Solderless Breadboards & Jumper Wires

Solderless Breadboards

The screen-printed color coordinates are suitable for many types of digital and analog prototyping and circuit design. Larger models feature a heavy-duty aluminum backing with binding posts. Use with Jameco’s AC/DC breadboard power supply, P/N 772852 pg 129.

- Accepts most electronic components, including integrated circuits and transistors for digital and/or analog circuitry
- Ideal for high frequency and low noise circuits
- Components are easily interconnected using 20-28 AWG wire (P/N 19290 & 20080, below left)

0.1” hole spacing
- One-year warranty

Part No. Description Wt. (lbs.) Price
2125452 ValuePro WBP-317 1 0.19 $2.95
2125461 ValuePro WBP-323 1 0.20 3.95
2157693 ValuePro BB-801 1 0.11 4.49
20961 ValuePro WBU-301-R 1 0.13 4.49
2229175 ValuePro MKKN28g 1 0.09 3.59
2157706 ValuePro BB-102T 1 0.21 5.59
22073 ValuePro WBU-202-R 1 0.50 5.85
2125026 ValuePro BB3018g 1 0.13 7.95
1942728 ValuePro WBU-204-1-R 2 0.73 15.95
20775 ValuePro WBU-204-S-R 2 1.66 14.95
22074 ValuePro WBU-204-R 2 2.07 14.95
213001 ValuePro WBU-504 2 2.68 19.95
2157722 ValuePro BB-375D 3 3.69 21.95
22081 ValuePro WBU-206-R 3 0.30 9.95
2157311 ValuePro BB-477D 4 0.73 21.95
20812 ValuePro WBU-206 4 0.73 29.95

Includes:
- 3-prong power cord
- Power switch with light

ValuePro MKKN2
2229175
20601
#

ValuePro BB-3T5D
2157722
#

ValuePro WBU-204-3-R
2157722
#

ValuePro BB-801 1 2 400 0 3.3 x 2.1 — 0.11
ValuePro WBU-202-R 1 2 830 0 6.5 x 2.2 — 0.21
ValuePro WBU-202-R 1 2 830 0 6.5 x 2.2 — 0.21
ValuePro WBU-202-R 1 2 830 0 6.5 x 2.2 — 0.30

As with all our other Super Combos, this kit is perfect for easy prototyping.

Breadboard and Jumper Wire Prototyping Super Combos

* Web Code: HAC

Part No. Description Wt. (lbs.) Price
2244113 70-piece wire jumper kit with 14 lengths, 10 colors and 400 point breadboard $129.95
2244092 170-point breadboard with single center terminal strip, 1.3” x 2.1”, blue $12.95
2244084 350-piece wire jumper kit with 14 lengths, 10 colors and 70-point breadboard $10.95
2244105 70-piece wire jumper kit with 14 lengths, 10 colors and 400 point breadboard $10.95

Reinforced Jumper Wires

* Web Code: LAS

Part No. Description Wt. (lbs.) Price
126342 ValuePro 24 3.94 2 ea. white/red/blue/light blue $4.95
126325 ValuePro 24 7.87 2 ea. yellow/red/blue/light blue $5.95
421315 ValuePro 24 5.90 4 ea. white/red/blue/light blue $9.95
2214555 Velleman 22-26 5.9 1 ea. of 10 assorted colors $2.95
2214563 Velleman 22-26 5.9 1 ea. of 10 assorted colors $2.95
2214571 Velleman 22-26 5.9 1 ea. of 10 assorted colors $2.95
2229191 ValuePro 24 4.0, 5.9, 7.9, 9.8 65 total of 7 assorted colors $2.95
2150467 Bag 26 1.6, 3.2, 4.8 28 ea. green/red/blue/white/orange $12.95
2213405 FRobot 26 4.3, 5.9, 7.9, 9.8 65 total of 7 assorted colors $9.55
2237644 Velleman 22 3.9, 5.9, 7.9, 9.8 65 total of 7 assorted colors $4.95
2213456 FRobot 26 7.8 6 ea. red/blue/black/blue/red $3.95
2260738 BPS 28 7.9 4 ea. of 10 colors, zipwire ribbon $4.95
2260746 BPS 28 7.9 4 ea. of 10 colors, zipwire ribbon $4.95
2260754 BPS 28 7.9 4 ea. of 10 colors, zipwire ribbon $4.95
2260762 BPS 28 19.7 16 ea. of 10 colors (801, 400, 40) $16.15

SMT to Dip Adapter

This adapter makes it easy to prototype with surface mount ICs on your solderless breadboard. Simply solder the IC onto the adapter and the pins will plug directly into your board.

- Each one includes a row of headers for use with breadboards

Order by Phone at 1-800-831-4242 or Online at www.Jameco.com
Digital Design Lab

- 1580 tie points
- Fixed power supply: +5VDC @ 1.0A
- Two 7-segment displays (digit height: 0.3")
- Digital voltmeter
- One-year warranty

Solderless Breadboard
- Interconnected nickel-plated tie points, fitting all DIP sizes and all components with AWG #22-30 (0.3-0.8mm) solid leads

DC Power Supplies
- DC supplies equipped with short-circuit protection
- Variable DC power: 0 to ±15V @ 0.3A

Function Generator (6 ranges)
- Sine/triangle wave output: 0-SVp-variable
- Frequency ranges: 0.1Hz–2Hz, 1Hz–20Hz, 10Hz–200Hz, 100Hz–2kHz, 1kHz–20kHz, 10kHz–200kHz
- Square wave output: 0-5Vp-p variable

Universal Counter
- 1Hz-100MHz, with 8-digital 7-segment LED display

Includes:
- Power cord and manual

Part No. Description | Size (W" x D" x H") | Wt. (lbs.) | 1 | 5
--- | --- | --- | --- | ---
75839 Digital lab | 10.6 x 13.3 x 5.0 | 8.1 | $499.95 | $459.95
192509 Replacement board | 4.5 x 6.7 x 0.37 | 0.5 | $29.95 | 26.95

AC/DC Power Supply

Ideal for Breadboards on pg 128

With built-in short circuit protection.
- Input power: 120/220VAC @ 50-60Hz (switchable)
- Indicator lamps & power fuses
- One-year warranty
- Just plug in & start to use
- Compact & lightweight
- Indicator lamps & power fuses
- One-year warranty
- Input power: 120/220VAC @ 50-60Hz (switchable)

Part No. Description | WL. (lbs.) | Color | Size (W" x D" x H") | 1 | 5
--- | --- | --- | --- | --- | ---
77682 Power supply | 5.5 | Beige | 7.4 x 5.5 x 2.6 | $169.95 | $154.95

Deluxe Electronic Kits

Part No. Description | Top | Bottom
--- | --- | ---
2129115 | Top | Bottom
2129123 | Top | Bottom

Component Cabinets

- Drawer can be divided into 3 sections (clear)
- Wall mountable cabinet (ABS black)
- Cabinet size: 14.7"W x 6.0"D x 7.4"H

Includes:
- 20 clear plastic drawers
- 20 dividers and 30 adhesive I.D. labels

Part No. Description | 1 | 5
--- | --- | ---
319600 Drawer (319601) | 5.5"L x 2.7"W x 1.5"H | $189.95 | $17.95
319611 Drawer (319601) | 2.5"W x 1.2"H | $29.95 | 26.95

Plastic Flip-top Boxes

- Clear plastic box with lid, includes removable dividers

Part No. Description | Price | 1 | 10 | 25
--- | --- | --- | --- | ---
100256 18 compartments | $29.95 | $2.95 | $2.59 | $2.29
148982 12 compartments | $19.95 | 17.95

Breadboard Power Supply

This power supply is a very simple pre-assembled board that takes a 6-12V input and outputs a selectable 5V or 3.3V regulated voltage. All headers are 0.1" pitch for simple insertion into a breadboard. It can be powered from a 2.1mm DC power jack or from a USB port. No assembly required.
- Output: 3.3V/5V @ 500mA max.
- Input: 6-12V (power jack) or 5V (USB)
- 0.1" pin spacing perfect for breadboards
- On/Off switch
- Power status LED

Part No. Description | Size (L" x W") | Price
--- | --- | ---
2157853 | 1.7 x 1.2 | $4.95 | $4.49

ABS Trolley Case

- Two separate sealable compartments
- Two locks with keys and silver hinges
- Two wheels with telescoping handle
- 6 elastic bands to secure hand tools
- Durable ABS plastic construction
- Size: 17.9" x 13.2" x 7.5"

Part No. Description | Price
--- | ---
2174952 | $99.95

Order by Phone at 1-800-831-4242 or Online at www.Jameco.com 129
**Enclosures**

**Metal and Plastic Enclosures**

The prototype builder boards on pg 131 are designed to fit our ABS plastic and aluminum enclosures, metal cabinets and heavy-duty instrument cases. The pre-cut boards have 2 or 4 mounting holes compatible with the PC board mounting hardware (P/N 106551, pg 131) and adhesive standoff (P/N 2191592).

**Board description:** Laminated glass epoxy 1/16” thick fire retardant per FR-4 specs. Copper-clad and solder mask one side. Drilled holes: .035” diameter on .086” square pad. Pads spaced on .10” x .10” grid.

<table>
<thead>
<tr>
<th>ABS Plastic Enclosures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lid for precision fit (adds 0.4” height). Complete with four screws and lid. All sizes below are interior dimensions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Cross Ref.</th>
<th>Size (L x W x H)</th>
<th>1</th>
<th>10</th>
<th>50</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>18922</td>
<td>H285</td>
<td>3.1” x 2.0” x 0.9”</td>
<td>$3.49</td>
<td>$3.19</td>
<td>$2.89</td>
<td>$2.49</td>
</tr>
<tr>
<td>18914</td>
<td>H2853</td>
<td>4.9” x 2.5” x 1.5”</td>
<td>$3.95</td>
<td>$3.59</td>
<td>$3.19</td>
<td>$2.75</td>
</tr>
<tr>
<td>18993</td>
<td>H2851</td>
<td>6.0” x 3.5” x 1.9”</td>
<td>$4.95</td>
<td>$4.49</td>
<td>$3.95</td>
<td>$3.49</td>
</tr>
<tr>
<td>18906</td>
<td>H2852</td>
<td>7.5” x 4.3” x 2.3”</td>
<td>$6.49</td>
<td>$5.95</td>
<td>$5.39</td>
<td>$4.79</td>
</tr>
<tr>
<td>2234687</td>
<td>RI1240*</td>
<td>6.5” x 4.9” x 2.9”</td>
<td>$17.95</td>
<td>$15.95</td>
<td>$14.49</td>
<td>$12.95</td>
</tr>
</tbody>
</table>

*Poly carbonate

**ABS Enclosures with Clear Top**

Includes screws for mounting boards, rubber gasket for a tight seal on your equipment & drilled holes for mounting.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Cross Ref.</th>
<th>Size (L x W x H)</th>
<th>1</th>
<th>10</th>
<th>50</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>141841</td>
<td>2031</td>
<td>4.9” x 3.4” x 2.4”</td>
<td>$9.95</td>
<td>$8.95</td>
<td>$7.95</td>
<td>$6.95</td>
</tr>
<tr>
<td>141841</td>
<td>20301</td>
<td>6.5” x 3.4” x 2.2”</td>
<td>$9.95</td>
<td>$8.95</td>
<td>$7.95</td>
<td>$6.95</td>
</tr>
<tr>
<td>141859</td>
<td>203F1</td>
<td>7.3” x 5.7” x 3.0”</td>
<td>$14.95</td>
<td>$13.95</td>
<td>$12.95</td>
<td>$11.95</td>
</tr>
</tbody>
</table>

**ABS Heavy-Duty Instrument Cases**

P/N 18877 includes ventilation and speaker sound slots.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Cross Ref.</th>
<th>Size (L x W x H)</th>
<th>1</th>
<th>10</th>
<th>50</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>18889</td>
<td>H2505</td>
<td>7.9” x 6.3” x 2.5”</td>
<td>$7.95</td>
<td>$6.95</td>
<td>$6.25</td>
<td>$5.59</td>
</tr>
<tr>
<td>18887</td>
<td>H2507</td>
<td>10.0” x 7.5” x 3.1”</td>
<td>$8.95</td>
<td>$7.95</td>
<td>$6.95</td>
<td>$6.25</td>
</tr>
</tbody>
</table>

**ABS Plastic Lip Top Enclosure**

PCB standoffs molded into the case with a lip top for a precision fit. Painted black with a satin texture finish and protection against dust and splashing water. Assembly screws and lid included.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Size (L x W x H)</th>
<th>Color</th>
<th>1</th>
<th>10</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2138206</td>
<td>1551GBK</td>
<td>2.0” x 1.4” x 0.8”</td>
<td>Black</td>
<td>$1.95</td>
<td>$1.75</td>
<td>$1.49</td>
</tr>
</tbody>
</table>

**Specialty Enclosures**

**C Series — with Pinch-Fit for PCBs**

- Simple 2-piece design
- 2-insert areas for customized I-plates

**H Series — Four Piece Design**

- Holds 4-AA batteries (contactors included)
- Circuit board mounting bosses
- Assembly with 6 screws RoHS compliant
- ABS plastic black

**S Series — Two-piece Standard Enclosures**

- 2-piece design
- 2-insert areas for customized I-plates

**Metal Enclosures**

- Mounting screws and rubber feet included
- Glossy black textured steel top cover and ivory aluminum base

**Die-Cast Aluminum Enclosures**

Made from aluminum, an excellent heat sink, these cases are great for high temp circuits (up to 600°C). Includes screws.

**Aluminum Enclosures**

The enclosure comes in two pieces that slide together.

**Rugged Die-cast Aluminum Alloy Enclosures**

Protects from dust and splashing water, while also providing EMI/RFI shielding. Designed to meet IP54 rating. Unpainted with a vibra finish. Assembly screws included.

**Black Plastic Mounting Enclosure w/ PCB Grooves**

- Rear panels must be ordered separately
- Size: 5.65”W x 4.82”D x 2.83”H
- Material: noryl resin

3 LEVELS OF SAVINGS

![Image](https://via.placeholder.com/150)

*All boards sold separately, see pg 131; multiple boards shown*
General Purpose Prototyping Boards

Select the prototype board that fits your needs from our comprehensive product listing. Prototyping boards with punched holes are convenient, economical tools for assembling circuit components and trying cost-effective alternatives to custom designs.

- 0.062” board thickness
- 0.1” hole spacing
- 0.08” pad size
- PCB material: epoxy glass
- Plated through pads are double-sided

See PCB enclosures on pg 130, and mounting hardware (recommended P/N 106551) below.

### Vector Prototyping Boards

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Size (W x L x H)</th>
<th>Material</th>
<th>Board Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>34140</td>
<td>84APX40X40</td>
<td>4.50 x 6.50</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>34943</td>
<td>84APW4</td>
<td>4.50 x 8.50</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>37812</td>
<td>169P4X4</td>
<td>3.00 x 5.00</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>37811</td>
<td>169P4X4</td>
<td>3.50 x 5.00</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>106551</td>
<td>202P4</td>
<td>4.50 x 17.00</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>208304</td>
<td>202P4</td>
<td>5.50 x 8.00</td>
<td>PA4</td>
<td>24x36</td>
</tr>
<tr>
<td>108167</td>
<td>250P4</td>
<td>6.00 x 8.00</td>
<td>PA4</td>
<td>24x36</td>
</tr>
</tbody>
</table>

**3 LEVELS OF SAVINGS**

1. **PT Series Prototyping Boards**

- Features power buses that connect to a power jack (recommended P/Ns 101178 and 101187, pg 98)

2. **PB-1931 6.0 x 4.9 Double-sided**

3. **PB-102R 4.0 x 4.0 Double-sided**

**Order by Phone at 1-800-831-4242 or Online at www.Jameco.com**
### Pre-Sensitized Circuit Boards & Chemicals

**Circuit Boards**
- Pre-coated circuit board

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Description</th>
<th>Size (W&quot; x L&quot;)</th>
<th>1</th>
<th>10</th>
<th>25</th>
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</thead>
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<tr>
<td>23107925</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Printed Circuit Board Adapter**
- 0.318" setback right angle DB15 high density
- Low profile male shrouded header
- Straight and right angle male headers (dual row)
- Straight and right angle IDC socket
- Ribbon cable

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>1</th>
<th>5</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>2711700</td>
<td>DB15 high density to 16-pin IDC</td>
<td>$9.95</td>
<td>$8.95</td>
<td>$7.95</td>
</tr>
</tbody>
</table>

### Prototype Boards

**Experimenters’ Phenolic Prototype Boards**
- Single land pattern, 0.15" spacing

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Size (W&quot; x L&quot; x Thick&quot;)</th>
<th>1</th>
<th>10</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>616673</td>
<td></td>
<td>6.5&quot; x 4.4&quot; x .165&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>616649</td>
<td></td>
<td>6&quot; x 9&quot; x .165&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>616549</td>
<td></td>
<td>4.25&quot; x 6&quot; x .165&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Perforated Bare Phenolic Prototype Boards**
- Unexcelled for prototyping, breadboards, hobby or science projects. Bare phenolic board with no copper clad.
- 0.100" spacing
- 0.16" thickness

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Size (W&quot; x L&quot;)</th>
<th>Hole Dia.</th>
<th>1</th>
<th>10</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>616660</td>
<td></td>
<td>6.50 x 4.50</td>
<td>.042</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Through-Hole Prototyping Boards**
- High-quality FR4 glass-epoxy circuit board
- 0.037" drilled holes on 0.1"(2.54mm) centers
- 1 oz./ft² copper with anti-tarnish coating for easy soldering

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Description</th>
<th>Fig.</th>
<th>Size (W&quot; x L&quot;)</th>
<th>1</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>2191466</td>
<td>PR2H1</td>
<td>Single-sided</td>
<td></td>
<td>1.97 x 1.35</td>
<td>$3.15</td>
<td>$2.89</td>
</tr>
<tr>
<td>2191488</td>
<td>ST1</td>
<td>Single-sided</td>
<td></td>
<td>1.97 x 1.35</td>
<td>$3.15</td>
<td>$2.89</td>
</tr>
<tr>
<td>2191470</td>
<td>PR2H2</td>
<td>Single-sided</td>
<td></td>
<td>3.15 x 3.94</td>
<td>5.95</td>
<td>5.39</td>
</tr>
<tr>
<td>2191496</td>
<td>ST2</td>
<td>Single-sided</td>
<td></td>
<td>3.15 x 3.94</td>
<td>5.95</td>
<td>5.39</td>
</tr>
<tr>
<td>2191429</td>
<td>SB1660</td>
<td>Single-sided</td>
<td></td>
<td>3.65 x 7.25</td>
<td>11.95</td>
<td>10.95</td>
</tr>
<tr>
<td>2191446</td>
<td>PAD1</td>
<td>Double-sided</td>
<td></td>
<td>1.97 x 3.15</td>
<td>4.95</td>
<td>4.49</td>
</tr>
<tr>
<td>2191453</td>
<td>PAD2</td>
<td>Double-sided</td>
<td></td>
<td>3.15 x 3.94</td>
<td>5.95</td>
<td>5.39</td>
</tr>
</tbody>
</table>

**TopMax II High Speed Universal Programmer**
- USB interface
- 48-pin ZIF socket
- Input voltage: 5V, 3.3V, 2.7V, 1.8V
- No. of devices supported: 15,000+
- Supports: NAND Flash Memory, Standard Flash Memory, EEPROM, EPROM, Serial PROM, GAL, FPGA, MCU

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2110158</td>
<td></td>
<td>$899.55</td>
</tr>
</tbody>
</table>

### Prototyping Developer Kit

The Jameco prototyping developer kit includes everything you need to get started with prototyping your own PCB.
- 2 precoated circuit boards, 3" x 4" x 1/16" (P/N 156751, left)
- 4 oz. positive developer concentrate (P/N 156734, left)
- 32 oz. etching solution (P/N 161436, pg 127)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>1</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2113244</td>
<td>Prototyping developer kit</td>
<td>$49.95</td>
<td>$44.95</td>
</tr>
</tbody>
</table>

### Bare Copper Circuit Boards – Single Sided

1 oz. copper on base of either fiberglass or reinforced epoxy board.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Mfr. Part No.</th>
<th>Size (W&quot; x L&quot; x Thick&quot;)</th>
<th>1</th>
<th>10</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>616471</td>
<td></td>
<td>3&quot; x 5&quot; x 1/16&quot;</td>
<td>$2.75</td>
<td>$2.49</td>
<td>$2.25</td>
</tr>
<tr>
<td>616489</td>
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<td>4&quot; x 6&quot; x 1/16&quot;</td>
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### Copper-Plated Blank Circuit Boards

Single and double-sided boards are copper plated.

**Positive Pre-Sensitized Circuit Boards**

1 oz. copper (0.014") on an epoxy glass FR-4 board. UI94V-0 rated. The peel-off coating protects the board while handling or cutting prior to exposure. Use with developer mixed 1:9 with water.

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<th>Mfr. Part No.</th>
<th>Description</th>
<th>Size (L&quot; x W&quot;)</th>
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### 1660 Point Breadboard & PCB Kit

**SB1660 Double PCB Breadboard**
- 1660 contact points, 2528 pads total, 0.042" holes on 0.1" centers
- 12 power rails can be used for power or signals
- Single-sided high quality FR4 glass epoxy circuit board
- 1 oz./ft² copper with anti-tarnish for easy soldering
- Bonus two-hole pads along center lines for DIL headers to be used
- Pb free and RoHS compliant
- Size: 7.25"L x 3.65"W x 1/16"H

**BB1660 Breadboard**
- 1660 contact points, 0.1" centers
- 8 power rails for power or signals
- White ABS plastic with color printed legend
- Adhesive tape backing to a surface
- Size: 7.25"H x 3.65"W x 1/16"D

**SB1660 Double PCB Breadboard**
- 1660 contact points, 2528 pads total, 0.042" holes on 0.1" centers
- 12 power rails can be used for power or signals
- Single-sided high quality FR4 glass epoxy circuit board
- 1 oz./ft² copper with anti-tarnish for easy soldering
- Bonus two-hole pads along center lines for DIL headers to be used
- Pb free and RoHS compliant
- Size: 7.25"L x 3.65"W x 1/16"H

### Jameco ValuePro

**ValuePro**
- Includes ER-18 tinnit solution, 8"x6"x2" pan, 16 oz. bottle
- EPROM, EEPROM, Serial PROM, GAL, FPGA, MCU
- Through-Hole Prototyping Boards
- Includes ER-18 tinnit solution, 8"x6"x2" pan, 16 oz. bottle
- Pre-coated circuit board
- 1 oz./ft² copper with anti-tarnish for easy soldering
- Bonus two-hole pads along center lines for DIL headers to be used
- Pb free and RoHS compliant
- Size: 7.25"L x 3.65"W x 1/16"H

### TopMax II High Speed Universal Programmer

**USB interface**
- 48-pin ZIF socket
- Input voltage: 5V, 3.3V, 2.7V, 1.8V
- No. of devices supported: 15,000+
- Supports: NAND Flash Memory, Standard Flash Memory, EEPROM, EPROM, Serial PROM, GAL, FPGA, MCU

**Part No. | Mfr. Part No. | Price**
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**1660 Point Breadboard & PCB Kit**
- Kit-BB1660 +SB1660 Breadboard and PCB kit
- $44.95

**BB1660 Breadboard**
- Kit-BB1660 +SB1660 Breadboard and PCB kit
- $27.95

**SB1660 Double PCB Breadboard**
- Kit-BB1660 +SB1660 Breadboard and PCB kit
- $44.95