

Project Documentation

Diagnostic Rev. 586220 Harness - Cassette Port

Project number: 114

Revision: 1

Date: 16.02.2020

Diagnostic Rev. 586220 Harness - Cassette Port Rev. 1

Module Description

This PCB is a part of the harness for the Diagnostic Rev. 586220 test software for the Commodore C64.

The cassette port PCB connects to the cassette port of the C64 and provides the signal on a 2x3 pin header, which is connected to the central component of the Diagnostic Rev. 586220 harness, the user port PCB.

J3 provides the WRITE signals, which serves for switching off the analog switches on the extended Keyboard Dongle (Project No. 143).

This version of the Cassette Port Dongle can be used with version 0 of the user port dongle and the previous keyboard dongle (Project No. 116) or the extended keyboard dongle. The WRITE signal only connects to the latter.

There are two LEDs on this PCB. One showing the status of the Motor Signal and the other showing the status of the SENSE signal. To keep the load low on the sense signal, a transistor amplifies the SENSE to provide enough current for the latter LED.

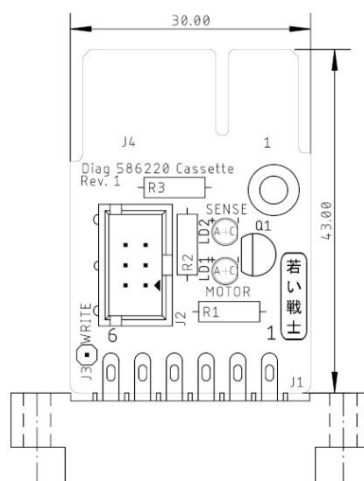


Figure 1: The CASSETTE Port PCB

The male Cassette Port edge connector was added to make this a real break out board, which fits between the C64 and the Datasette.

Pin outs

Cassette Port

J1 – 2 x 6p edge connector (pitch 3.96mm)

Pin	Signal	Pin	Signal
1	GND	A	GND
2	+5V	B	+5V
3	MOTOR	C	MOTOR
4	READ	D	READ
5	WRITE	E	WRITE
6	SENSE	F	SENSE

Harness Connector

J2 – 2x3p Pin Header (pitch 2.54mm)

Pin	Signal	Pin	Signal
1	GND	2	+5V
3	MOTOR	4	READ
5	WRITE	6	SENSE

WRITE Pin

J3 – 1x1p Pin Header

Pin	Signal
1	WRITE

Test

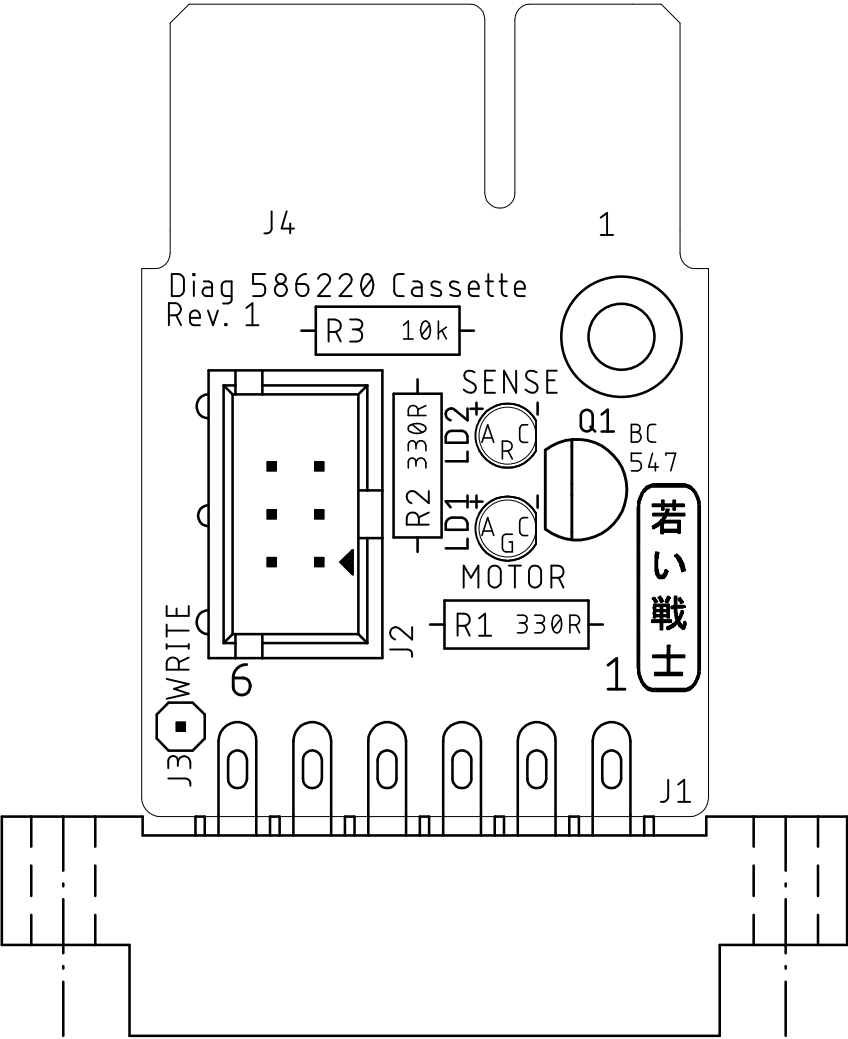
The test was passed successfully. It is described in the document of the User Port Dongle.

Revision History

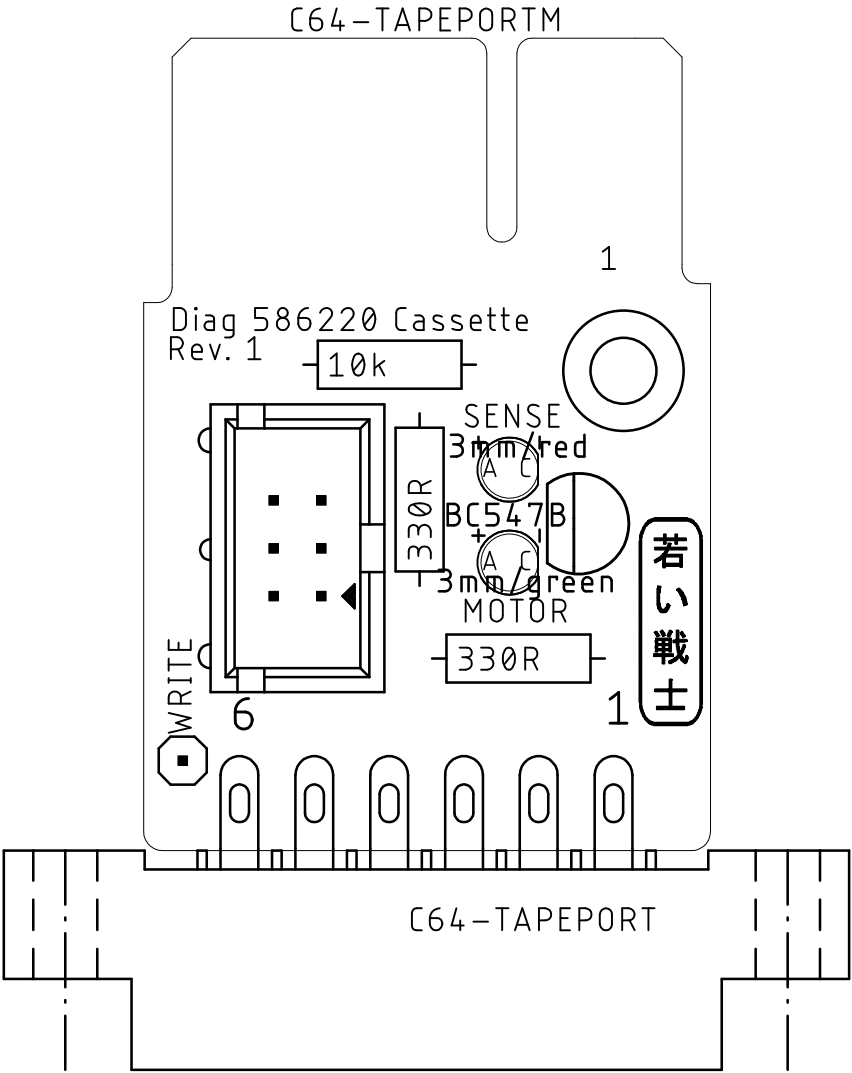
Rev. 0 → Rev. 1

- J3 is new. It provides the WRITE Signal for the Extended Keyboard Dongle.
- The Sense LED was added.
- The male edge connector was added to make this PCB a cassette breakout board

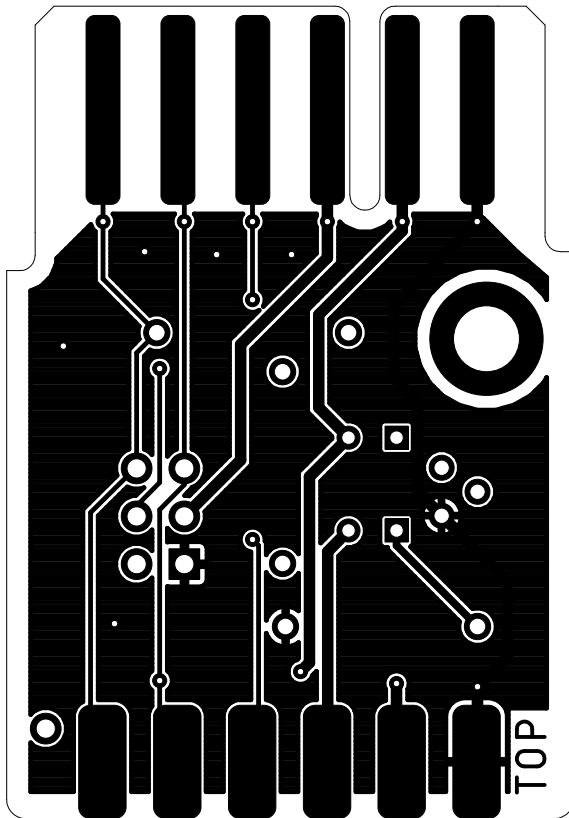
Diag 586220 Harness	Doc.-No.: 114-2-01-01	
	Cu: 35μm	Cu-Layers: 2
Diag_586220_Cassette		
11.08.2020 12:40		Rev.: 1
placement component side		



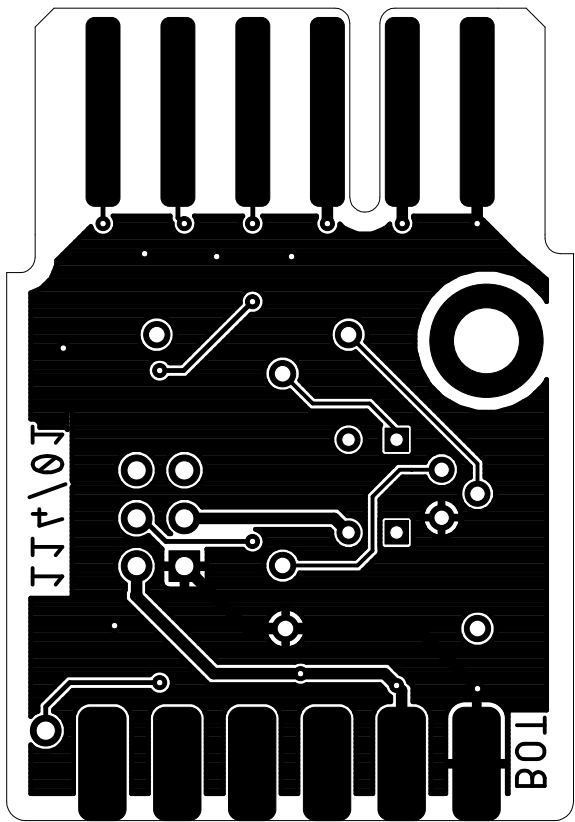
Diag 586220 Harness	Doc.-No.: 114-2-01-01	
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Diag_586220_Cassette		
29.02.2020 15:36		Rev.: 1
placement component side		



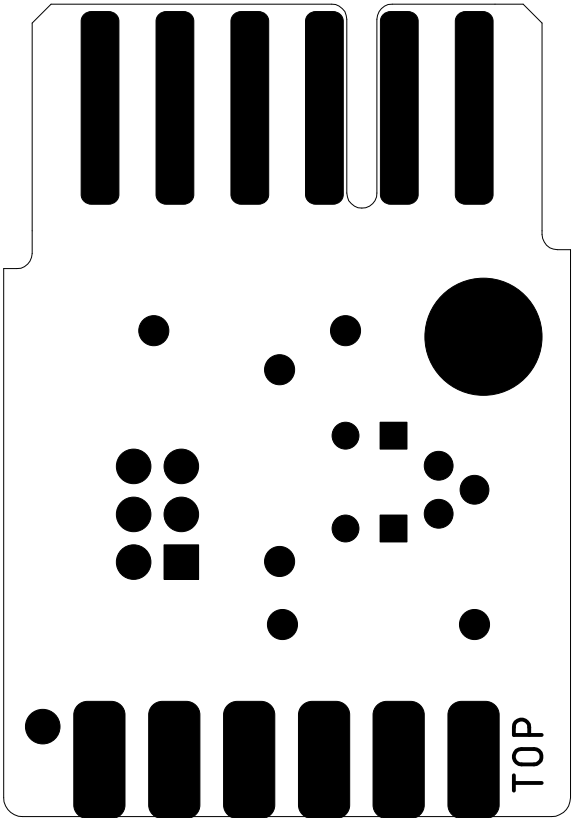
Diag 586220 Harness	Doc.-No.: 114-2-01-01	
	Cu: 35μm	Cu-Layers: 2
Diag_586220_Cassette		
29.02.2020 15:36		Rev.: 1
top		



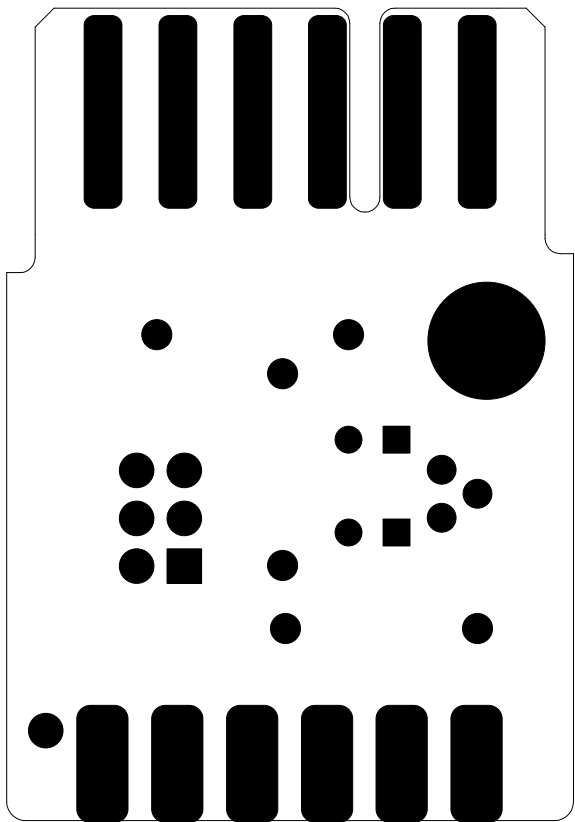
Diag 586220 Harness	Doc.-No.: 114-2-01-01	
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Diag_586220_Cassette		
29.02.2020 15:36		Rev.: 1
bottom		



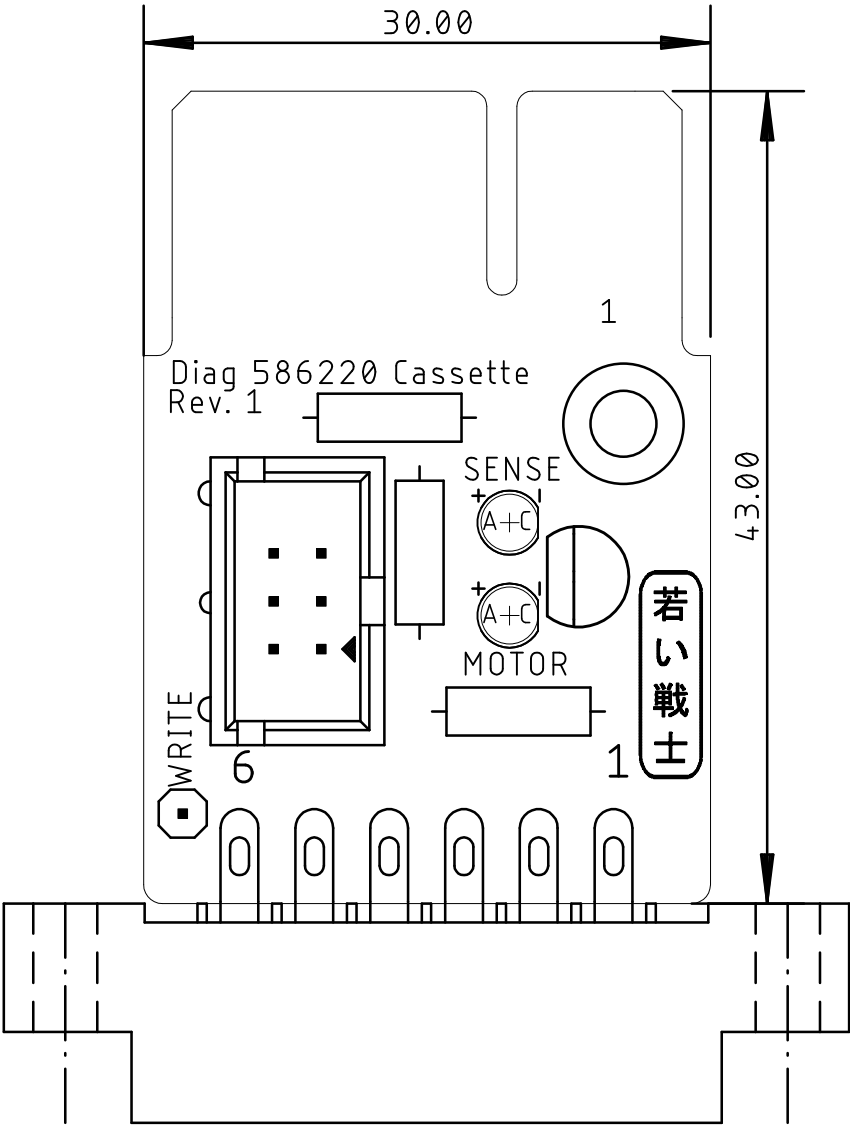
Diag 586220 Harness	Doc.-No.: 114-2-01-01	
	Cu: 35µm	Cu-Layers: 2
Diag_586220_Cassette		
29.02.2020 15:36		Rev.: 1
stopmask component side		



Diag 586220 Harness	Doc.-No.: 114-2-01-01	
	Cu: 35µm	Cu-Layers: 2
Diag_586220_Cassette		
29.02.2020 15:36		Rev.: 1
stopmask solder side		



Diag 586220 Harness	Doc.-No.: 114-2-01-01	
	Cu: 35μm	Cu-Layers: 2
Diag_586220_Cassette		
11.08.2020 12:40		Rev.: 1
placement component side		measures



Diagnostic Rev. 586220 Harness - Cassette Port Rev. 1

Bill of Material Rev. 1.0

Pos.	Qty	Value	Footprint	Ref.-No.	Comment
1	1	114-2-01-01	2 Layer	PCB Rev. 1	2 layer, Cu 35 μ , HASL, 30.0mm x 43.0mm, 1.6mm FR4
2	1	2x6, 3.96mm pitch	C64-TAPEPORT	J1	edge connector, C64 cassette port
3	1	2x3 box connector	2X03WV	J2	e.g. Reichelt WSL 6G
4	1	3mm/green	3MM	LD1	LED, 3mm, green
5	2	330R	RES04	R1, R2	1/4 Watt, 5%
6	1	BC547B	TO-92	Q1	Transistor, universal NPN
7	1	10K	RES04	R3	1/4 Watt, 5%
8	1	3mm/red	3MM	LD2	LED, 3mm, red
9	1	pin header 1p	1x01	J3	Pin header for DuPont contact
10	1	C64 Tapeport M	C64-TAPEPORTM	J4	do not place. Structure in copper/PCB