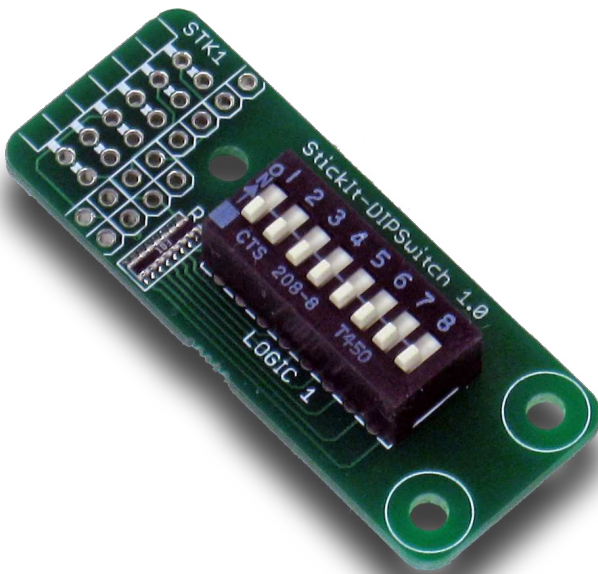


StickIt! DIP Switch Manual

*How to install and use your new
StickIt! DIP Switch Module*



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StickIt! DIP Switch Manual
MAN008 (V1.0) September 27, 2013

The following table shows the revision history for this document.

Date	Version	Revision
09/27/13	1.0	Initial release for StickIt! DIP Switch module V1.0.

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C.1 Preliminaries

Here's some helpful information before getting started.

Getting Help!

Here are some places to get help if you encounter problems:

- If you can't get the StickIt! DIP Switch module to work, send an e-mail message describing your problem to help@xess.com or submit a problem report at <http://www.xess.com/help.php>.
- Our web site also has
 - answers to frequently-asked-questions,
 - example designs, application notes and tutorials,
 - a forum where you can post questions.

Take Notice!

It's pretty hard to get in trouble with this module.

Packing List

Here is what you should have received in your package:

- a StickIt! DIP Switch module.
- PMOD™ male header.
- Wing male headers (8-pin & 4-pin).

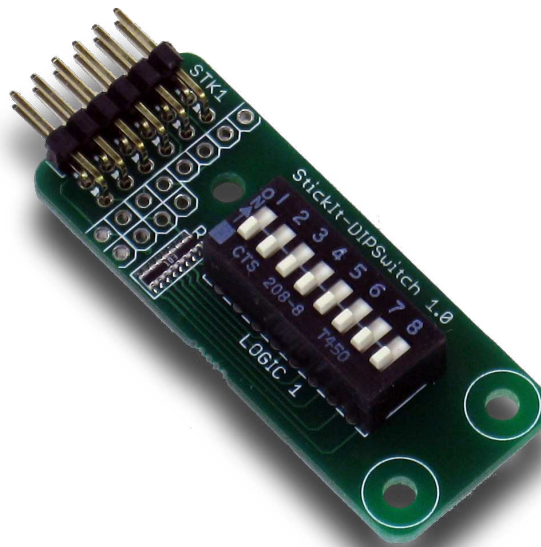
C.2 Setup

The StickIt! DIP Switch module provides an eight-position DIP switch that connects to an eight-bit PMOD or a Wing socket on your StickIt! board.

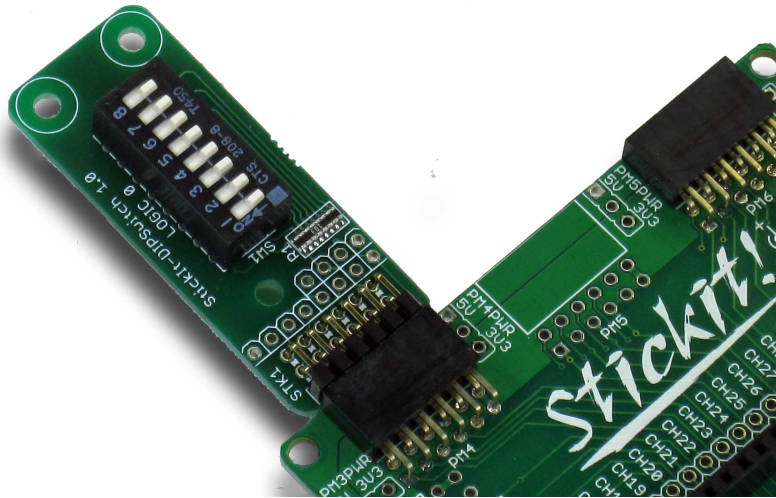
Inserting Your StickIt! DIP Switch Module Into Your StickIt! Board

Inserting Into a PMOD Socket

To use the StickIt! DIP Switch module with a PMOD socket, first solder the included male PMOD header to the module as shown. (**To insure a stable connection, only use a header with 0.025" square pins.**)

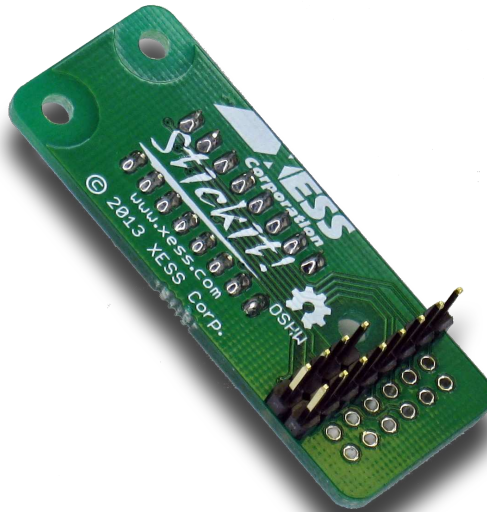


Then insert the module into one of the PMOD sockets on the StickIt! Board.

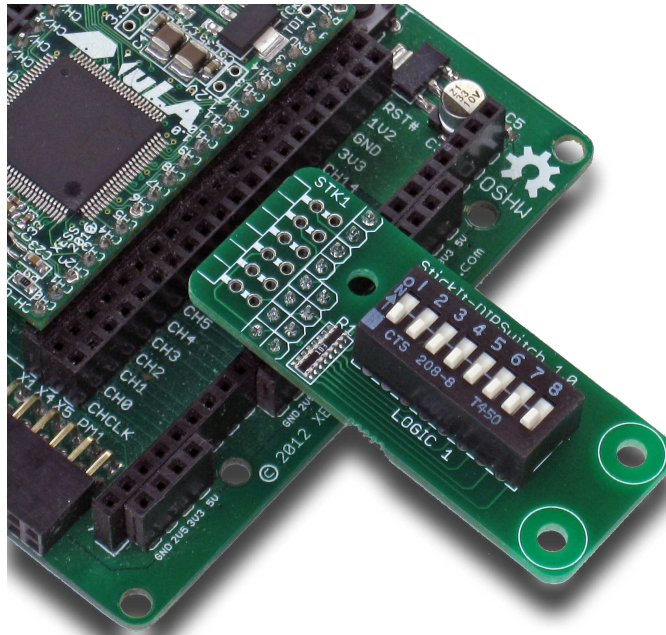


Inserting Into a Wing Socket

To use the StickIt! DIP Switch module with a Wing socket, first solder the included male Wing headers to the module as shown. (**To insure a stable connection, only use a header with 0.025" square pins.**)



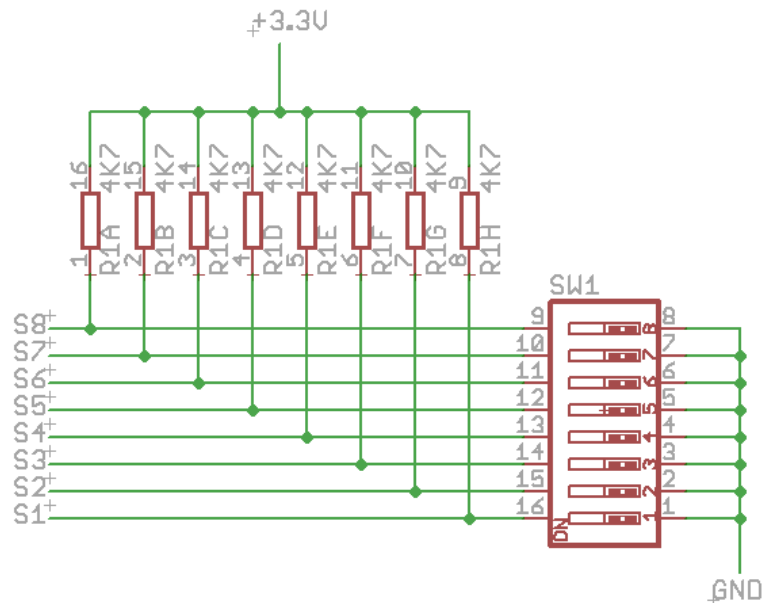
Then insert the module into one of the eight-bit Wing sockets on the StickIt! board.



C.3 Operation

This chapter describes the operation of the StickIt! DIP Switch module using a simplified schematic. You can find a complete [schematic](#) at the end of this manual.

The StickIt! DIP Switch module has eight identical circuits, each consisting of a SPST switch and a pull-up resistor. When a switch is ON (i.e. closed), it pulls the connected StickIt! module I/O pin to ground, thus applying a logic 0. When a switch is OFF (i.e. open), the pull-up resistor pulls the associated I/O pin to +3.3V, thus applying a logic 1.



C.4 *Using the Module*

To use the StickIt! DIP Switch module, you will need to do the following:

- Create a Xilinx ISE FPGA project and allocate up to eight input ports to accept the signals from the module.
- Attach the module to either a PMOD or Wing socket on the StickIt! board.
- Determine the channel signals on the PMOD or Wing socket that connect to each I/O pin of the module.
- Find which FPGA pin of the XuLA board connects to each channel signal. (You can find this information in the StickIt! Board manual.)
- Make a UCF file associating each FPGA pin with an I/O pin of the module.
- Include the UCF file in your ISE project.

That's a lot of work just to read some switches, so we've done most of it for you.

Just go to <http://github.com/xesscorp/StickIt>. There, you will find a subdirectory with a Xilinx ISE project that includes:

- an example that reads the DIP switch settings and sends them back to the PC through the USB link,
- a UCF file containing the FPGA pin assignments to use when installing the StickIt! DIP Switch module into any of the PMOD or Wing sockets.
- and a Python file that queries the switch settings and displays them on the PC.

A.1 I/O Locations

The connections of the PMOD and Wing header I/O signals to the switches (S1 through S8) of the StickIt! DIP Switch module are shown below.

