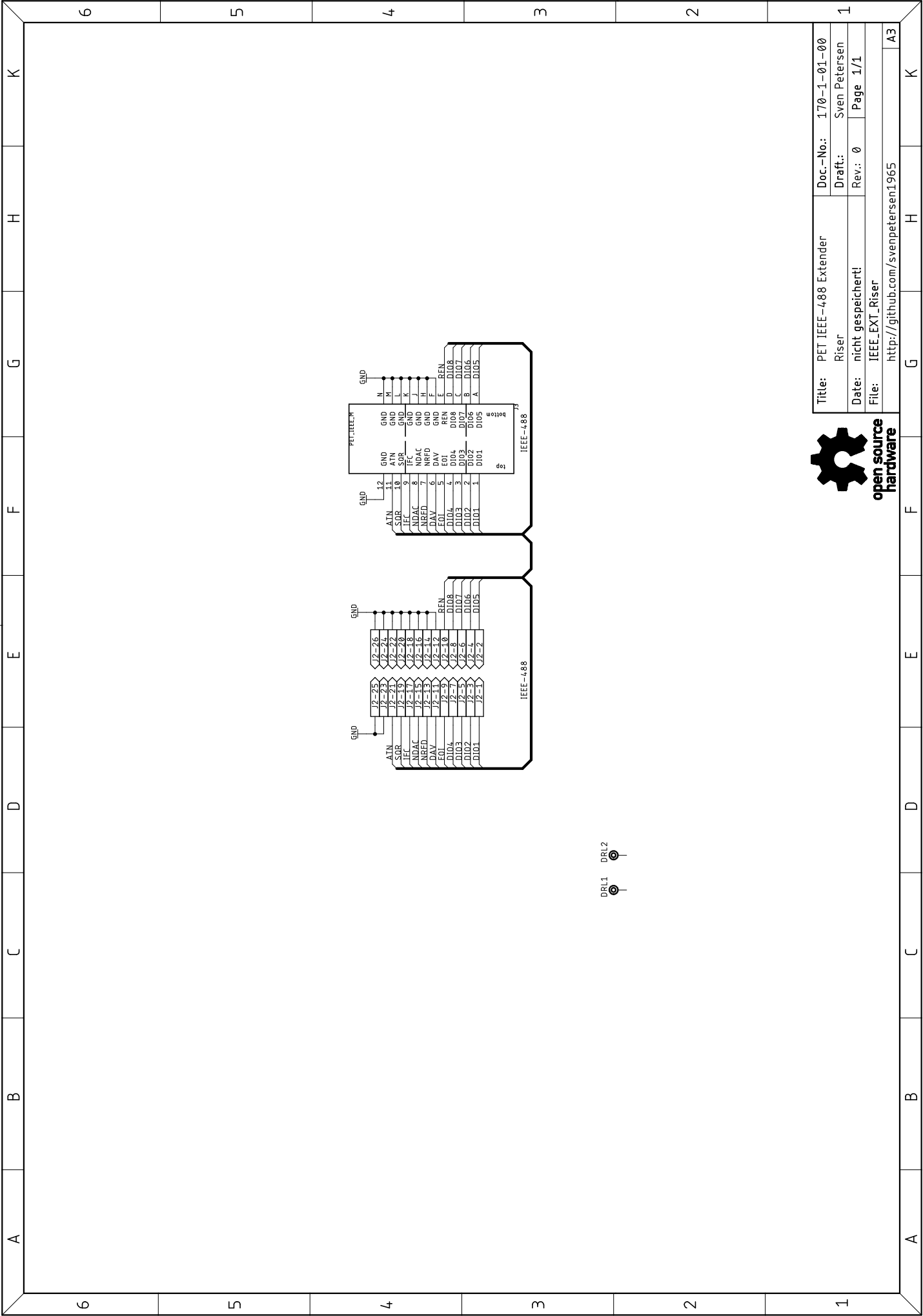
## Application Note

When using it as a splitter for the SD2PET, it is not tested to drive more than the SD2PET and one more peripheral. It is suspected, that the SD2PET is not capable to drive bussed with several devices.

## Revision History

### Rev. 0

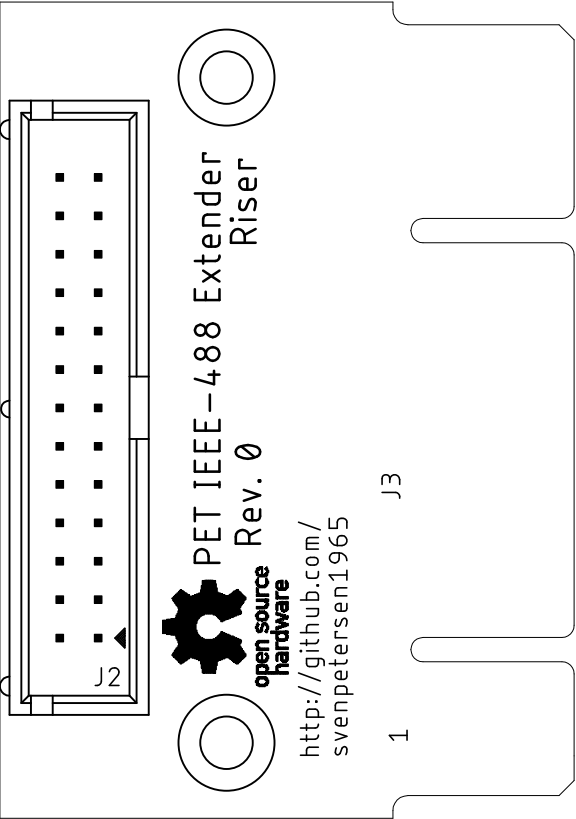
- Prototype (fully functional)



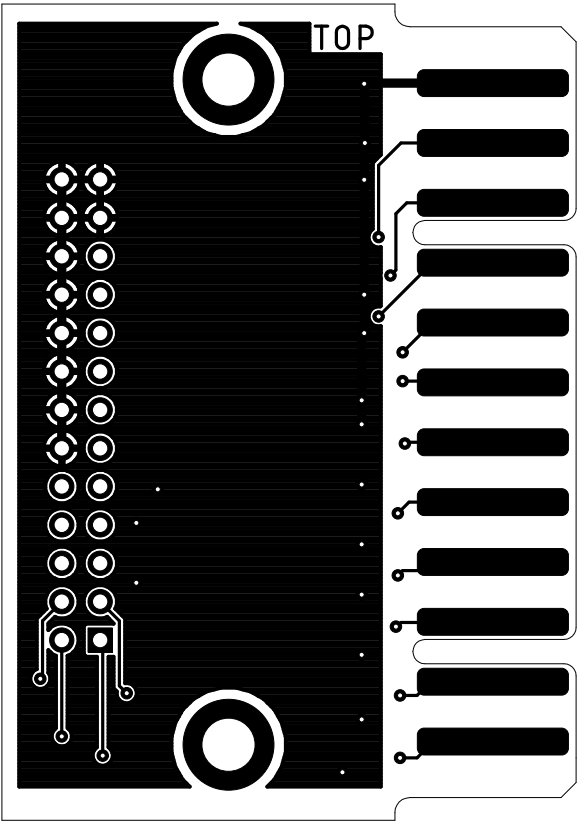
open source  
hardware

Title: PET IEEE-488 Extender		Doc.-No.: 170-1-01-00	
Riser		Draft: Sven Petersen	
Date: nicht gespeichert!		Rev.: 0	
File: IEEE_EXT_Riser		Page 1/1	
		http://github.com/svenpetersen1965	
		A3	

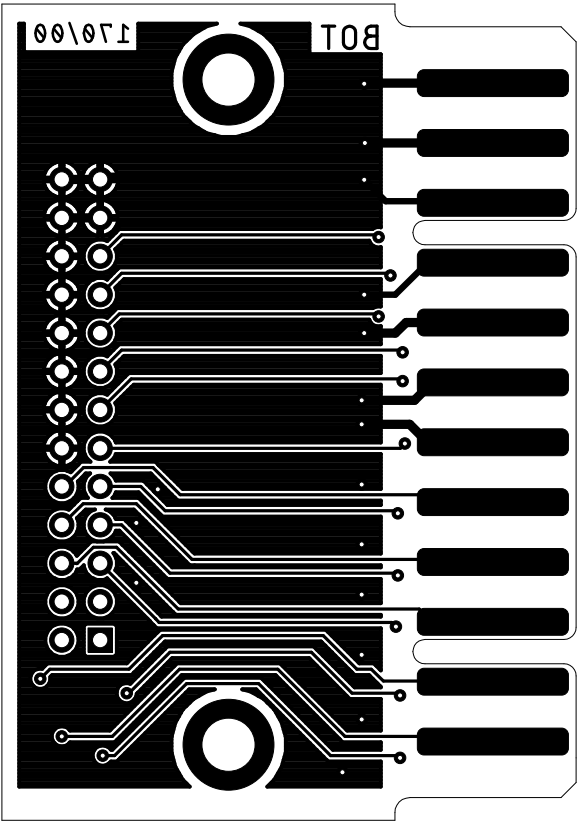
Sven Petersen 2020	Doc.-No.: 170-2-01-00	
	Cu: 35µm	Cu-Layers:2
IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
placement component side		



Sven Petersen 2020	Doc.-No.: 170-2-01-00	
	Cu: 35µm	Cu-Layers:2
IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
top		

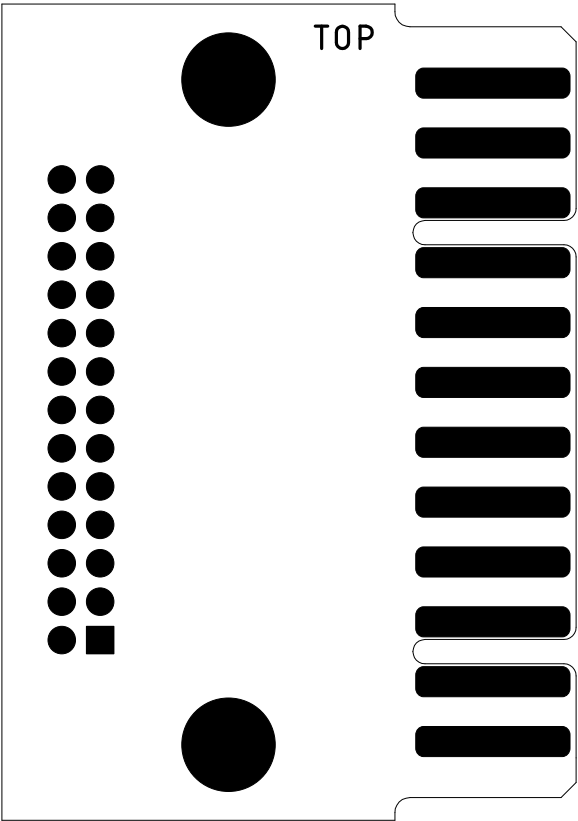


Sven Petersen 2020	Doc.-No.: 170-2-01-00	
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IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
bottom		

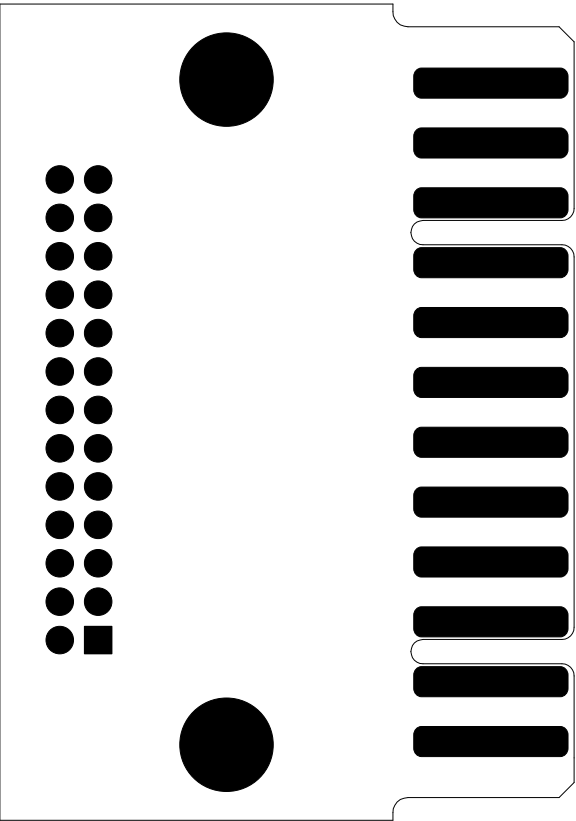




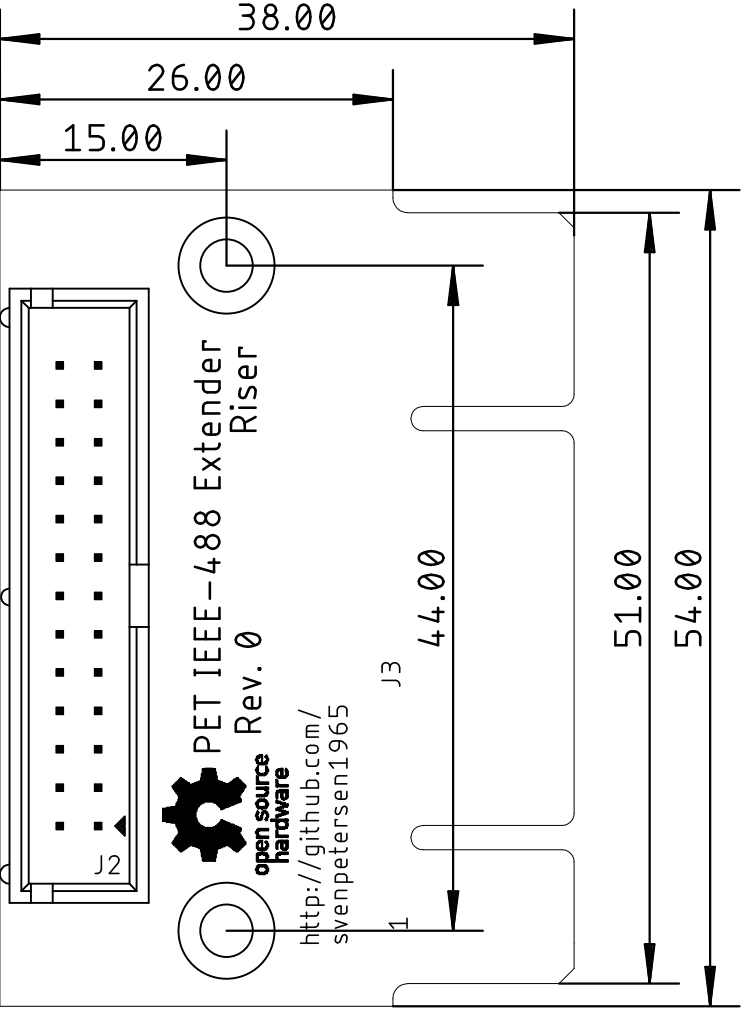
Sven Petersen 2020	Doc.-No.: 170-2-01-00	
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IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
stopmask component side		

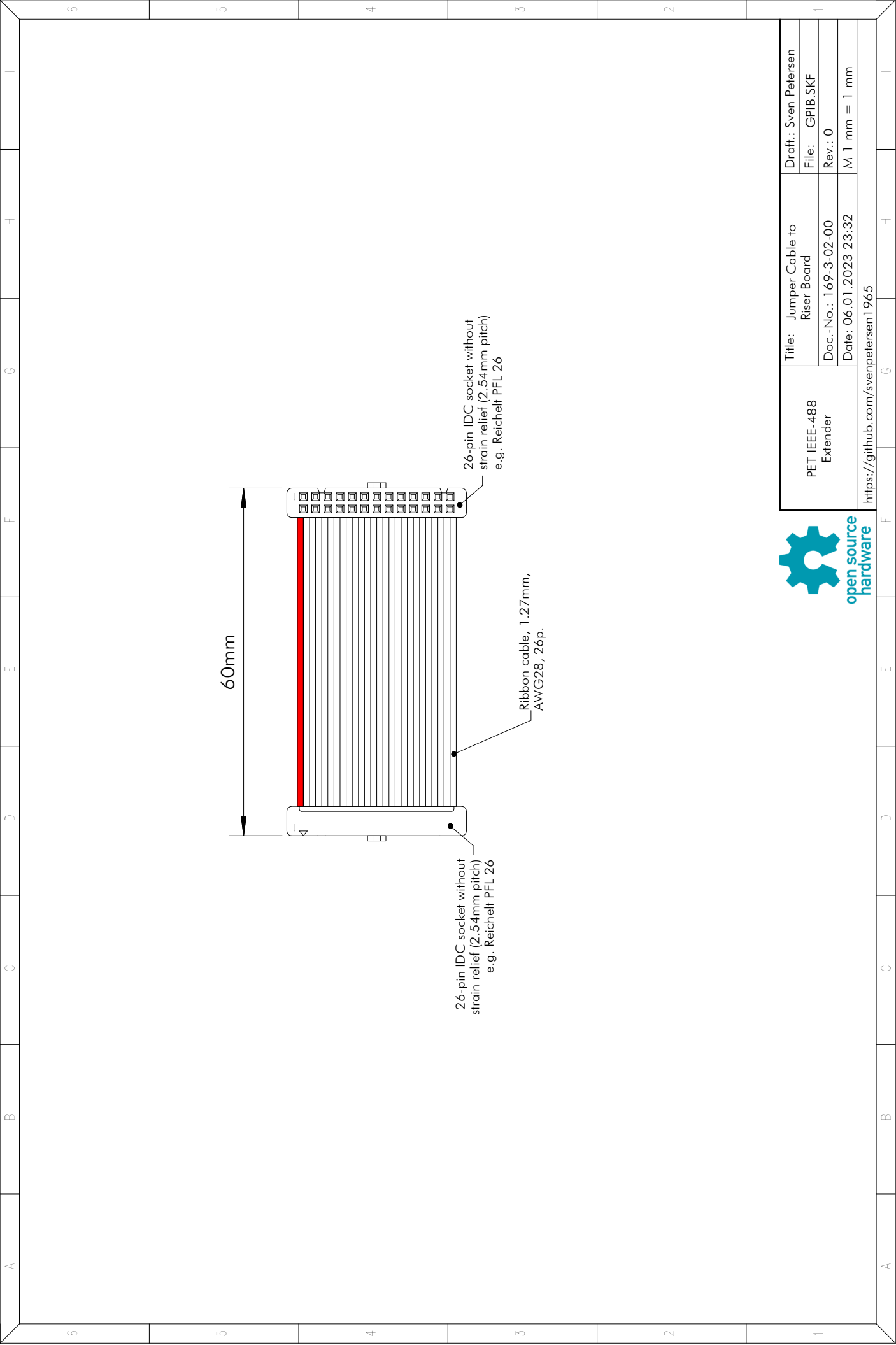


Sven Petersen 2020	Doc.-No.: 170-2-01-00	
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IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
stopmask solder side		



Sven Petersen 2020	Doc.-No.: 170-2-01-00	
	Cu: 35µm	Cu-Layers:2
IEEE_EXT_Riser		
01.11.2020 16:23		Rev.: 0
placement component side		measures





# PET IEEE-488 Extender - Riser Board Rev. 0

## Bill of Material Rev. 0.0

Pos.	Qty	Value	Footprint	Ref.-No.	Comment
1	1	170-2-01-00	2 Layer	PCB Rev. 0	2 layer, Cu 35μ, HASL, 38.0mm x 54.0mm, 1.6mm FR4
	1	Box pin header, 2x13p, 2.54mm	2X13WV	J2	e.g. Reichelt.de WSL 26G
	2	IDC receptacle, 2x13p, 2.54mm		Cable (Drawing 169-2-03-00)	e.g. Reichelt.de PFL 26 (do not install strain relief)
60mm		AWG28, 26p, pitch 1.27mm		Cable (Drawing 169-2-03-00)	ribbon cable e.g. Reichelt.de AWG 28-26G 3M (3 meters)
	2	standoff M3/15mm (male +female)			
	2	locking nuts M3			DIN985, zinc plated
	2	Screws, M3x8			DIN7985, philips head, zinc plated