Project Documentation

Diagnostic Rev. 586220 Harness - Keyboard Dongle

Project number: 116

Revision: 1

Date: 01.03.2020

Diagnostic 586220 Harness - Keyboard Dongle Rev. 1

Module Description

The Keyboard Dongle for Diagnostic 586220 provides the required feedback connections for testing the C64's CIA U1, which the keyboard is connected to. A LED and current limiting resistor is connected between the +5V and GND pin of the keyboard. The Restore key is connected to a dedicated line and is not tested.

The feedbacks shared with the joystick signals are connected to a pin header, which is then connected to analog switches on the User Port PCB via a ribbon cable. In case this feature is not desired, the adjacent pins (1-2, 3-4, …) can be jumpered.

Connections

20p receptacle (pitch 2.54mm)

Pin	Signal		Signal	Pin
5	PB3	↔*	PA3	17
6	PB6	↔	PA6	14
7	PB5	↔	PA5	15
8	PB4	↔*	PA4	16
9	PB7	↔	PA7	20
10	PB2	↔*	PA2	18
11	PB1	↔*	PA1	19
12	PB0	↔*	PA0	13

- Switched interconnects (via ribbon cable and User Port PCB.

Connector to User Port PCB

2x5p boxed pin header, 2.54mm pitch

Signal	Pin	Pin	Signal
PB0	1	2	PA0
PB4	3	4	PA4
PB3	5	6	PA3
PB2	7	8	PA2
PB1	9	10	PA1

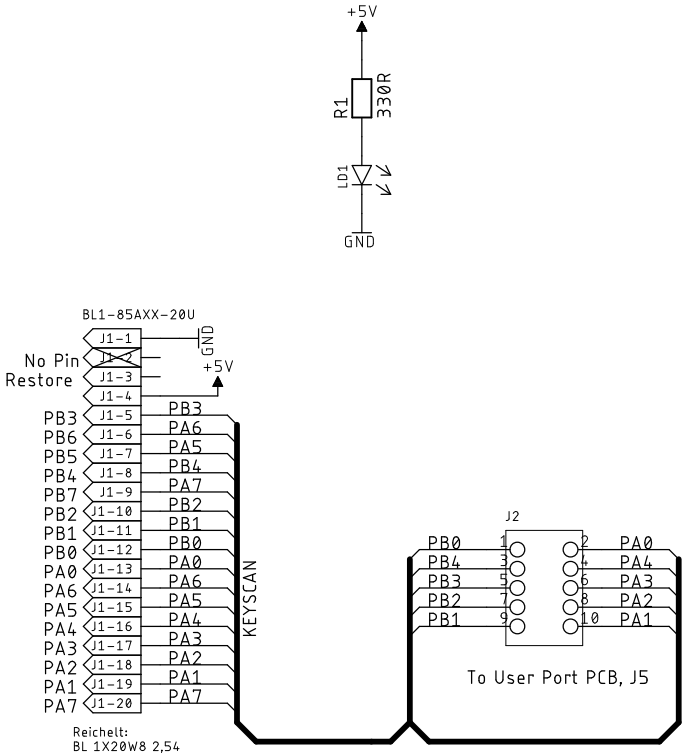
Test

The test was passed successfully. It is described in the user port PCB test documentation.

Revision History

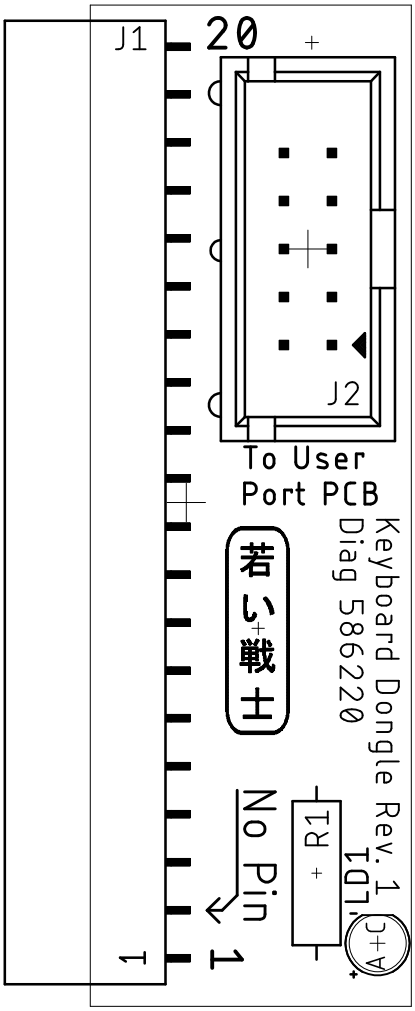
Rev. 0 → Rev. 1

- The feedback between PA0↔PB0 … PA4 ↔ PB4

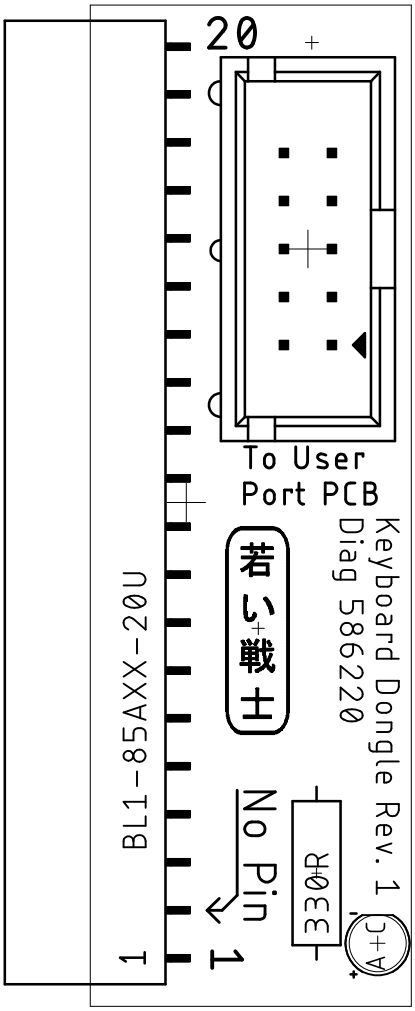


Title:	Diag 586220 Keyboard Test Dongle	Doc.-No.:	116-1-01-01
		Draft.:	Sven Petersen
Date:	22.02.2020 19:01	Rev.: 1	Page 1/1
File:	C64_Keyb-Test		
			A4

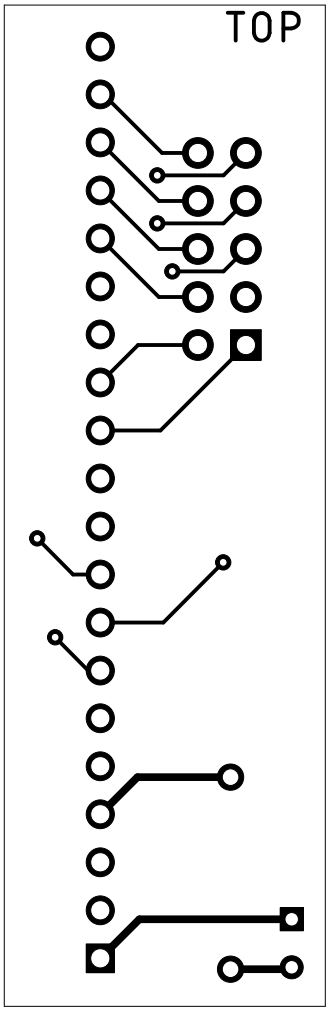
Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
placement component side		



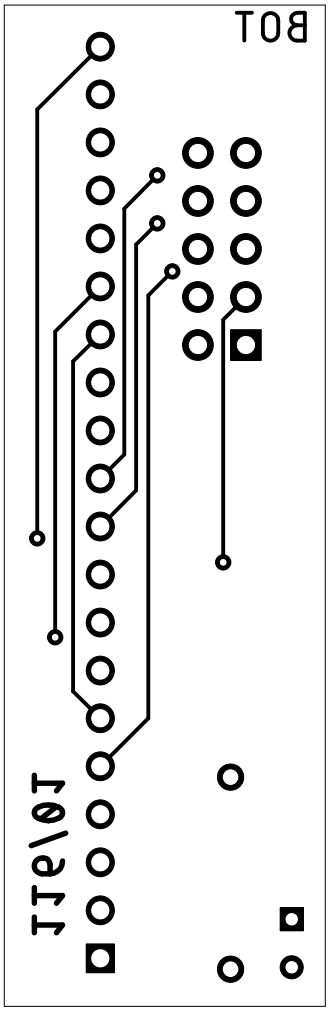
Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
placement component side		



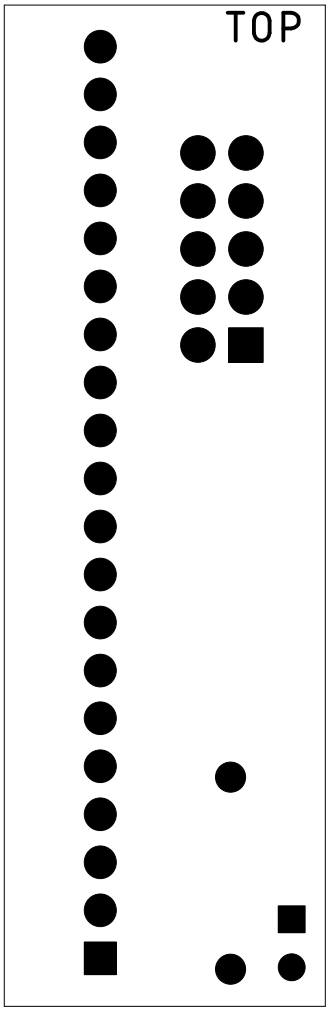
Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
top	[redacted]	



Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
bottom		



Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
stopmask component side		



Sven Petersen 2019	Doc.-No.: 116-2-01-01	
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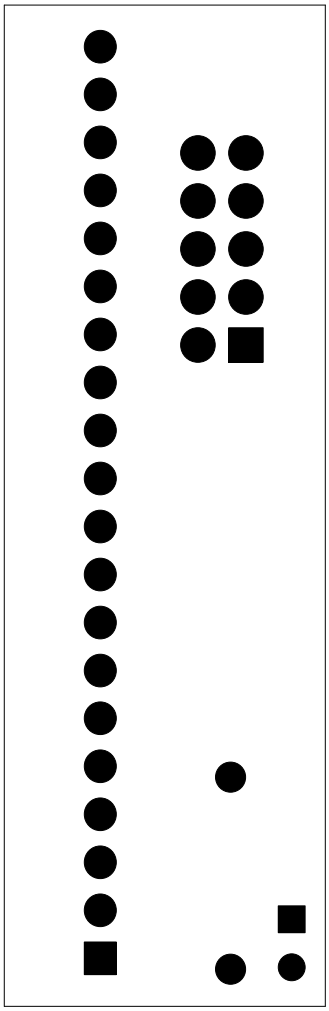
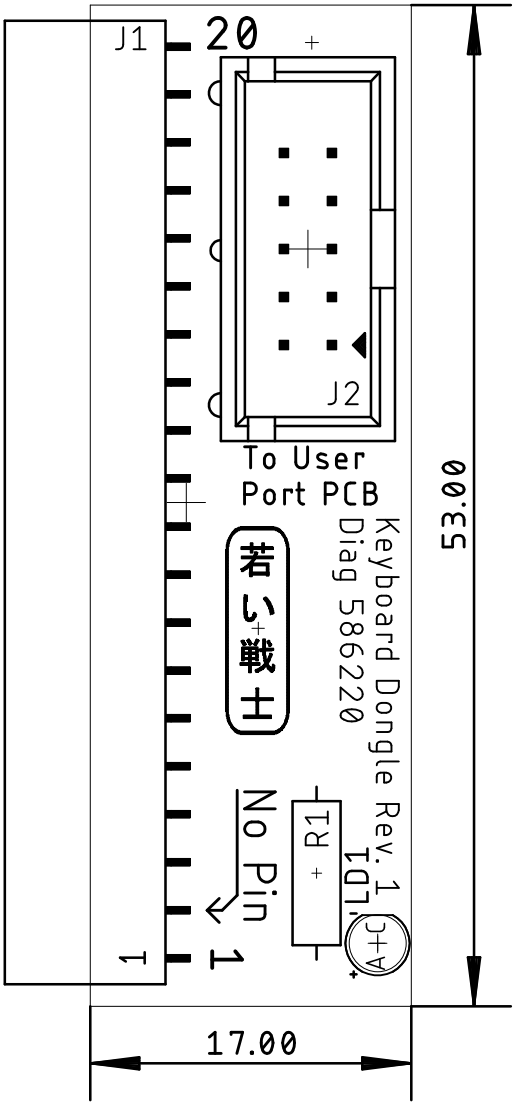
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
stopmask solder side		



Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49		Rev.: 1
placement component side measures		



Diagnostic Rev. 586220 Harness - Keyboard Dongle Rev. 1
Bill of Material Rev. 1.0

Pos.	Qty	Value	Footprint	Ref.-No.	Comment
1	1	116-2-01-00	2 Layer	PCB Rev. 1	2 layer, Cu 35μ, HASL, 53.0mm x 17.0mm, 1.6mm FR4
2	1	BL1-85AXX-20U	BL1-85AXX-20U	J1	e.g. MPE Garry, Reichelt BL 1x20W8 2,54
3	1	3mm/green	3MM	LD1	LED
4	1	330R	R-10	R1	1/4 Watt, 5%
5	1	boxed pin header 2x5, 2.54mm pitc	2x05WV	J2	e.g. Reichelt WSL 10G