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

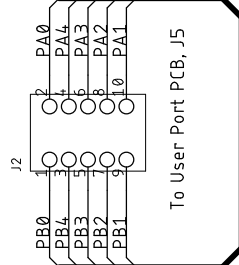| Signal	Pin	Pin	Signal
PB0	1	2	PA0
PB4	3	4	PA4
PB3	5	6	PA3
PB2	7	8	PA2
PB1	9	10	PA1

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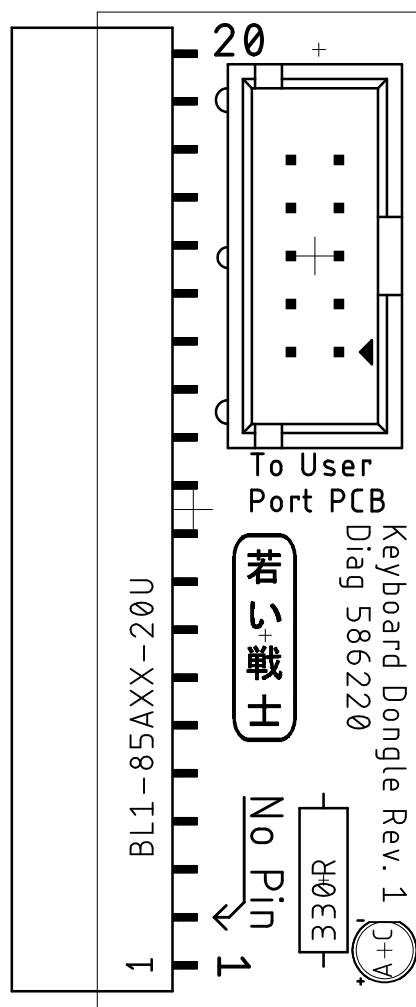
Revision History

Rev. 0 → Rev. 1
- The feedback between PA0↔PB0 … PA4 ↔ PB4

+5V
330R
R1
LD1
GND

To User Port PCB, J5

J2
2 PA0
4 PA4
6 PA3
8 PA2
10 PA1
1 PB0
3 PB4
5 PB3
7 PB2
9 PB1

KEYSCAN

BL1-85AXX-20U
GND
+5V
No Pin
Restore

J1-1
J1-2
J1-3
J1-4 PB3
J1-5 PB6
J1-6 PA6
J1-7 PB5
J1-8 PA5
J1-9 PB4
J1-10 PA7
J1-11 PB2
J1-12 PB1
J1-13 PB0
J1-14 PA0
J1-15 PA6
J1-16 PA5
J1-17 PA4
J1-18 PA3
J1-19 PA2
J1-20 PA1
      PA7

PB3
PA6
PA5
PB4
PA7
PB2
PB1
PB0
PA0
PA6
PA5
PA4
PA3
PA2
PA1
PA7

Reichelt:
BL 1X20W8 2,54

Title:	Diag 586220 Keyboard Test Dongle	Doc.-No.:116-1-01-01
		Draft.: Sven Petersen
Date:	11.08.2020 12:21	Rev.: 1 Page 1/1
File:	C64_Keyb-Test	
	http://github.com/svenpetersen1965	A4

open source
hardware

J1 20

J2

To User
Port PCB

若い戦士

Keyboard Dongle Rev. 1
Diag 586220

No Pin

330R R1

LD1

1 1

1

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		

20

+

To User
Port PCB

Keyboard Dongle Rev. 1
Diag 586220

若い戦士

BL1-85AXX-20U

No Pin

330R

A+C

1

1

Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
11.08.2020 12:24	Rev.:	1
	placement solder side	

open source
hardware

http://digipup.com/
savetastetastetaves

TOP

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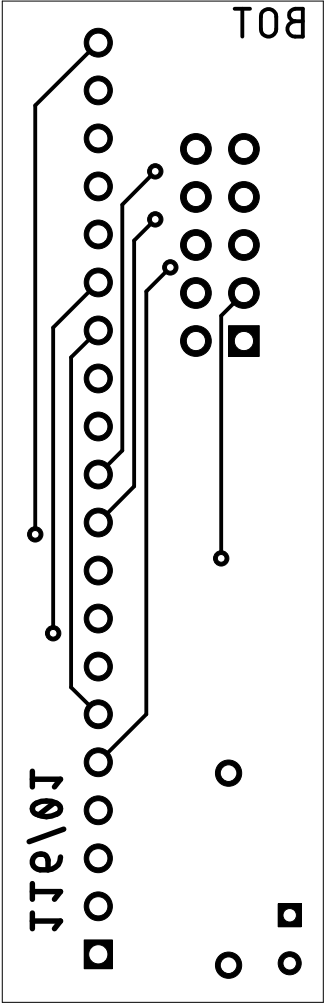
Sven Petersen 2019	Doc.-No.: 116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
29.02.2020 23:49	Rev.: 1	
stopmask component side		
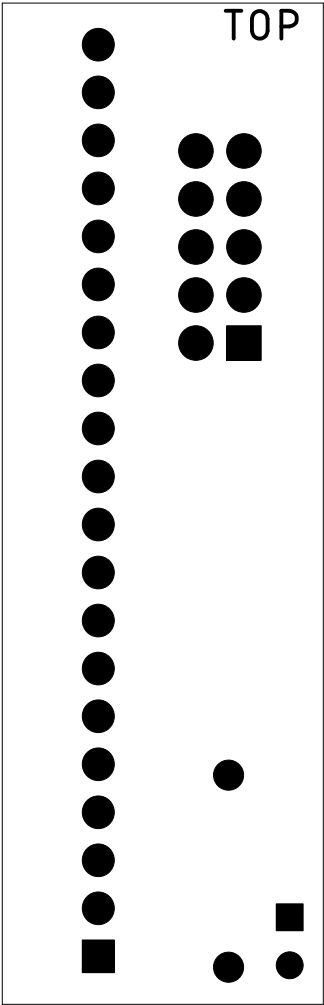
TOP

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 solder side		

Sven Petersen 2019	Doc.-No.:116-2-01-01	
	Cu: 35µm	Cu-Layers: 2
C64_Keyb-Test		
11.08.2020 12:24	Rev.: 1	
placement component side measures		

J1 20

J2

To User
Port PCB

Keyboard Dongle Rev. 1
Diag 586220

若い戦士

No Pin

330R R1

LD1

A K C
+

1 1

53.00

17.00
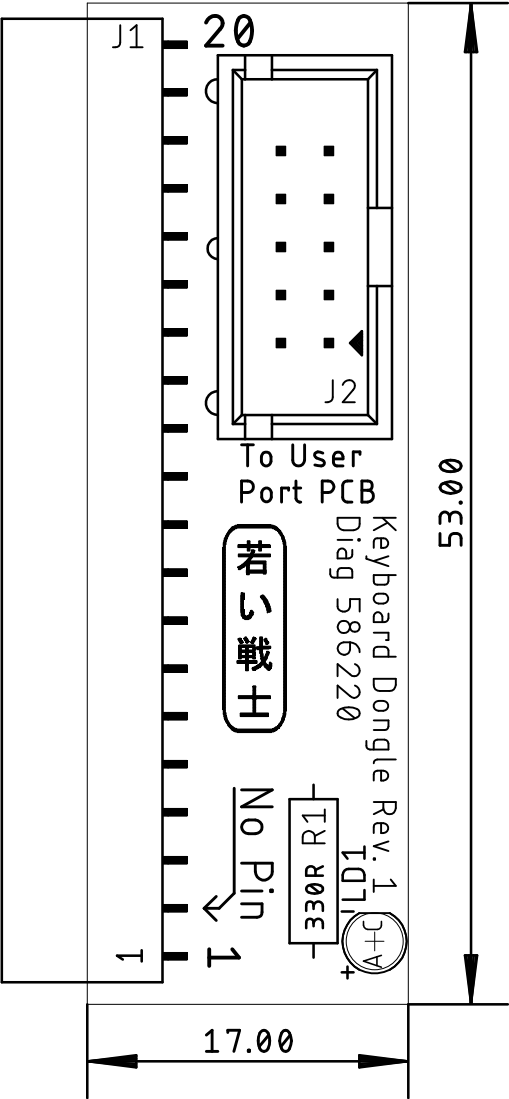
Diagnostic Rev. 586220 Harness - Keyboard Dongle Rev. 1
Bill of Material Rev. 1.0

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	2x05VVV	J2	e.g. Reichelt WSL 10G