

Digilent Vmod Breadboard Reference Manual

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Overview

The Digilent Vmod Breadboard (VmodBB) offers a ready-made solution for prototyping breadboarded or wire-wrapped circuits as accessories to Digilent system boards. The VmodBB provides connectors suitable for direct connection of various Digilent system boards.

The VmodBB is available in a wire-wrap version or a solderless breadboard version.

Features include:

- VHDCI connector for connection to Digilent System boards
- Two 32 pin breadboards with 16 pins each, connected directly to signals from the system board
- Two power and one ground bus around
- Prototype connections on every signal
- Ships with two 300 tie point breadboards separated by a 100 tie point bus strip.

Functional Description

The Digilent Vmod Breadboard (VmodBB) is used to connect a breadboard to the VHDCI connector and implement up to 28 IO signals to or from Digilent system boards.

Power Connection

The VmodBB provides two power busses and a ground bus. The two power busses are labeled VU and VCC and are powered through the VHDCI connector. These two busses are made available at each connector position on the board. There is also a ground plane that connects the ground pins from all connectors together.

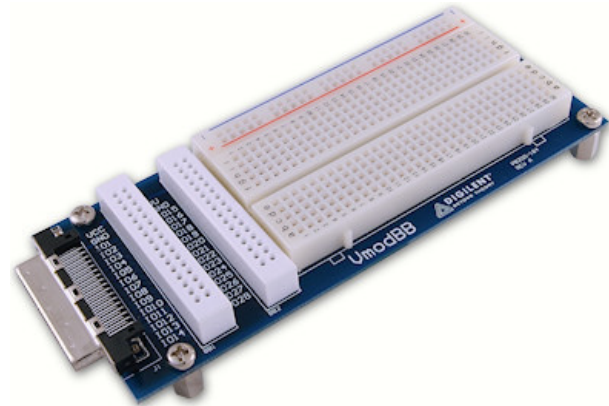


Figure 1
Digilent Vmod Breadboard

The usual Digilent convention is to power the VCC bus at 3.3V and the VU bus at 5.0V. However depending on the system board connected, other voltages may be present.

68 Pin, VHDCI Connector

VHDCI connector J1 is provided on one side of the board for connection to Digilent system boards like the Genesys that contain a VHDCI style connector. The Digilent VHDCI connector signal convention provides for 40 general-purpose I/O signals.

28 of the 40 general-purpose I/O signals from the VHDCI connector are brought out to connectors BB1 and BB2. These signals are labeled IO1-IO28. See Table 1 and Table 2 for a description of the relationship between VHDCI connector pins and signal names on BB1 and BB2.

Table 1: VHDCI Signals and Connector Pinout

J1	
1	IO1
2	GND
3	IO2
4	IO3
5	GND
6	IO4
7	IO5
8	GND
9	IO6
10	IO7
11	GND
12	IO8
13	IO9
14	GND
15	IO10
16	VCC
17	VU
18	VU
19	VCC
20	IO11
21	GND
22	IO12
23	IO13
24	GND
25	IO14
26	IO29-
27	GND
28	IO30-
29	IO31-
30	GND
31	IO32-
32	IO33-
33	GND
34	IO34-
S1	SHIELD
35	IO15
36	GND
37	IO16
38	IO17
39	GND
40	IO18
41	IO19
42	GND
43	IO20
44	IO21
45	GND
46	IO22
47	IO23
48	GND
49	IO24
50	VCC
51	VU
52	VU
53	VCC
54	IO25
55	GND
56	IO26
57	IO27
58	GND
59	IO28
60	IO35-
61	GND
62	IO36-
63	IO37-
64	GND
65	IO38-
66	IO39-
67	GND
68	IO40-
S2	SHIELD

Note: Signal names appended with '-' are not used

Table 2: BB1 and BB2 Signals

BB1		BB2	
1	VCC	1	VU
2	GND	2	GND
3	IO1	3	IO15
4	IO2	4	IO16
5	IO3	5	IO17
6	IO4	6	IO18
7	IO5	7	IO19
8	IO6	8	IO20
9	IO7	9	IO21
10	IO8	10	IO22
11	IO9	11	IO23
12	IO10	12	IO24
13	IO11	13	IO25
14	IO12	14	IO26
15	IO13	15	IO27
16	IO14	16	IO28