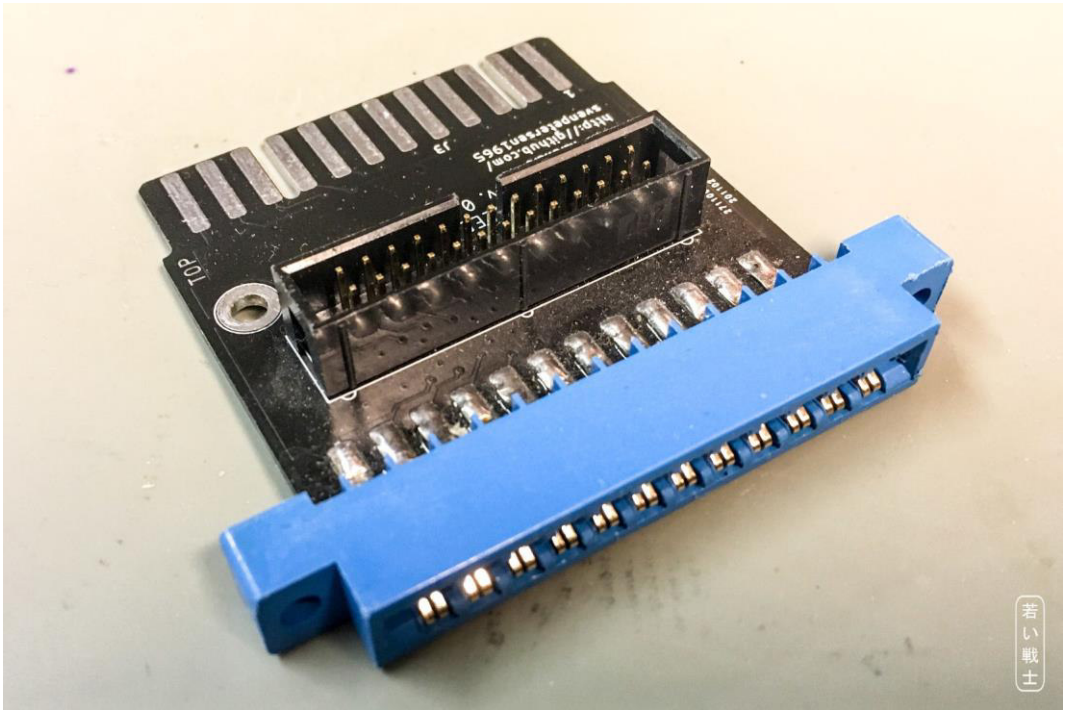
Project Documentation

Commodore IEEE-488 Extender Base

Project number: 169

Revision: 0

Date: 03.09.2022



Commodore PET IEEE-488 Extender Base Board Rev. 0

Module Description

The IEEE-488 extender can serve multiple purposes:

1. Splitting the card edge IEEE-488 connector, so an additional device other than a SD2PET future can be connected.
2. Connecting a cheap DIY ribbon IEEE-488 cable. It is recommended to keep this ribbon cable as short as possible

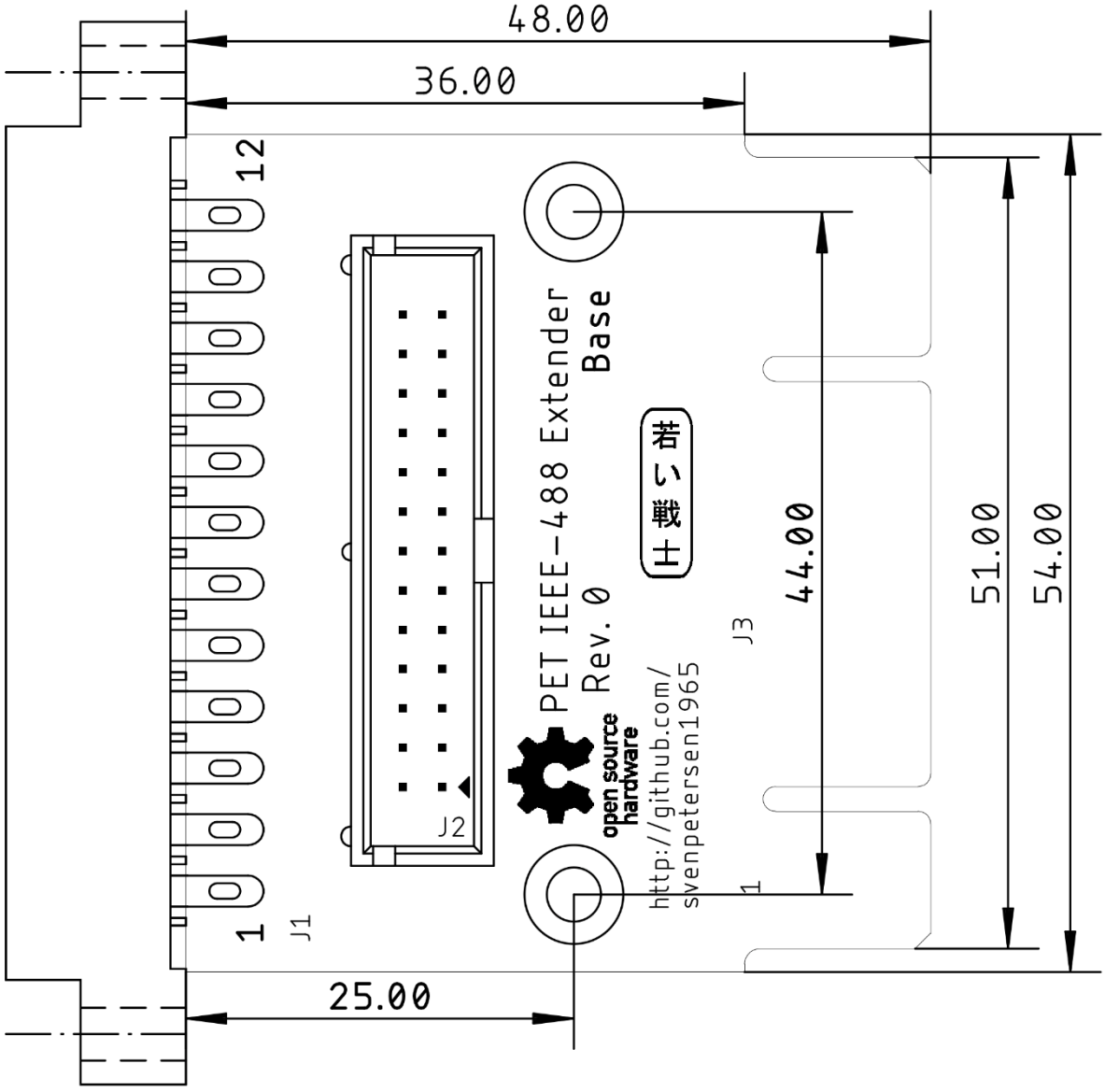


Figure 1: Dimensions of the IEEE-488 Extender

Connectors

J1 is a female card edge connector, that connects to the PET/CBM Mainboard, 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.

J1, J3/top	Signal	J2	J2	Signal	J1, 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

Pictures

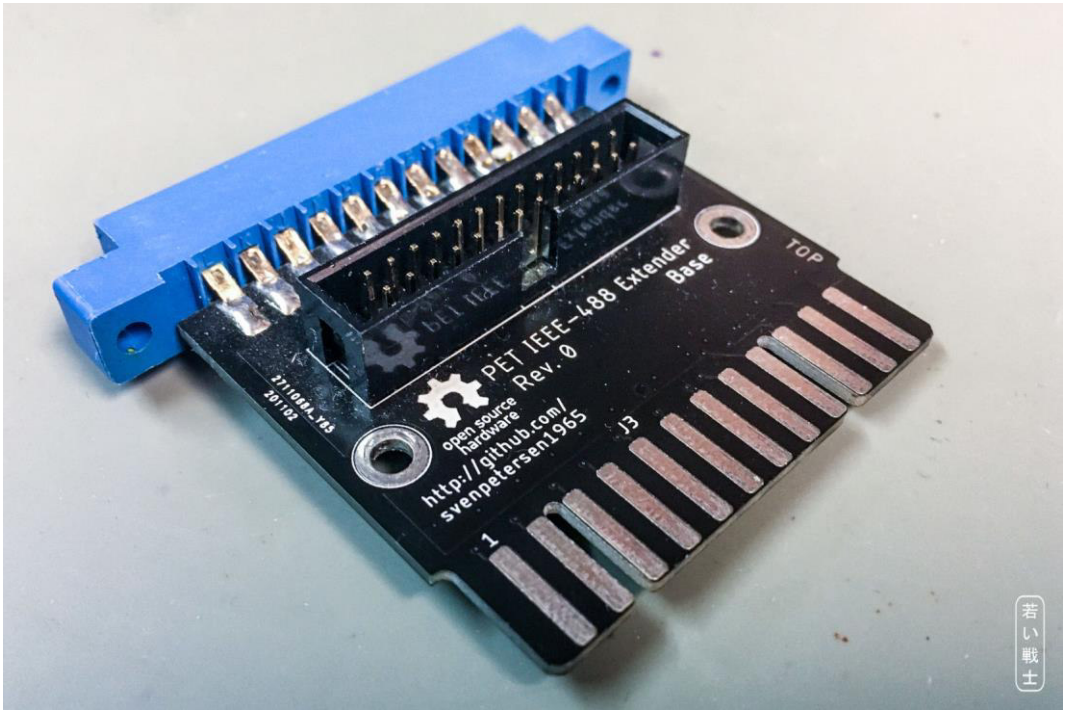


Figure 2: IEEE-488 Extender Base Board

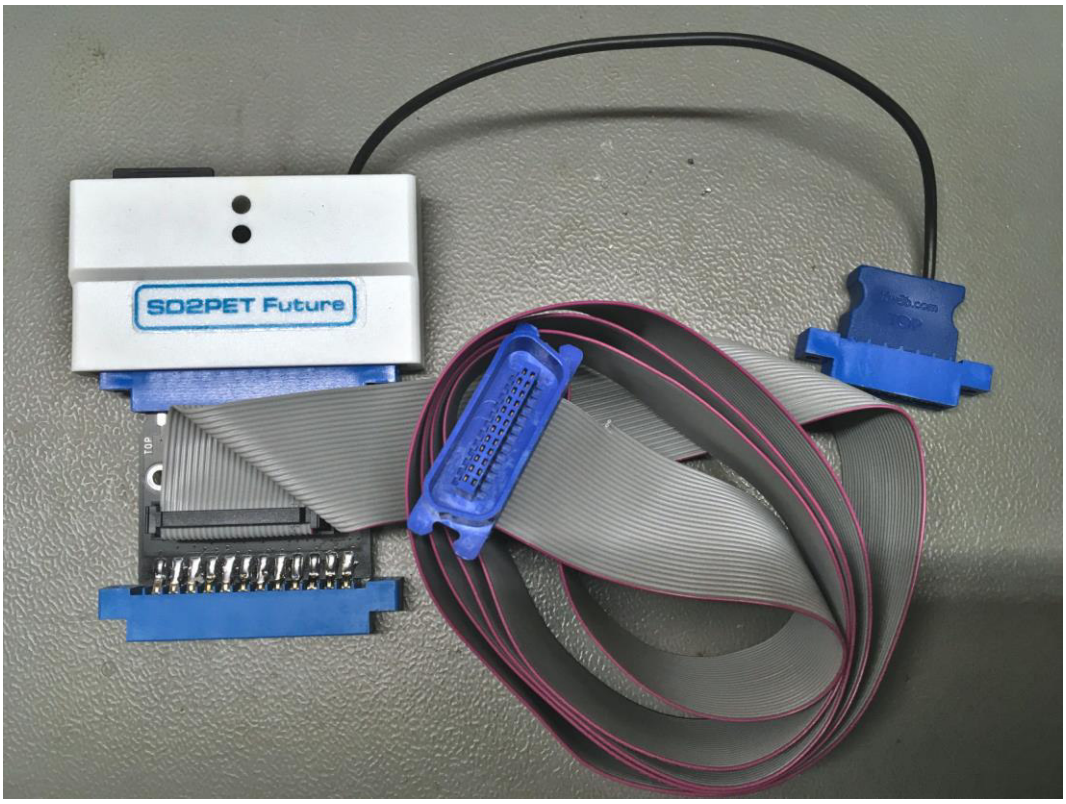
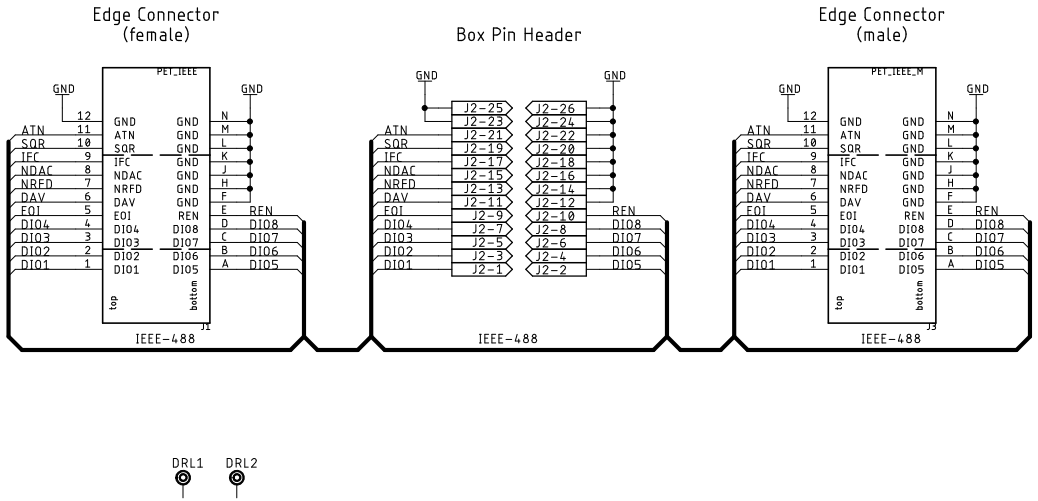


Figure 3: Base Board with SD2PET Future and a ribbon cable

Revision History

Rev. 0

- Prototype (fully functional)



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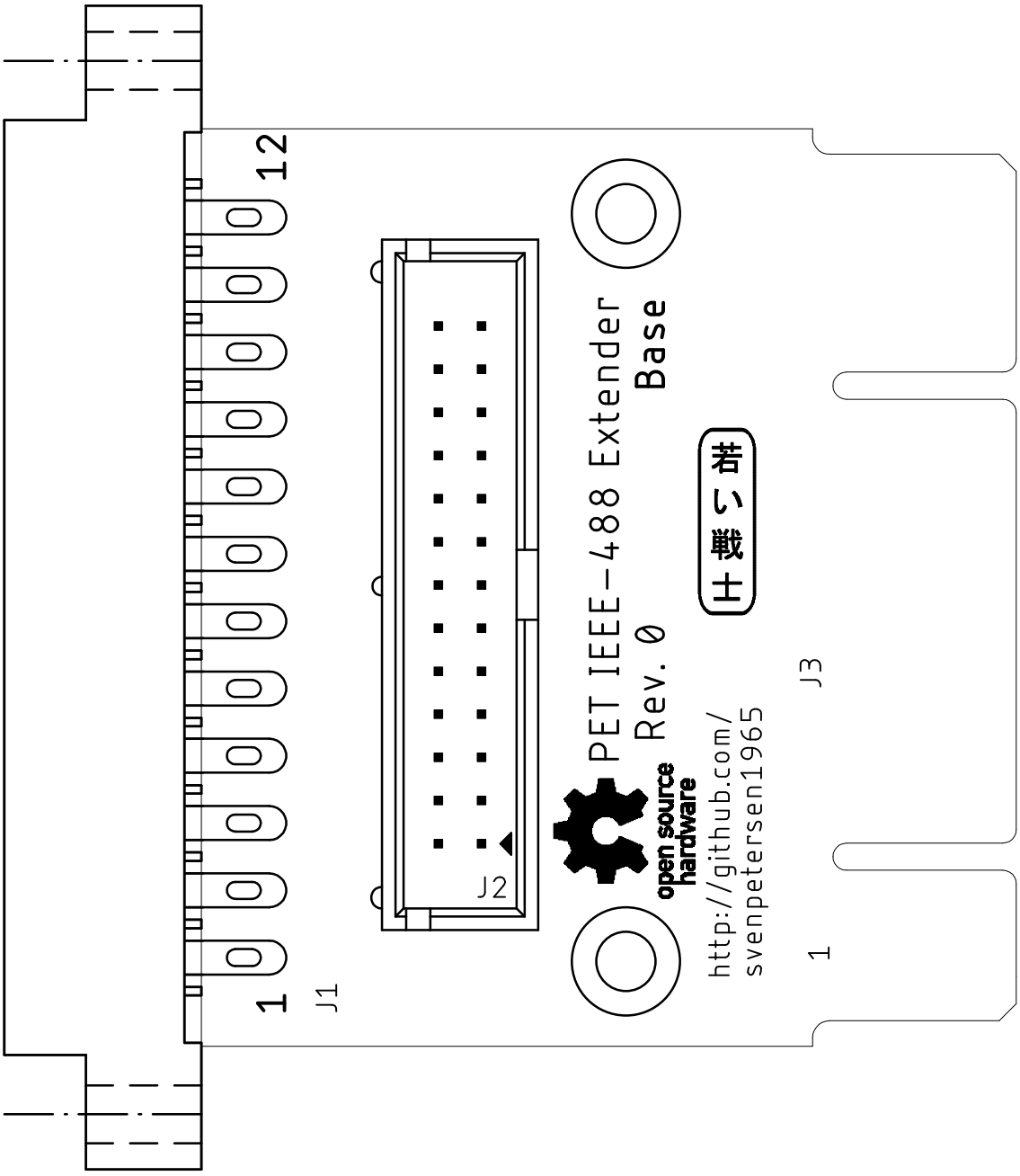
		Draft.:	Sven Petersen
Date:	03.09.2022 14:59	Rev.: 0	Page 1/1
File:	IEEE_EXT_Base		
	http://github.com/svenpetersen1965		A3

open source hardware

Sven Petersen 2022	Doc.-No.: 169-2-01-00	
	Cu: 35µm	Cu-Layers: 2
IEEE_EXT_Base		
03.09.2022 15:03		Rev.: 0
placement component side		placement solder side



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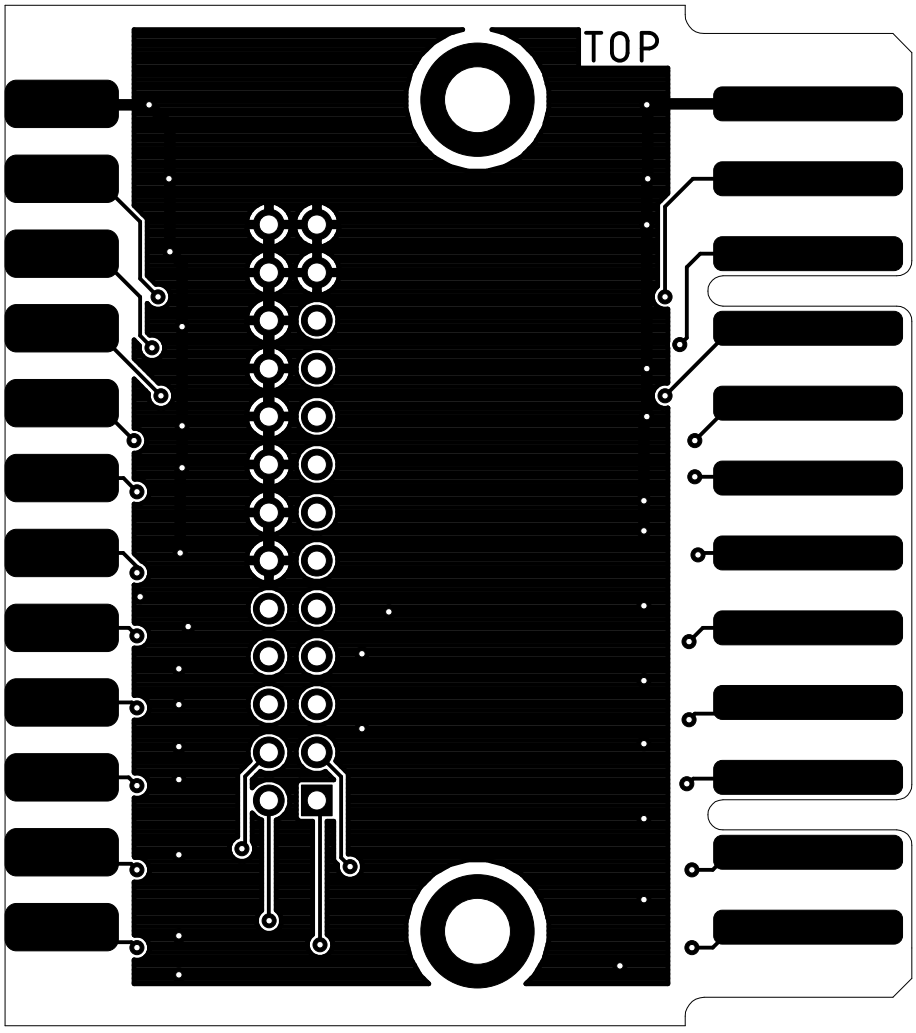
top	[redacted]	



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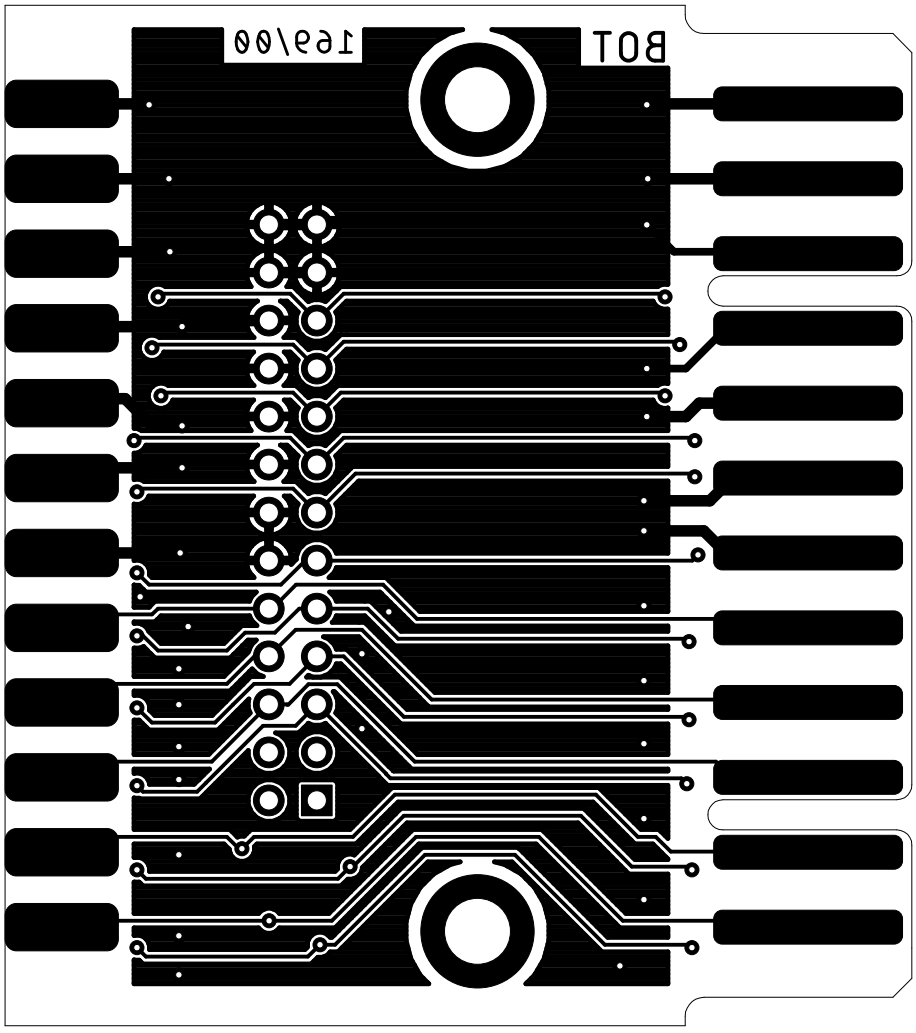

Sven Petersen 2022	Doc.-No.: 169-2-01-00	
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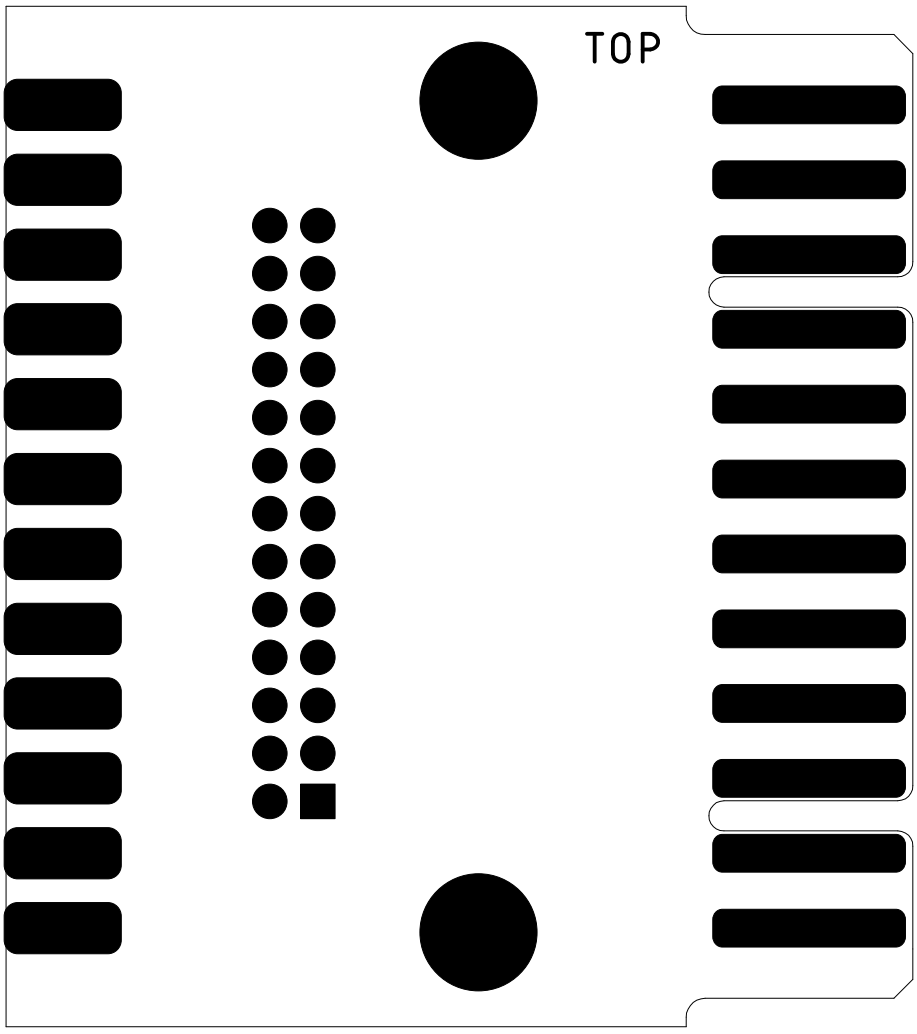
IEEE_EXT_Base		
03.09.2022 15:03		Rev.: 0
stopmask component side		



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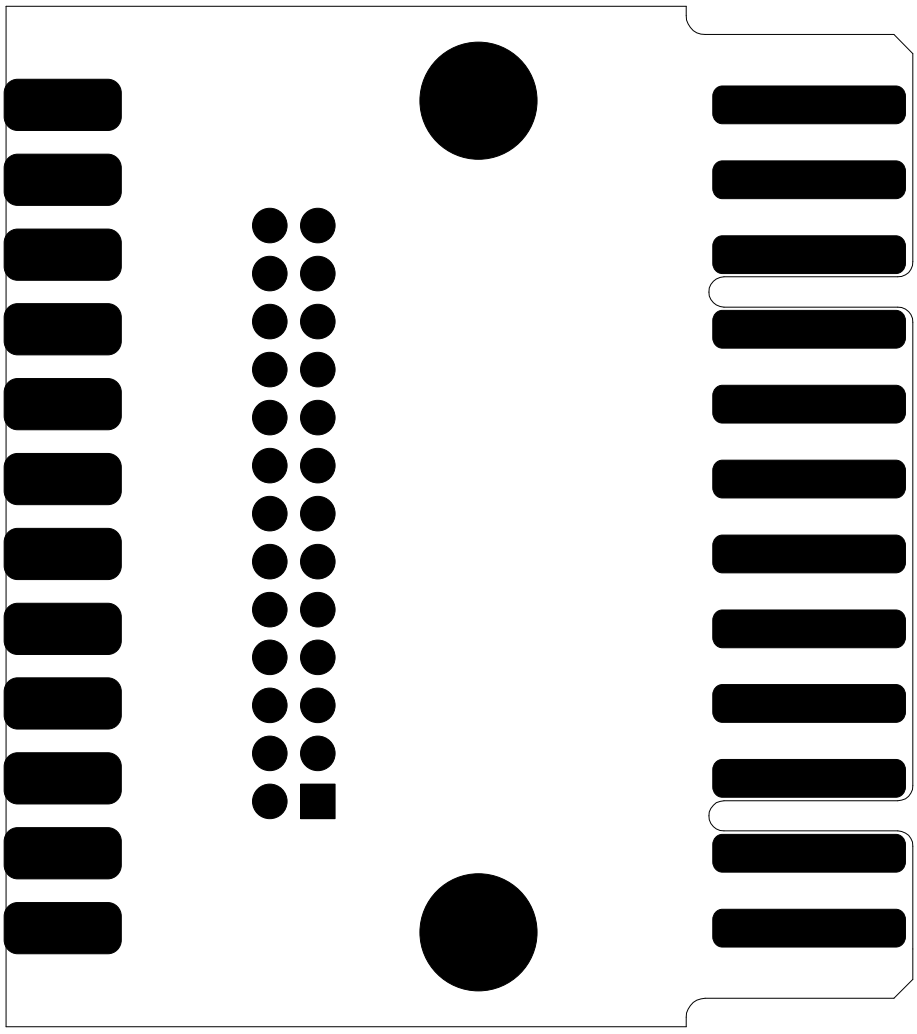
stopmask solder side		



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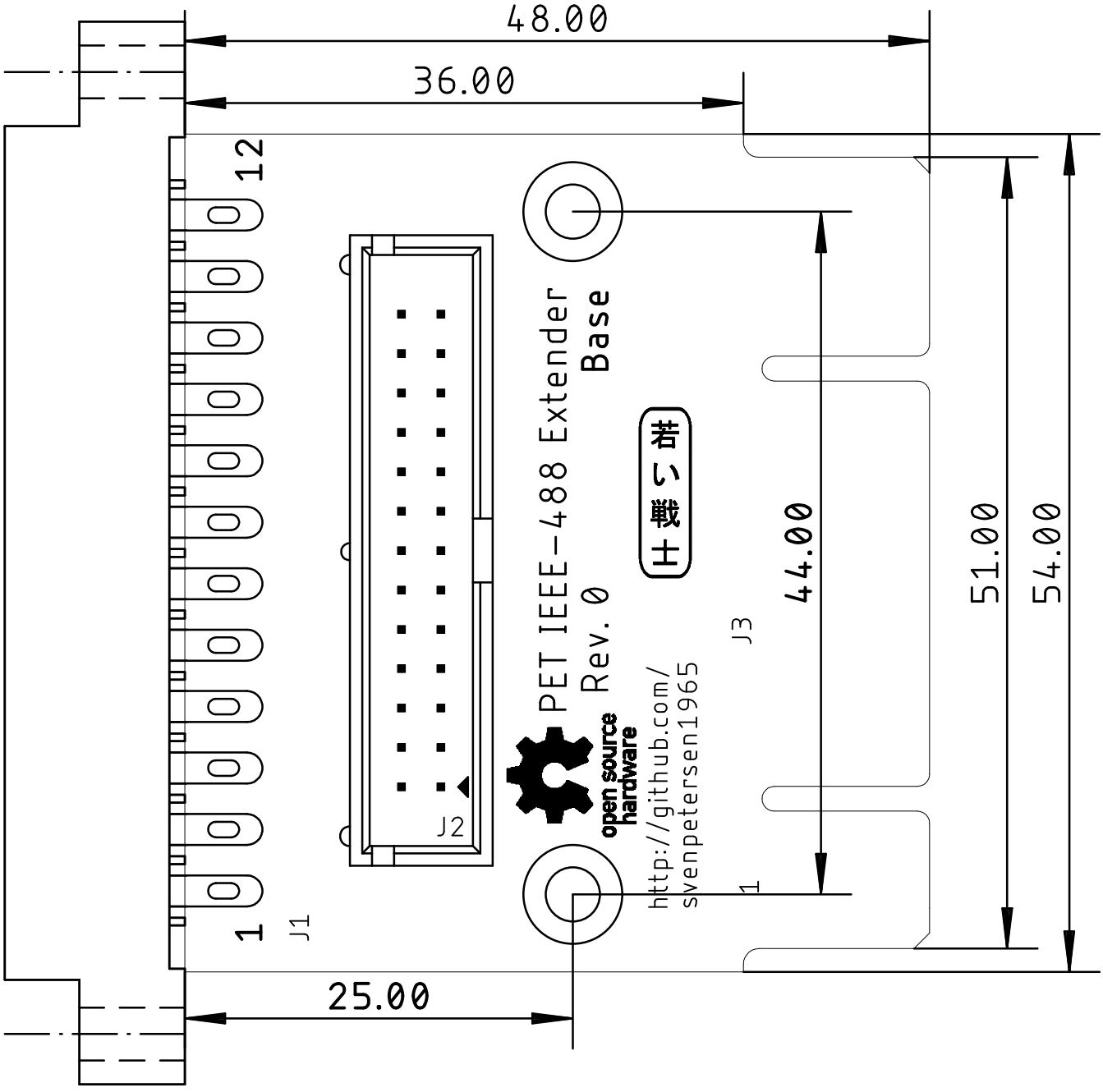

Commodore PET IEEE-488 Extender Base Board Rev. 0

Testing

Setup

The tests were conducted with a CBM8032 computer, a CBM8050 Floppy Disk Drive, an SD2PET future and a DIY ribbon cable (appr. 1 meter long). Further, a C64 with an IEEE-488 interface was used

Test Execution

Direct SD2PET

The SD2PET future was connected to the Base Board, which was then connected to the IEEE-488 port of the CBM8032.

The SD2PET could be accessed without a problem.

CBM8050 via ribbon cable

The CBM8050 was connected via the base board and the ribbon cable. The 8050 could be accessed.

CBM8050 via ribbon cable to IEEE488 interface and a C64

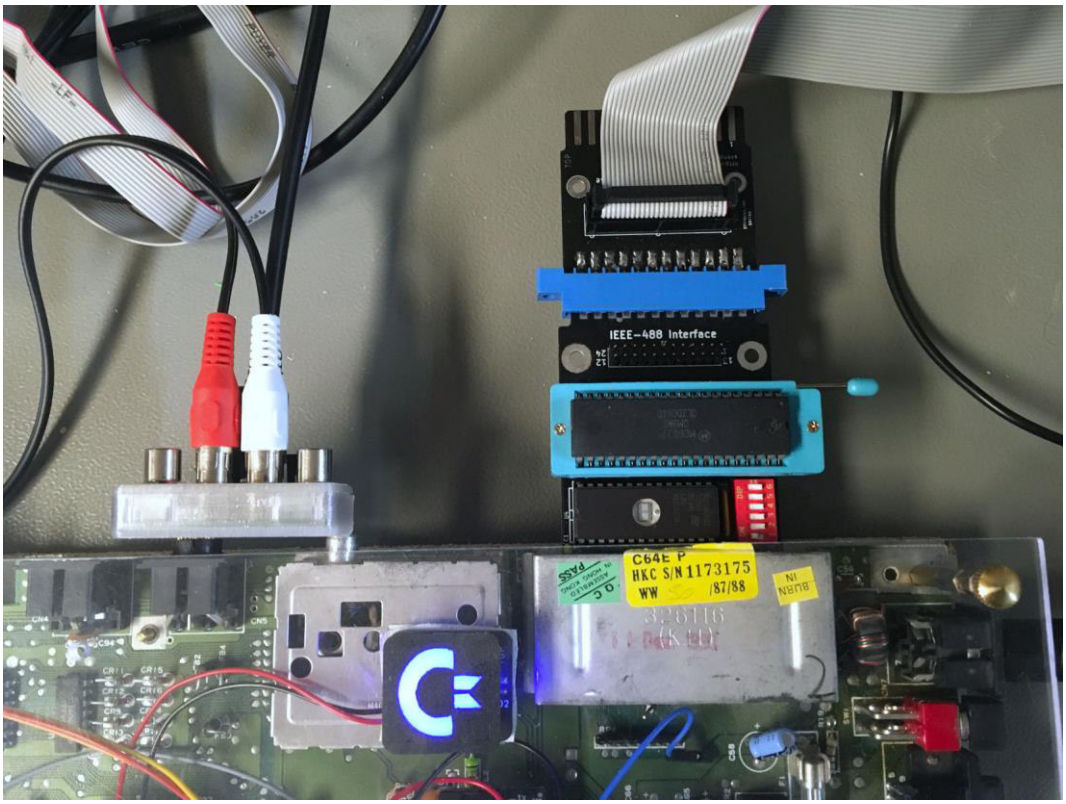

Figure 1: Test with C64 an IEEE-488 interface and a CBM8050

The CBM8050 could be accessed via the shown configuration. The result was not perfect, though. It is not determined, if this is matter of the interface or the ribbon cable.

Conclusion

The PET IEEE-488 Expender Base Board Rev. 0 is functional.

Commodore PET IEEE-488 Extender Base Board Rev. 0
Bill of Material Rev. 0.0

Pos.	Qty	Value	Footprint	Ref.-No.	Comment
1	1	169-2-01-00	2 Layer	PCB Rev. 0	2 layer, Cu 35μ, HASL, 48.0mm x 54.0mm, 1.6mm FR4
	1	2x13 box pin header, 2.54mm	2X13WV	J2	e.g. Reichelt.de WSL26G
	1	2x12 edge connector 3.96mm pitch	USERPORT	J1	edge connector, C64 user port, Ali Express: "Series 805"