

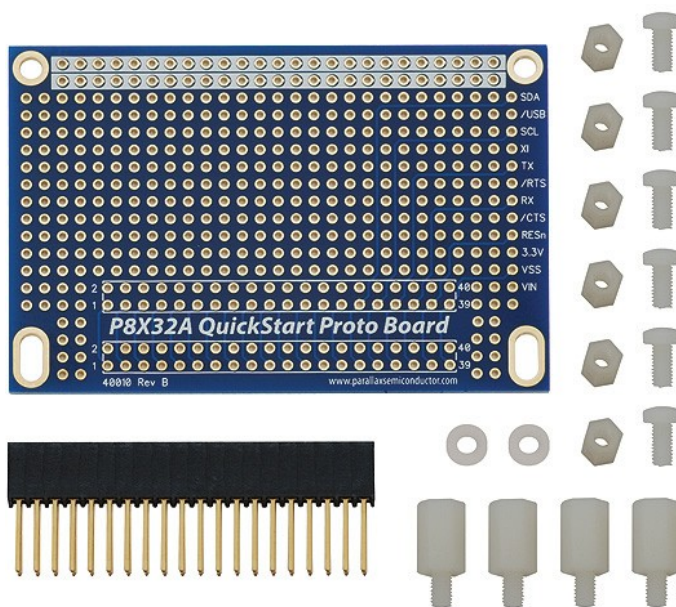
P8X32A QuickStart Proto Board PCB (#300-40010)

P8X32A QuickStart Proto Board Kit (#40010)

This through-hole prototyping add-on for the P8X32A QuickStart is available as a bare pcb (#300-40010) or as a kit that also includes mounting hardware and a stackable header (#40010).

Features

- Compatible with the P8X32A QuickStart
- 3.42 square inches of through-hole prototyping area
- Through-hole access to all lines in the 40-pin QuickStart socket
- Additional through-hole access to all control signals and power rails
- Two mounting options
- Kit option includes mounting hardware and stackable header



Dimensions

- PCB only 2.0 x 3.0 x 0.73 in (5.0 x 7.6 x 1.8 cm)
- Assembled kit: 2.0 x 3.0 x 0.73 in (5.0 x 7.6 x 1.8 cm)

P8X32A QuickStart Proto Board Kit Packing List (#40010 only)

- P8X32A QuickStart Proto Board PCB (#300-40010)
- 40-pin stackable socket
- (6) nylon pan-head M3 screws
- (4) nylon M3 hex standoffs
- (6) nylon M3 nuts
- 2 nylon washers

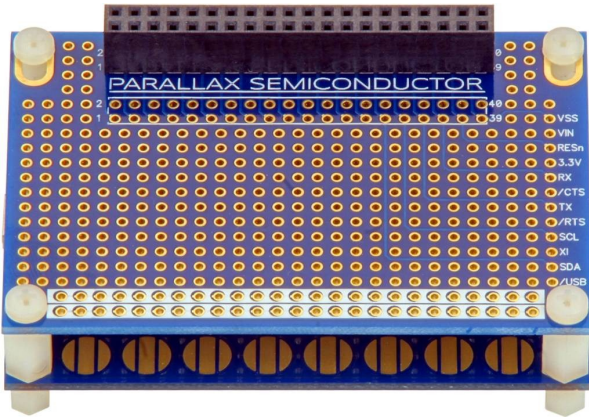
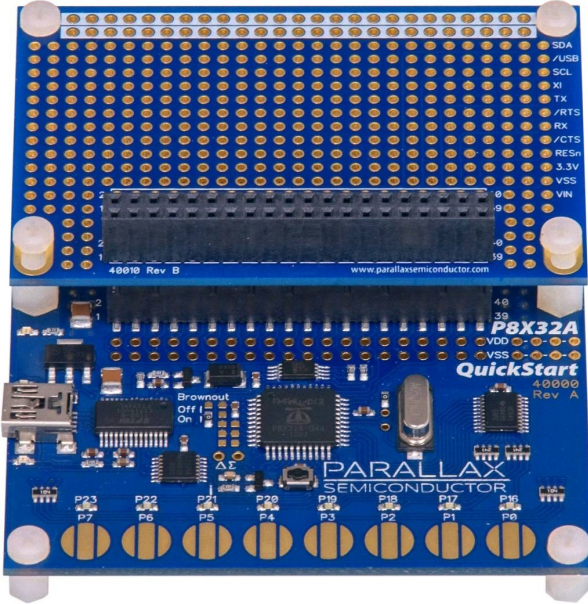
Additional Items Required

- Soldering iron
- Solder
- Safety glasses

Kit Assembly Instructions

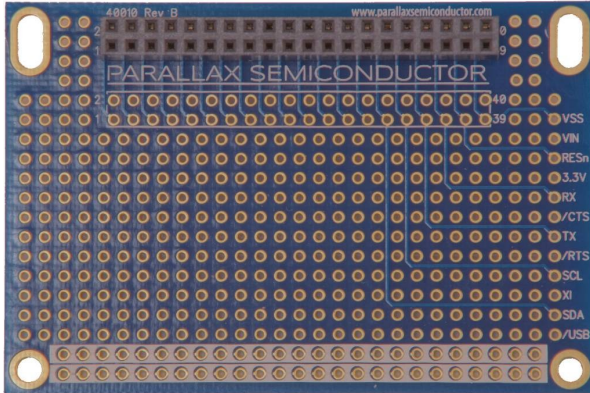
The P8X32A QuickStart Proto Board Kit can be permanently assembled to either overlap the P8X32A QuickStart or to overhang one edge. The overlapping configuration requires less space, and the overhanging configuration provides access to the LEDs, touch buttons, and reset button on the P8X32A QuickStart. Use care in selecting the appropriate configuration, as it cannot be changed after the socket is soldered.

The following instructions show steps for the overlapping configuration in the left column and steps for the overhanging configuration in the right column.

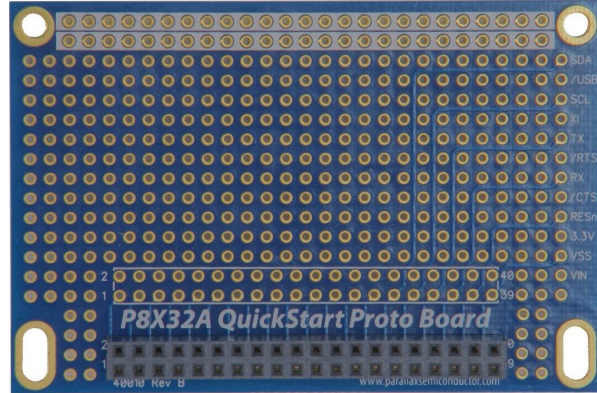
Step 1	
Choose a configuration.	
Overlapping Configuration	Overhanging Configuration
	
<p>The overlapping configuration requires less space.</p>	<p>The overhanging configuration provides access to the LEDs, touch buttons, and reset button on the P8X32A QuickStart.</p>

Step 2

Insert the 20-pin socket.



For the overlapping configuration, the "PARALLAX SEMICONDUCTOR" label should be visible from the top side. Insert the socket between the label and the closest edge of the board.



For the overhanging configuration, the "**P8X32A QuickStart Proto Board**" label should be visible from the top side. Insert the socket between the label and the closest edge of the board.

Step 3

Solder the 20-pin header into place.



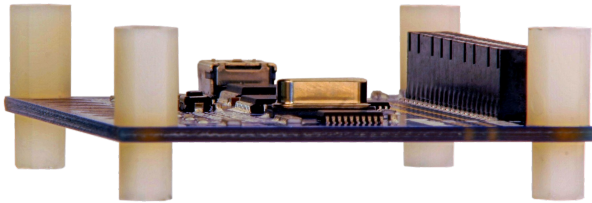
For the overlapping configuration, the text "**P8X32A QuickStart Proto Board**" should be visible from the solder side.



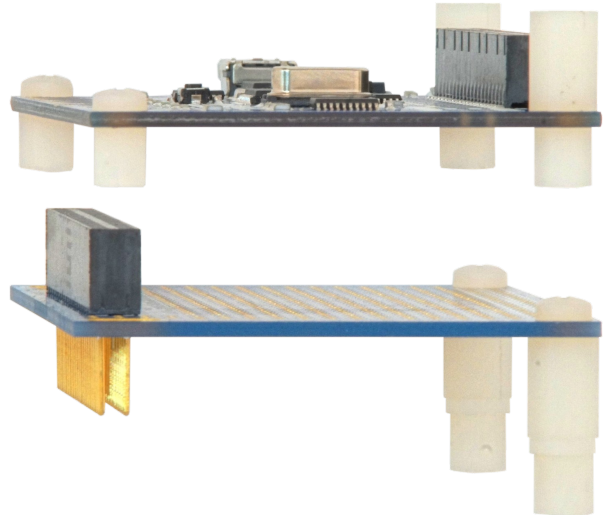
For the overhanging configuration, the text "PARALLAX SEMICONDUCTOR" should be visible from the solder side.

Step 4

Install the standoffs.



For the overlapping configuration, install the standoffs into all four mounting holes of the P8X32A QuickStart and tighten each into a nut.



For the overhanging configuration, install standoffs into the two mounting holes of the P8X32A QuickStart, closest to the 40-pin socket, and tighten each into a nut.

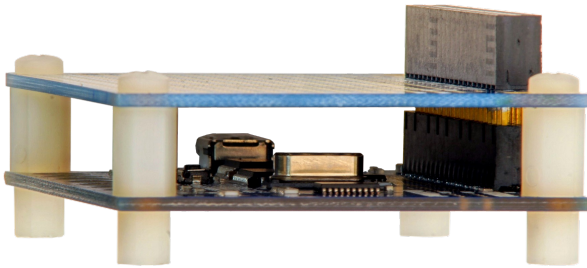
Install pan-head screws into the remaining holes and tighten each into a nut.

Install the remaining two standoffs into the P8X32A QuickStart Proto Board mounting holes on the side opposite the 20-pin socket, using the pan-head screws. The screw heads should be on the side of the board with the "**P8X32A QuickStart Proto Board**" label, and the headers should be on the side of the board with the "PARALLAX SEMICONDUCTOR" label.

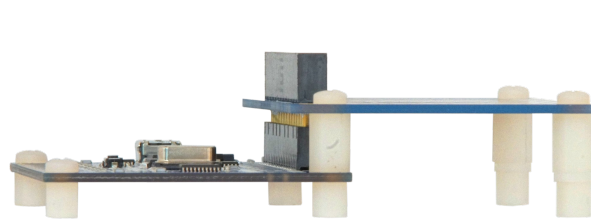
Place the washers onto the threaded portion of the standoffs installed on the P8X32A QuickStart Proto Board, then tighten a nut into each standoff.

Step 5

Install the P8X32A QuickStart Proto Board into the P8X32A QuickStart.



For the overlapping configuration, connect the P8X32A QuickStart Proto Board into the P8X32A QuickStart, as pictured, and screw it into place with the pan-head screws.



For the overhanging configuration, connect the P8X32A QuickStart Proto Board into the P8X32A QuickStart, as pictured, and screw it into place with the pan-head screws.

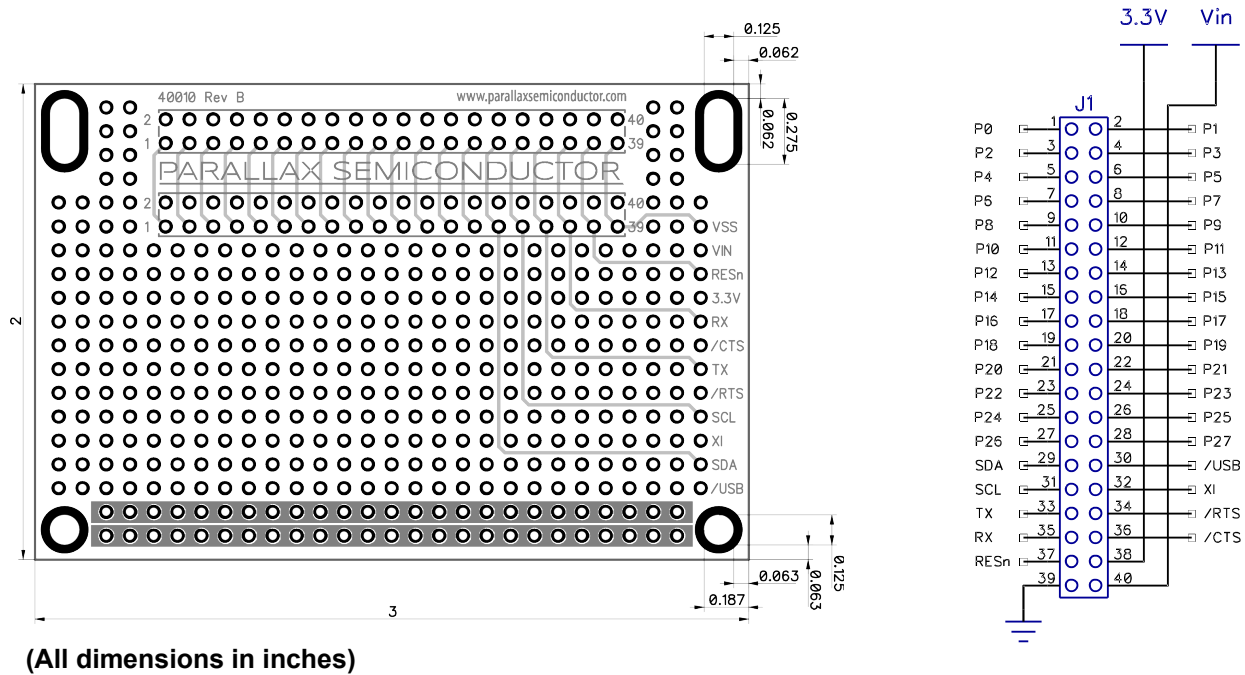
Downloads and Resources

Check for the latest version of this document, free software, and example programs from the P8X32A QuickStart Proto Board product page. Go to www.parallax.com and search for 40010.

Pin Definitions

Name	Type	Function
SCL	I/O	I2C serial clock pin. Pulled to Vdd. Connected to the built-in EEPROM. Can be connected to external I2C devices. Shared with Propeller I/O pin P28.
SDA	I/O	I2C serial data pin. Pulled to Vdd. Connected to the built-in EEPROM. Can be connected to external I2C devices. Shared with Propeller I/O pin P29.
TX	I/O	Propeller transmit at start-up. General purpose input/output pin after start-up. Connected to the USB to serial converter receive pin.
RX	I/O	Propeller receive at start-up. General purpose input/output pin after start-up. Connected to the USB to serial converter transmit pin. Do not drive when the USB circuitry is powered.
RESn	I/O	Propeller reset pin, inverted. Pulled to Vdd. Driven low on internal reset. Drive low to externally reset the Propeller.
/USB	I/O	USB power enable pin, inverted. Pulled to USB 5 V supply. Internally driven low after successful USB power negotiation. Can be externally driven low to force the USB power input to drive the QuickStart power supply, such as when powering from a USB charger.
XI	Input	Propeller clock input. Do not load when not in use. Can drive the Propeller clock from an external signal, using the XINPUT directive.
/RTS	Output	USB to serial converter Request To Send, inverted.
/CTS	Input	USB to serial converter Clear To Send, inverted.
3.3V	Power	Propeller power supply. Internally driven to a nominal 3.3 volts with sufficient voltage on the VIN pin, or from the USB bus when /USB_PWR_EN is low. When not powered from VIN or the USB port, can be driven with 2.7 to 3.6 volts.
VIN	Power	Voltage regulator input. When not powered from 3.3 V, can be driven with 4 to 9 volts.
VSS	Power	Ground

Dimensions and Connection Diagram



Additional Connections

All pins on the 40-pin QuickStart header are duplicated for through-hole soldering access. See the above diagram for pin functions. All control signals are also available along the edge of the edge of the board and include labels indicating their function.

<p>For the overlapping configuration, use the labels on the same side of the board as the "PARALLAX SEMICONDUCTOR" text. The labels on the opposite side of the board will not match the pins functions.</p>	<ul style="list-style-type: none"> ● SDA ● /USB ● SCL ● XI ● TX ● /RTS ● RX ● /CTS ● RESn ● 3.3V ● VSS ● VIN 		<p>For the overhanging configuration, use the labels on the same side of the board as the "P8X32A QuickStart Proto Board" text. The labels on the opposite side of the board will not match the pins functions.</p>	<ul style="list-style-type: none"> ● VSS ● VIN ● RESn ● 3.3V ● RX ● /CTS ● TX ● /RTS ● SCL ● XI ● SDA ● /USB

Revision history

Version 1.0

- Original document

Version 1.1

- Fixed incorrect labeling information in “Additional Connections” section