Digilent Modular Interface Board Reference Manual

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Overview

The Digilent Modular Interface Board (the MIB) connects outside devices to a Digilent system board.

The MIB can connect up to eight outside devices (including the Digilent module and h-bridge boards) to system boards such as the Pegasus or Spartan 3 boards.

The MIB is especially useful for robotics projects, where numerous I/O connections to a Digilent system board are necessary.

Features include:

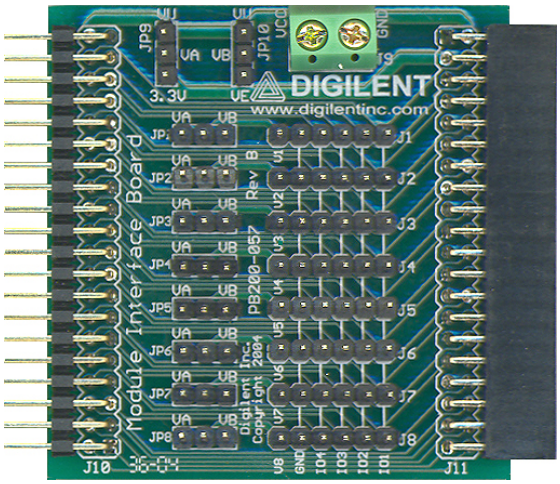
- eight 6-pin headers for connection to module boards
- separate power selection for each 6-pin header
- 40-pin header
- 40-pin socket
- flexible power routing
- test-point header functionality
- small form factor (2.20” x 2.20”).

Functional Description

The MIB is designed primarily for use with the Digilent line of 6-pin module boards, and Digilent system boards such as the Pegasus and Spartan 3.

The MIB plugs into a system board’s 40-pin socket. The MIB allows up to 32 user I/O signals, routed through eight 6-pin headers. Each 6-pin header conveys four I/O signals, one power signal, and one ground signal.

The MIB can also be used as a test point header when needed.



MIB Power Routing

The MIB allows flexible power routing. Two distinct voltages can be created using the same MIB.

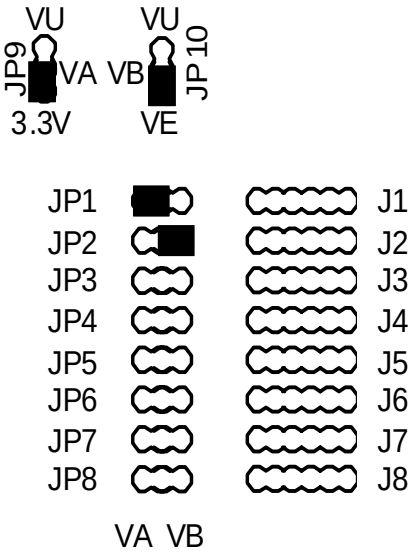
The power supply from external devices is routed through two power buses, labeled “VA” and “VB”.

The VA bus provides power from the attached system board’s 3.3V or VU supply. The VB bus provides power from the attached system board’s VU supply or from an outside power supply (via the 2-pin terminal block labeled “J9” on the MIB).

Each set of signals is accessed via a 6-pin header. These headers are labeled J1 through J8. The power supply bus for each of these headers is selected using a jumper shunt on the associated jumper pins JP1 through JP8.

Power selection for each power bus is selected using jumper shunts at JP9 (VA bus) and JP10 (VB bus). This allows for two distinct voltages using the same MIB. External power is applied through a screw terminal at J9.

The following diagram shows how the MIB can be configured to provide 3.3V from the VA bus at header J1 and external power (VE, labeled "VCC" on J9) on the VB bus for header J2.



MIB Configuration

Connecting Devices to the MIB

Digilent's module boards are connected to the MIB using a Digilent 6-pin expansion cable. These cables are available in six and eighteen inch versions.

For more information, see www.digilentinc.com.

MIB Pinout Table

The table below shows the pin assignments for the expansion and 6-pin headers on the MIB.

Header (J10) To System Board	Module Connectors 6-Pin Headers		Socket (J11) To Peripheral Board
38	J1	1	4
36		2	6
35		3	5
34		4	8
33	J2	1	7
32		2	10
31		3	9
30		4	12
29	J3	1	11
28		2	14
27		3	13
26		4	16
25	J4	1	15
24		2	18
23		3	17
22		4	20
21	J5	1	19
20		2	22
19		3	21
18		4	24
17	J6	1	23
16		2	26
15		3	25
14		4	28
13	J7	1	27
12		2	30
11		3	29
10		4	32
9	J8	1	31
8		2	34
7		3	33
5		4	35

* For all 6-pin headers, the number 5 pins on are connected to ground and the number 6 pins are connected to power.