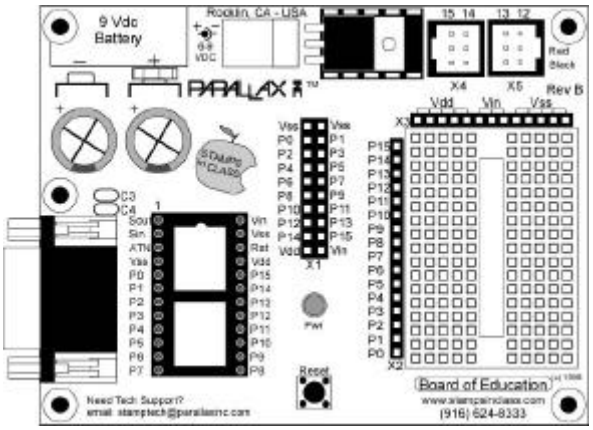
Board of Education Revision B:

BASIC Stamp "What's a Microcontroller?" Learning Platform

The Board of Education is a BASIC Stamp II (BS2-IC) and BASIC Stamp IISX (BS2SX-IC) learning tool for our Stamps in Class curriculum. The Board of Education has a low price exclusively for the student and educator. For those working alone it's a quick platform for building a circuit, and for an educator it's an easy way to implement your curriculum without providing soldering and wire stripping tools. The Board of Education is a complete, low cost system that is designed to teach entry-level computer integrated electronics.

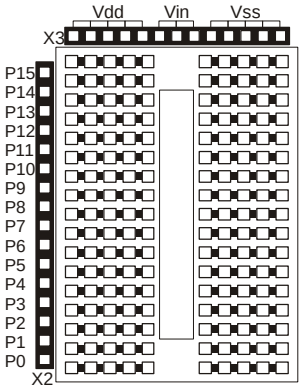
Features

- Wall-pack or 9-volt battery power supply connections (mechanically interlocked to prevent dual connection);
- DB9 connector for BS2-IC programming and serial communication during run-time;
- On-board regulator delivers up to 1 amp of power for larger projects;
- P0 - P15 I/O pins, Vdd and Vss connections brought adjacent to 2" x 1 3/8" breadboard area;
- Includes set of ten (10) color-coded pluggable 22 gauge wires with tinned ends;
- Female 10-pin dual row connector for optional AppMods; and
- Traces on top of the board show connections between BS2-IC module and breadboard sockets.



Measures 3" x 4"

Using the Breadboard



The breadboard has many strips of copper which run underneath the board in a horizontal fashion. These strips connect the sockets to each other. This makes it easy to connect components together to build circuits.

To use the breadboard, the legs of components or wires are placed in the sockets. The sockets are made so that they will hold the component in place. Each hole is connected to one of the metal strips running underneath the board. Each metal strip forms a node. A node is a point in a circuit where two components are connected. Connections between different components are formed by putting their legs in a common node. There are two columns of 17 nodes on the breadboard. Each node contains 5 holes.

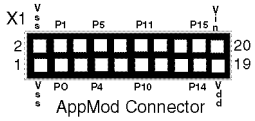
For chips with many legs (ICs), place them in the middle of the board so that half of the legs are on the left side and half are on the right side. Nodes on the left side are not connected to the right side.

BASIC Stamp II I/O Access, Vdd, and Vss

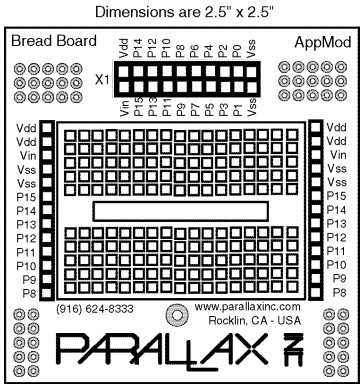
The BS2-IC's 16 I/O pins are brought to the X2 female socket left of the breadboard. I/O pins are accessed by plugging wires into the header, then into the breadboard sockets. The X3 socket provides four connection points for a +5V (Vdd) connection, and ground (Vss). The middle socket in the X3 header is not connected.

AppMod Header

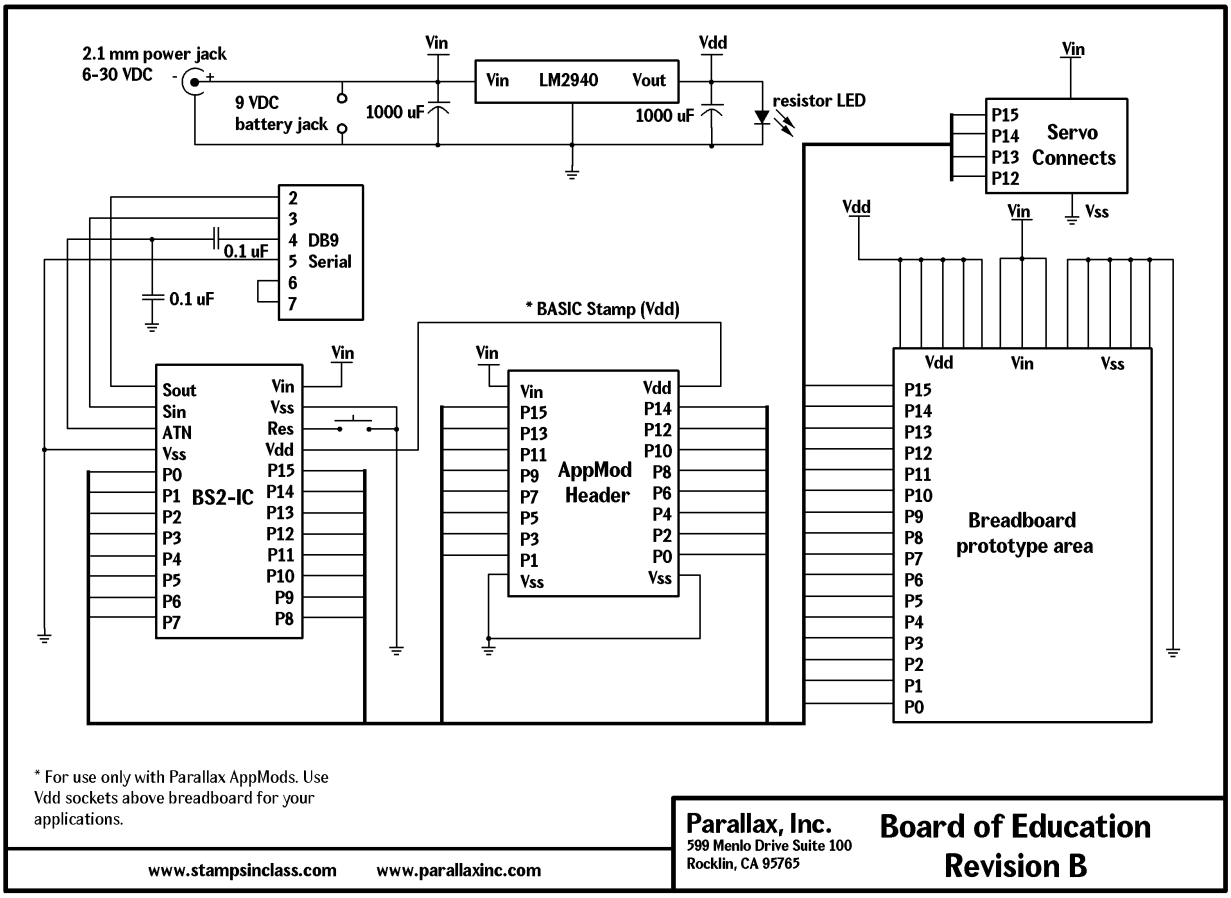
The small AppMod connector is for I/O-oriented projects and additional breadboards made by Parallax. Available AppMods include another breadboard, prototype board, Sound Studio, and LED Display Terminal. Similar to the breadboard on the Board of Education, the breadboard AppMod provides access to all BS2-IC I/O pins, Vss, and Vdd.



AppMods may be stacked using this I/O bus



Schematic


2.1 mm power jack
6-30 VDC
9 VDC
battery jack
Vin
1000 uF
Vin LM2940 Vout
Vdd
1000 uF
resistor LED
Vin
P15
P14
P13
P12
Servo
Connects
2
3
4 DB9
5 Serial
6
7
0.1 uF
0.1 uF
Vdd
Vin
Vss
* BASIC Stamp (Vdd)
Vin
Sout
Sin
ATN
Vss
P0
P1 BS2-IC
P2
P3
P4
P5
P6
P7
Vin
Vss
Res
Vdd
P15
P14
P13
P12
P11
P10
P9
P8
Vin
Vin
P15
P13
P11
P9 AppMod
P7 Header
P5
P3
P1
Vss
Vdd
P14
P12
P10
P8
P6
P4
P2
P0
Vss
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P6
P5
P4
P3
P2
P1
P0
Breadboard
prototype area
* For use only with Parallax AppMods. Use Vdd sockets above breadboard for your applications.
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Board of Education
Revision B