

Documentation

Pi1541 - Switch

Project number: 112

Revision: 2

Date: 30.11.2019

Pi1541 – Switch Rev. 2

Module description

Description

The Pi1541-Switch is a detachable switch board for the Pi1541 HAT (project number 111). The connector to the Pi1541 HAT is placed on the solder side of the PCB. Further on, the switches SW1, SW2 and SW3 can be replaced by a pin header (J3, placed on the solder side), which is designed for connecting a rotary encoder module (such as the KY-040), which is supported since the Pi1541 kernel v1.21, which was released in November 2019.

Switches

The switches have functions according to the firmware and configuration, which can be found at this website: <https://cbm-pi1541.firebaseio.com/>

The default configuration is:

Switch	Function
SW1 (left)	Select/Reset
SW2	Move Up/Previous Disk
SW3	Move Down/Next Disk
SW4	Exit Folder
SW5 (right)	Insert Disk

LEDs

LED	Color	Function
LD2	Green	Power Indicator
LD1	Red	Busy Indicator

Connector

X3: 8p Micro Match, female, THT (Tyco or alternative)

The ribbon cable can also be soldered in directly.

Pin	Signal
1	/SW1
2	/SW2
3	/SW3
4	/SW4
5	/SW5
6	LED_OUT (LD1)
7	+3V3
8	GND

Rotary Encoder connector

J3 – 5-pin pin header (2.54mm pitch) vertical or 90°.

Pin	Signal
1	GND
2	+3V3
3	SW (/SW1_IN)
4	DATA (/SW3_IN)
5	CLK (/SW2_IN)

Measures

Can be found in the board print out

Revision History

Rev. 0: Prototype

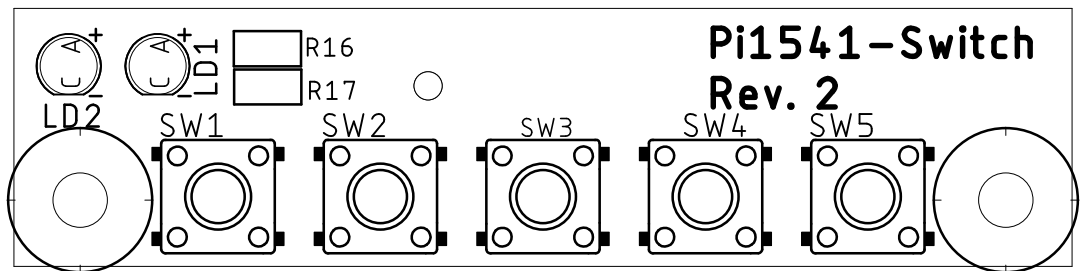
Rev. 1: Moved the connector X3 to the solder side

Rev. 2: added J3 for connecting the rotary encoder.

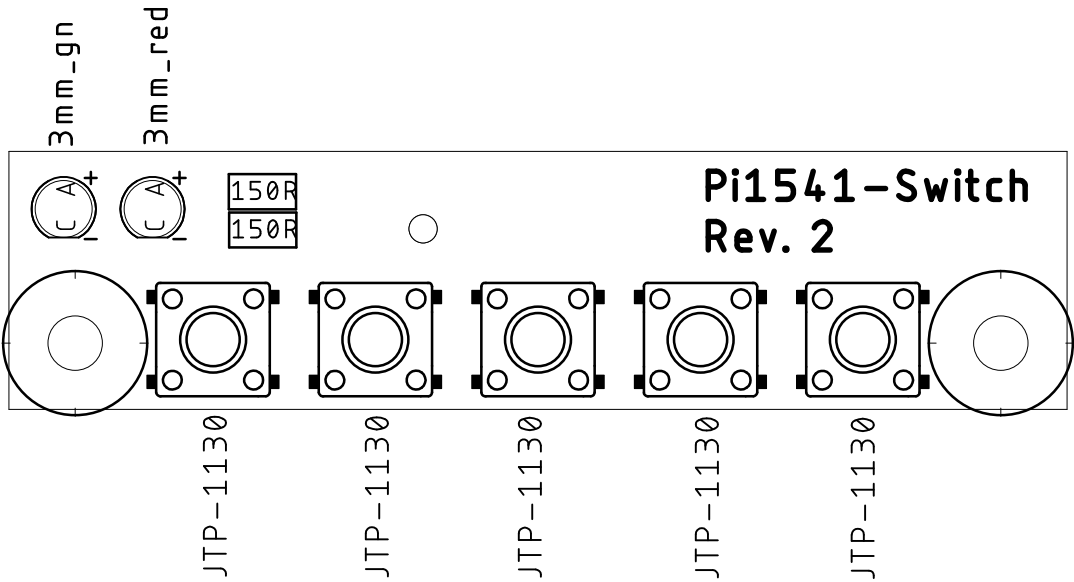


A	B	C	D	E	F	G	H	I	J	K
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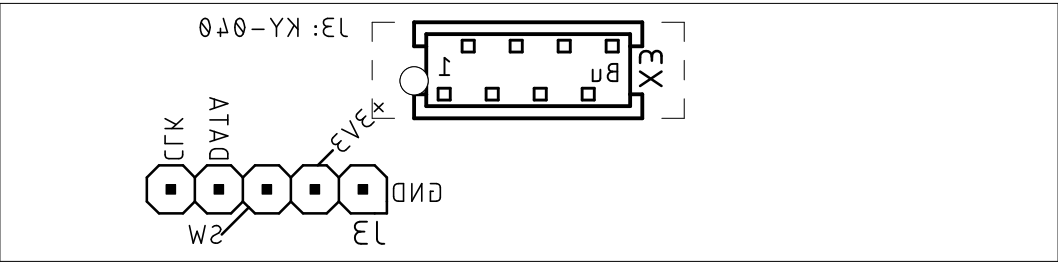
Sven Petersen 2019	Doc.-No.: 112-2-01-02	
	Cu: 35µm	Cu-Layers: 2
Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
placement component side		



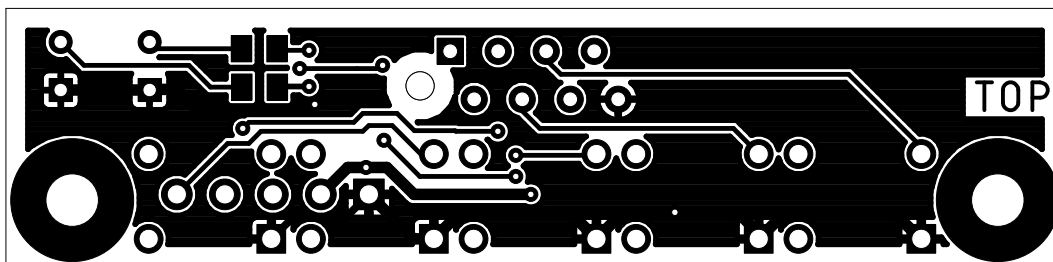
Sven Petersen 2019	Doc.-No.: 112-2-01-02	
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Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
placement component side		



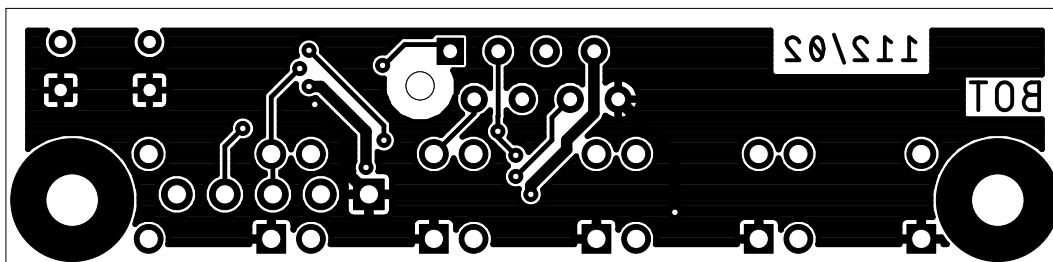
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Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
q6kcm0t20b9zib9		



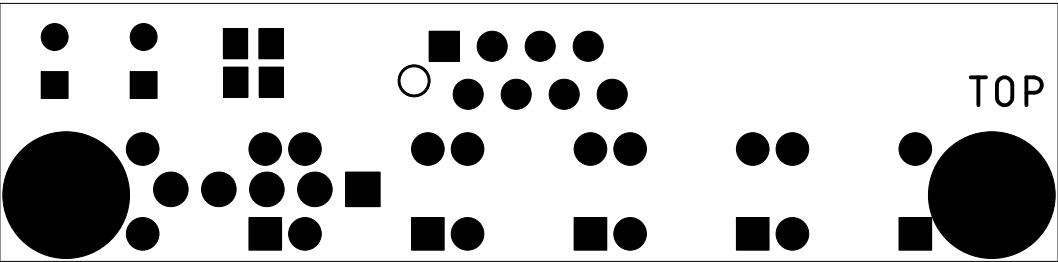
Sven Petersen 2019	Doc.-No.: 112-2-01-02	
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Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
top		



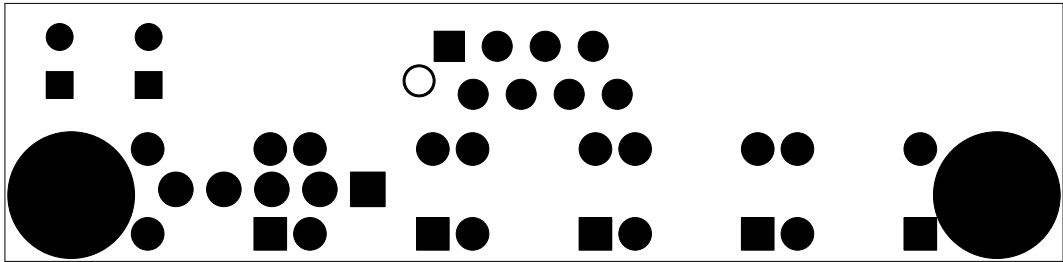
Sven Petersen 2019	Doc.-No.: 112-2-01-02	
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Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
bottom		



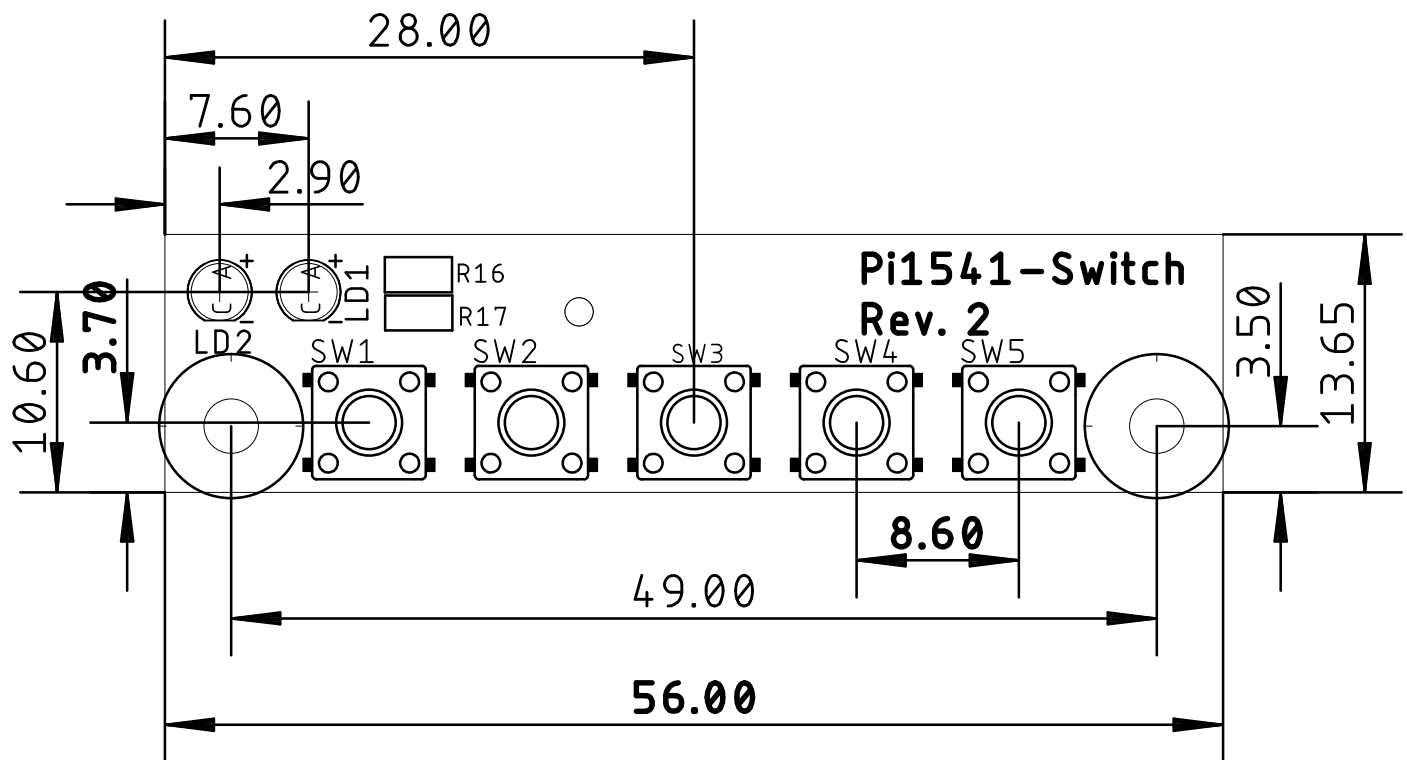
Sven Petersen 2019	Doc.-No.: 112-2-01-02	
	Cu: 35µm	Cu-Layers: 2
Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
stopmask component side		



Sven Petersen 2019	Doc.-No.: 112-2-01-02	
	Cu: 35µm	Cu-Layers: 2
Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
stopmask solder side		



Sven Petersen 2019	Doc.-No.: 112-2-01-02	
	Cu: 35µm	Cu-Layers: 2
Pi1541_Switch		
30.11.2019 16:59		Rev.: 2
placement component side		measures



Pi1541-Switch Rev. 2

Bill of Material Rev. 2.0

Pos.	Qty	Value	Footprint	Ref.-No.	Comment
1	1	112-2-01-02	2 Layers	PCB Rev. 2	2 layers, Cu 35μ, HASL, 13.65mm x 56.0mm, 1.6mm FR4
2	1	369-1-008	MICMA08B	X3	MPE Garry, Reichel MPE 369-1-008, Micromatch, female, tht, 8 pin
3	2	150R	0805	R16, R17	resistor
4	1	3mm_gn	3MM	LD2	LED, 3mm, green
5	1	3mm_red	3MM	LD1	LED, 3mm, red
6	5	JTP-1130D	JTP-1130	SW1, SW2, SW3, SW4, SW5	Namae Electronics, Reichelt JTP-1130, H=13mm
7	1	1x5p, pitch 2.54mm		J3	Optional for rotary encoder (KY-040 etc.), standard pin header. Replaces SW1, SW2 and SW3

Pos. **Rev. 1 → Rev. 2**

1 PCB revision

7 new