# BPS

**BusBoard
Prototype
Systems**

**2025
FALL
PRODUCT
CATALOG**

BPS was founded to create prototyping boards that make the designer's job easier. Some useful PCB patterns simply weren't available at the time, or they had an unnecessarily high cost. BPS strives to deliver the prototyping products our customers need to build great things.

Great Value, High Quality
BPS delivers high-quality breadboards and PCBs at a reasonable price. You get a great board everytime.
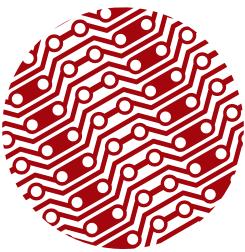
Unique Patterns
We have many unique patterns not available elsewhere that make many prototyping assembly jobs easier and we introduce new patterns in response to customer demands.

Precision Focused
BPS boards are precision drilled and precision etched. No more problems with off-center drilling or poorly etched tracks.
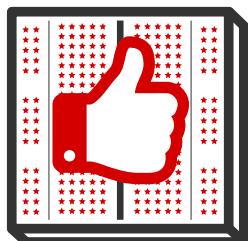
Superior BreadBoards
BPS BreadBoards have precision long-life contacts that work well with thin wires and with big square-post headers.

Protective Coatings
Our copper PCBs have an anti-tarnish protective coating which provides easy solderability and a long shelf-life.

Complete Documentation
Products comes with a datasheet that includes product specifications, drawings and dimensions.

RoHS Compliant
All of our products are lead-free. We offer a wide range of RoHS compliant products ensuring your safety while helping keep the environment free of toxins.

Flame Retardant
All boards use high-quality FR4 laminate with UL94-V0 flame retardant rating.

Online/Retail Sales Friendly
Products are ready for store front and online sales. We provide all the information and graphics needed for promotion. We link to your sales pages to help you sell.

BPS BusBoard Prototype Systems

"High quality is now easy to see"

Many breadboards look the same on the outside. The BusBoard name is now marked on our BB830, BB400, BB1460 and BB1660 series products to make it easy to identify our high quality breadboards. BPS breadboards have been chosen by leading companies and designers because of their superior performance and long-lasting electrical contact quality.

BusBoard Part# and Website • *High-quality contacts* • *Grid Reference Numbers every 5 columns*

Accepts square-post headers • *Red and Black Power Rail Color Legend* • *All Capitalized Grid Reference Lettering*
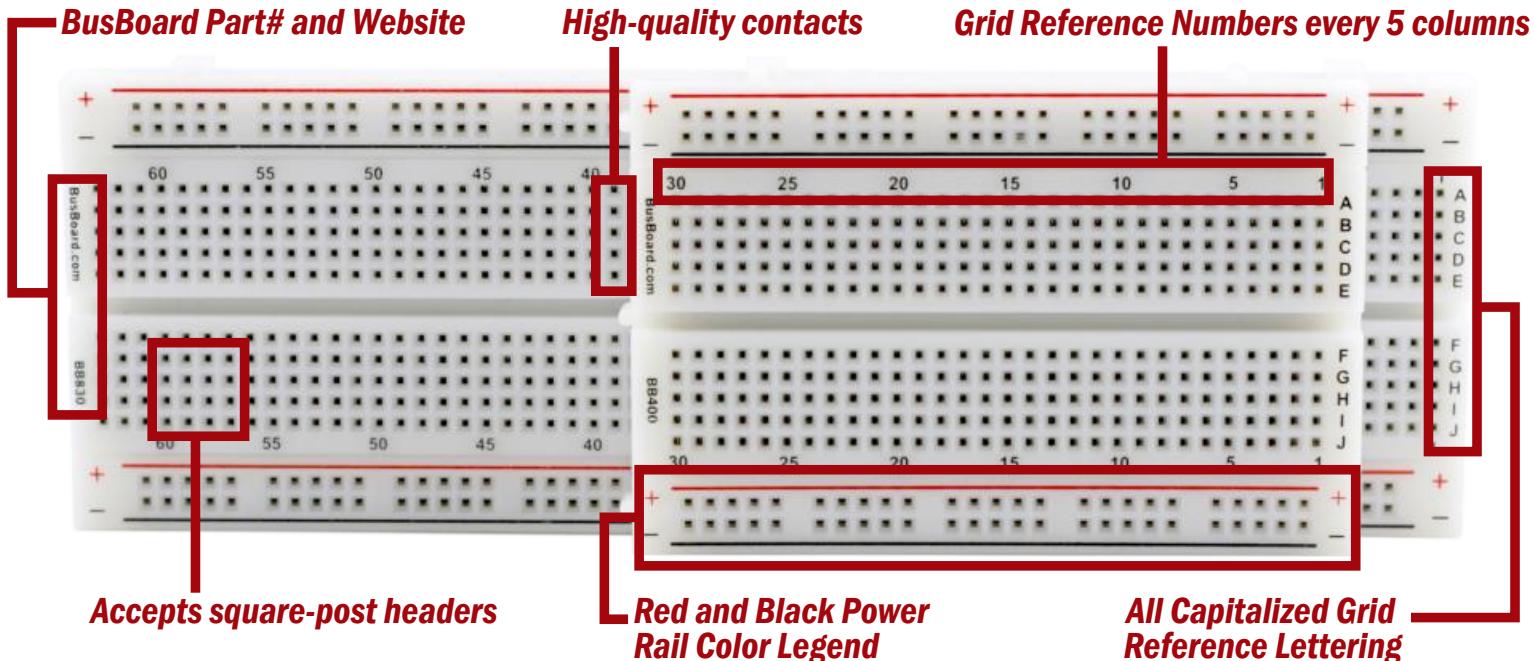
- The BB830, BB400, BB1460 and BB1660 series now have part numbers and the BusBoard name silkscreened on. These names are trademarked so that they are used only on genuine BPS BreadBoards.

- The power rail colors are now the standard red and black for positive and negative.

- Square post connectors can be inserted and removed reliably (unlike low-grade breadboards).

- The beryllium-copper contact alloy is specially designed for maximum springiness. It allows both thin 26 AWG wire and large square post headers to be reliably used.

- The contacts are machine tested for 50,000 insertions to confirm manufacturing quality (human insertions may vary).

- Clear and easy to read hole legends.

All genuine BPS BreadBoards contain the same high-quality electrical contacts. The BusBoard name is now marked on all BPS BreadBoards with the exception of the BB300 and BB170. Please buy from our authorized distributors listed on the BusBoard.com product web pages to ensure you get BPS quality breadboards.

Know you are buying genuine BusBoard BreadBoards

BPS www.BusBoard.com/BreadBoards

Plug-in BreadBoards- Build & Test...

RoHS COMPATIBLE

BB170™
170-point breadboard
without power rails
BB170 - White
BB170C - Various Colors

BB50R™
NEW
50-point breadboard power rail
BB50 - White

BB300™
300-point breadboard
without power rails
BB300 - White
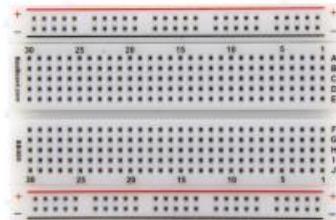
BB400™
400-point breadboard with
four power rails
BB400 - White
BB400T - Transparent
NEW BB400M - Modular White
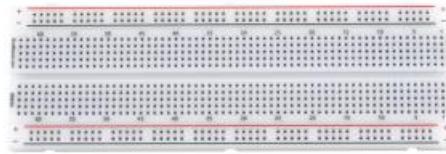
BB100R™
100-point breadboard power rail
BB100R - White

BB630™
630-point breadboard with
no power rails
BB630 - White

BB830™
830-point breadboard with
four power rails
BB830 - White
BB830T - Transparent
NEW BB830M - Modular White
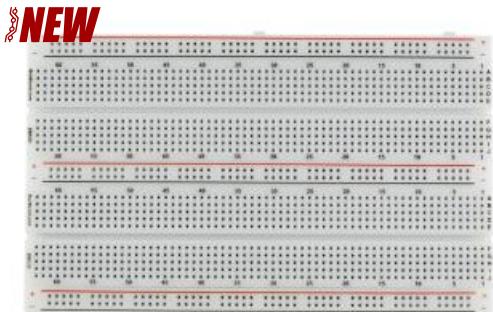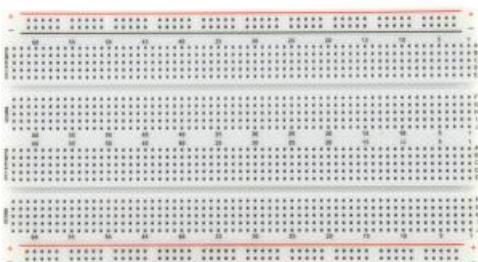
BB1460™
1460-point breadboard with
four power rails
BB1460 - White

BB1560™
NEW
1560-point breadboard with
six power rails
BB1560 - White

BB1660™
1660-point breadboard with
eight power rails
BB1660 - White
BB1660T - Transparent

Solderable PCB BreadBoards- ...Solder & Keep

RoHS COMPATIBLE

SB300™
360-point solderable breadboard
with two centerline power rails.
Same pattern as BB300.
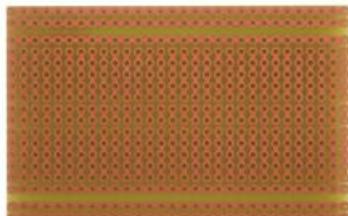
SB400™
540-point solderable breadboard
with four power rails plus two bonus
power rails and centerline pads.
Same pattern as BB400.
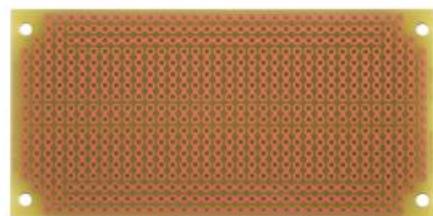
SB404™
628-point solderable breadboard
with four power rails plus two bonus
power rails, pads, mounting holes.
Same pattern as BB400.
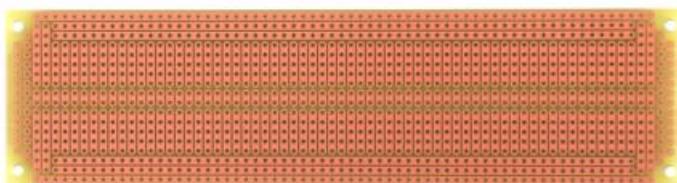
BR1™
1226-point solderable breadboard
with four power rails plus two bonus power
rails, pads, mounting holes.
Same pattern as BB830.
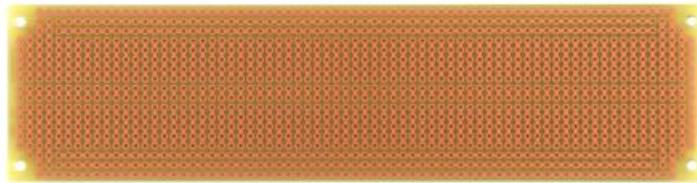
SB830™
1258-point solderable breadboard
with four power rails plus two bonus power
rails, pads, mounting holes.
Same pattern as BB830.

SB1660™
2528-point solderable breadboard
with eight power rails plus four bonus power
rails, pads, mounting holes.
Same pattern as BB1660.
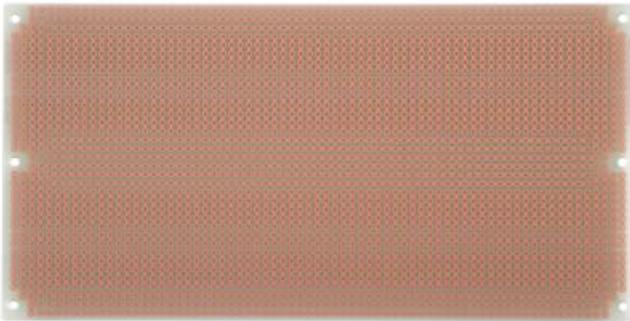
Snappable Solderable PCB BreadBoards
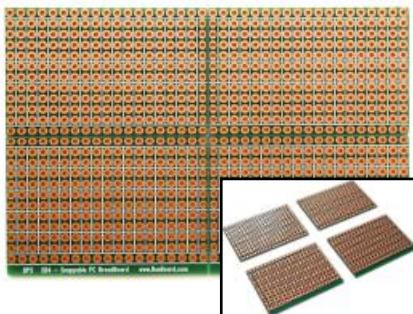
SB4™
Snaps into 4 smaller
boards - two with 4-hole
strips and two with 2-hole
strips, each with power
rails. Double-sided, plated
holes, top side silkscreen.
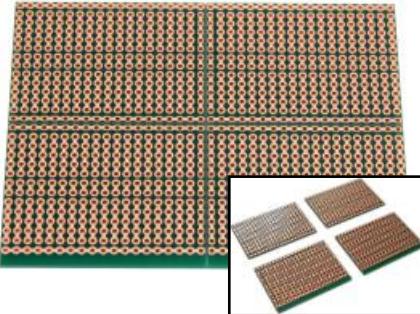
SB5™
Snaps into 4 smaller
boards with a 5-hole strip
breadboard pattern, each
with power rails. Double-
sided, plated holes, top
side silkscreen.

BreadBoard Kits

RoHS COMPATIBLE

KIT-BB400+ZW
BB400 BreadBoard with 10cm Male-to-Male ZipWires™.
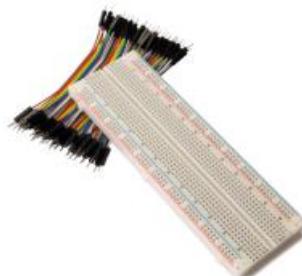
KIT-BB830+ZW
BB830 BreadBoard with 10cm Male-to-Male ZipWires™.

KIT-BB400+PW3
BB400 BreadBoard with 3AA Battery Box with switch.
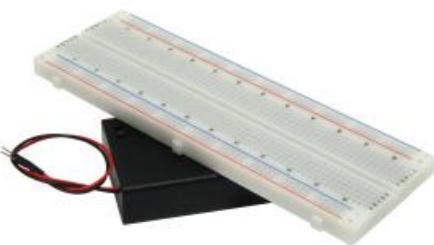

KIT-BB830+PW3
BB830 BreadBoard with 3AA Battery Box with switch.

BB400-KIT
A BB400 BreadBoard, 10cm Male-to-Male ZipWires, 3AA Battery Box with switch, along with an LED and resistor.
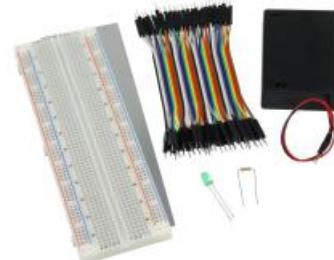
BB830-KIT
A BB830 BreadBoard, 10cm Male-to-Male ZipWires, 3AA Battery Box with switch, along with an LED and resistor.

KIT-BB300+SB300
BB300 BreadBoard with matching Solderable PCB BreadBoard.
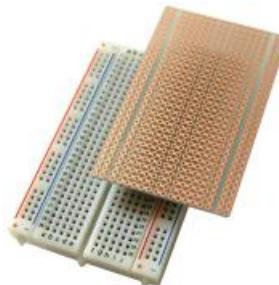
KIT-BB400+SB400
BB400 BreadBoard with matching Solderable PCB BreadBoard.

KIT-BB400+SB404
BB400 BreadBoard with matching Solderable PCB BreadBoard with mounting holes.


KIT-BB830+SB830
BB830 BreadBoard with matching Solderable PCB BreadBoard with mounting holes.

KIT-BB1660+SB1660
BB1660 BreadBoard with matching Solderable PCB BreadBoard with mounting holes.

www.BusBoard.com

Thru-hole ProtoBoards

RoHS COMPATIBLE
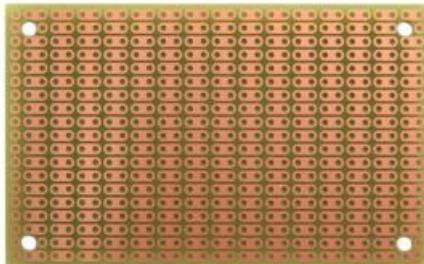
ProtoBoard
Convenient 2-hole ProtoBoard pattern provides an easy way to connect parts while maximizing useable area.

SIZE 1 SIZE 2 SIZE 3
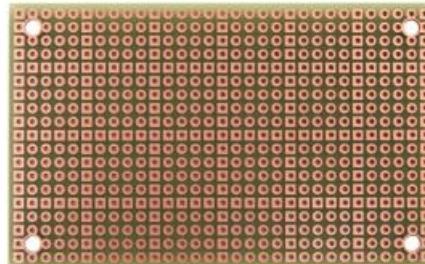
PadBoard
Pad-per-hole with a square pad every 5th hole for easy alignment. Double-sided, plated holes.

SIZE 1 SIZE 2 SIZE 3
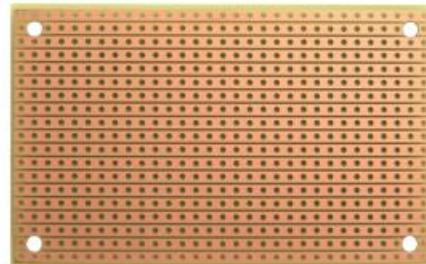
StripBoard
Standard stripboard pattern running the length of the board.

SIZE 1 SIZE 2 SIZE 3
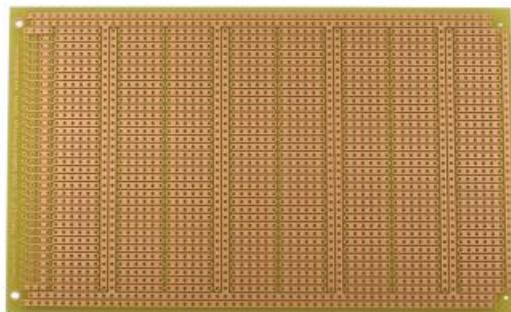
PowerBoard
6 hole strips with interleaved power and ground rail tracks.

SIZE 3
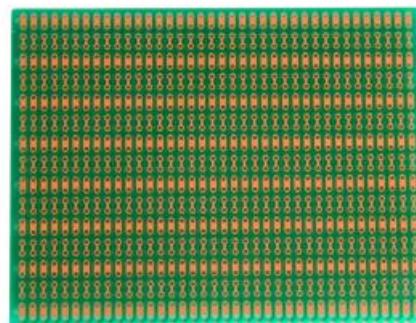
BusBoard™
Zig-zag pattern to connect DIP IC's and DIL headers pin-to-pin.

SIZE 2 SIZE 3 SIZE 3 CONNECTOR FOOTPRINTS
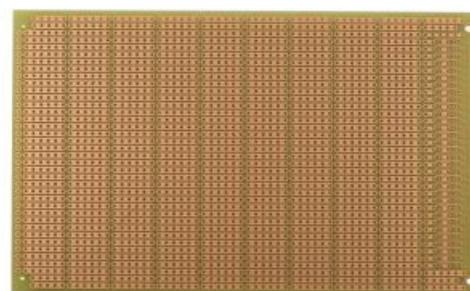
ProtoBoard - 6 hole
Convenient 6-hole ProtoBoard pattern provides an easy way to connect parts to IC's.

SIZE 3 SIZE 3 CONNECTOR FOOTPRINTS

Overview of Sizes *(to scale - not actual size)*

SIZE 3 — *Size 3 boards are standard EuroCard/VME 3U size*

SIZE 1 80mm 50mm

SIZE 2 100mm 80mm

SIZE 3 160mm 100mm

www.BusBoard.com

Surface Mount ProtoBoards

RoHS COMPATIBLE

NEW
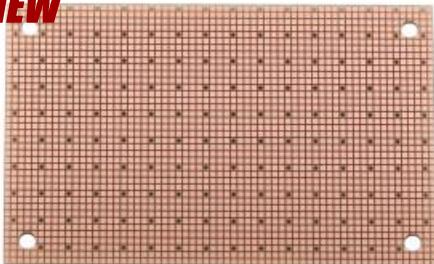
SMTpads - 50x50mil
Square pads on 0.050" centers.
Double-sided with unplated holes.
Ground plane or pads on back.

SIZE 1   SIZE 2   SIZE 2 PLATED THRU-HOLES   SIZE 2 DOUBLE SIDED

SIZE 3   SIZE 3 1/32 THIN   SIZE 3 1/32 THIN PLATED THRU-HOLES


SMTpads - 100x100mil
Square pads on 0.100" centers.
Double-sided with unplated holes.
Ground plane on back.

SIZE 1   SIZE 2   SIZE 3
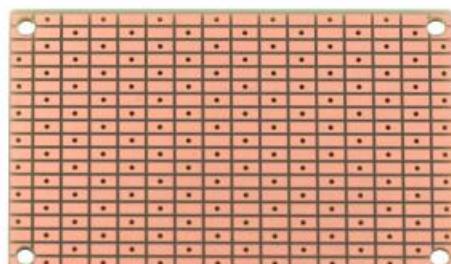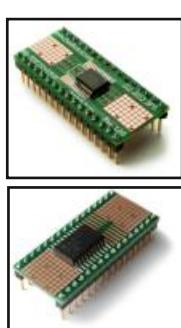
SMTpads - 200x100mil
Rectangular 0.200 x 0.100" pads.
Double-sided with unplated holes.
Ground plane on back.

SIZE 1   SIZE 2   SIZE 3

AB-SOIC32+SSOP
Adapter Board for SOIC and SSOP ICs, up to 32 pins,
plated holes. Bonus SMT pads for discrete parts. 1.6 x 0.7"

SIZE 3

SIZE 3 PLATED THRU-HOLES

SIZE 3 1/32 THIN
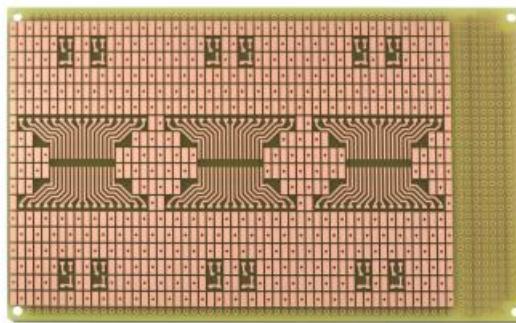
SMTboard
Prototyping circuit board for 0805, 1206,
SOIC, SOT and other SMT parts. Three
SOIC-32 footprints. Ground plane on back.

Adhesive Standoffs
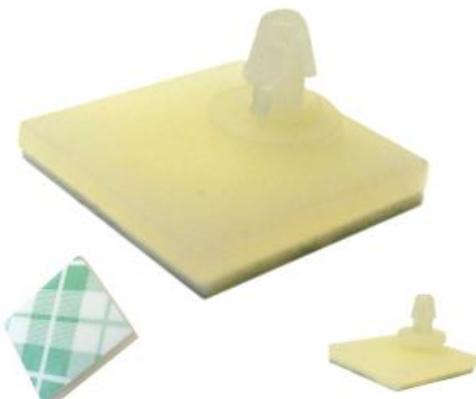
Low profile adhesive standoffs with a 0.120" or 0.180" height for 0.125"
diameter PCB holes. Offset, square (0.6 x 0.6") base allows use when holes
are close to PCB edge. 3M adhesive tape backing for mounting.

0.120" Height	0.180" Height
SA120x8 - 8 pack	SA180x8 - 8 pack
SA120x24 - 24 pack	SA180x24 - 24 pack
SA120x100 - 100 pack	SA180x100 - 100 pack
SA120x500 - 500 pack	SA180x500 - 500 pack
SA120x1000 - 1,000 pack	SA180x1000 - 1,000 pack

www.BusBoard.com

Thru-hole ProtoBoards for Hammond Enclosures

RoHS COMPATIBLE
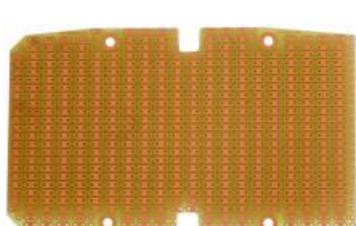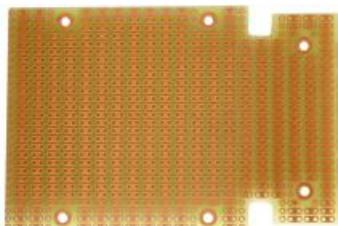
PR1553B

PR1553DBAT
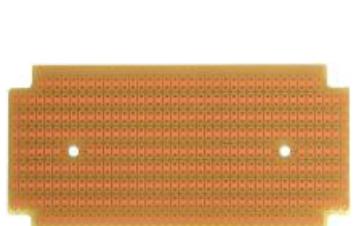
PR1590B
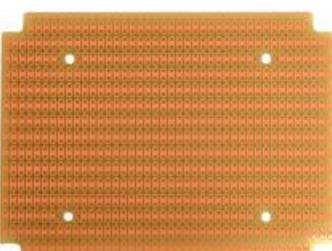
PR1590BB
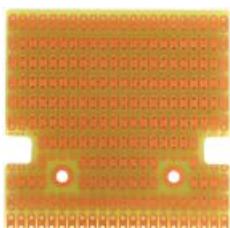
PR1593K
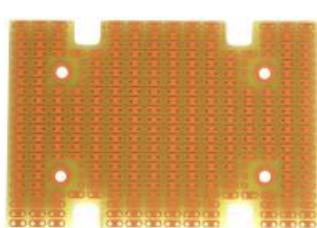
PR1593L
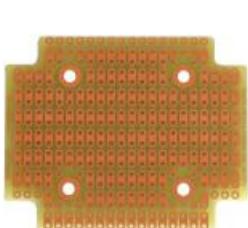
PR1593P
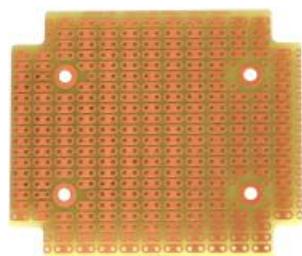
PR1593Q

Plastic & Die-Cast Enclosure Kits ■ *Black* □ *Grey* ■ *Unpainted*

KIT-1553B
KIT-1553B-BK

KIT-1553DBAT
KIT-1553DBAT-BK

KIT-1590B
KIT-1590B-BK

KIT-1590BB
KIT-1590BB-BK

KIT-1593K-BK

KIT-1593L-BK

KIT-1593P-BK

KIT-1593Q-BK

NEW

P14 Plastic Enclosure Line

Handheld electronic instrument enclosures constructed from ABS plastic allowing easy installation of multiple PCBs on the inside top and bottom. The enclosure is easy to drill and features a textured finish that hides fingerprints and provides additional grip. Two removable end panels can be drilled for connectors.

The enclosure's top panel features a recessed top for an adhesive overlay or membrane keypad. The recessed top on the transparent red and blue enclosure have a clear smooth finish designed for easy viewing of displays. Lap joint construction provides an IP54 protection rating against dust accumulation and splashing water.

Plastic Enclosures   *(Available Colors:* ◻ *Grey*   ■ *Black*   ▨ Transparent *Red*   ▨ Transparent *Blue* *)*

BOX1-P14
SIZE 1
Size1 ABS plastic enclosure with removeable end panels that fits up to two Size1 PCBs.

◻ *BOX1-P14-GY*
■ *BOX1-P14-BK*
▨ *BOX1-P14-BT*
▨ *BOX1-P14-RT*

BOX2-P14
SIZE 2
Size2 ABS plastic enclosure with removeable end panels that fits up to three Size1 and Size2 PCBs.

◻ *BOX2-P14-GY*
■ *BOX2-P14-BK*
▨ *BOX2-P14-BT*
▨ *BOX2-P14-RT*

Enclosures available in four colors with matching end plates.
Self-tapping screws included to secure the enclosure.

Aluminum Enclosures   *(Available Colors:* ☐ *Silver* ■ *Black)*

RoHS COMPATIBLE

SIZE 1

BOX1-1455C
Accepts all Size1 PCBs. 4 card guides.

☐ *BOX1-1455C-SV*
■ *BOX1-1455C-BK*

SIZE 2

BOX2-1455L
Accepts all Size2 PCBs. 5 card guides.

☐ *BOX2-1455L-SV*
■ *BOX2-1455L-BK*

SIZE 3

BOX3-1455L
Accepts all Size3 PCBs. 5 card guides.

☐ *BOX3-1455L-SV*
■ *BOX3-1455L-BK*

SIZE 3

BOX3-1455N
Accepts all Size3 PCBs. 11 card guides.

☐ *BOX3-1455N-SV*
■ *BOX3-1455N-BK*

Enclosures available in either silver or black anodized extruded aluminum with matching end plates and polycarbonate plastic bezels. Screws and adhesive rubber feet included.

Aluminum Enclosure Kits   *(Available Colors:* ☐ *Silver* ■ *Black)*

SIZE 1

KBOX1-AC-PR2H
Size1 Aluminum enclosure with the PR2H1 PCB. Enclosure has 4 card guides and accepts all Size1 PCBs.

☐ *KBOX1-AC-SV-PR2H*
■ *KBOX1-AC-BK-PR2H*

SIZE 2

KBOX2-AL-PR2H
Size2 Aluminum enclosure with the PR2H2 PCB. Enclosure has 5 card guides and accepts all Size2 PCBs.

☐ *KBOX2-AL-SV-PR2H*
■ *KBOX2-AL-BK-PR2H*

SIZE 3

KBOX3-AL-POW
Size3 Aluminum enclosure with the POW3U PCB. Enclosure has 5 card guides and accepts all Size3 PCBs.

☐ *KBOX3-AL-SV-POW*
■ *KBOX3-AL-BK-POW*

SIZE 3
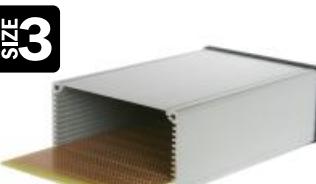
### KBOX3-AN-POW
Size3 Aluminum enclosure with the POW3U PCB. Enclosure has 11 card guides and accepts all Size3 PCBs.

☐ *KBOX3-AN-SV-POW*
■ *KBOX3-AN-BK-POW*

Enclosure Kits available in either silver or black anodized extruded aluminum with matching end plates and polycarbonate plastic bezels. Screws and adhesive rubber feet included.

Microcontroller Development Boards

RoHS COMPATIBLE
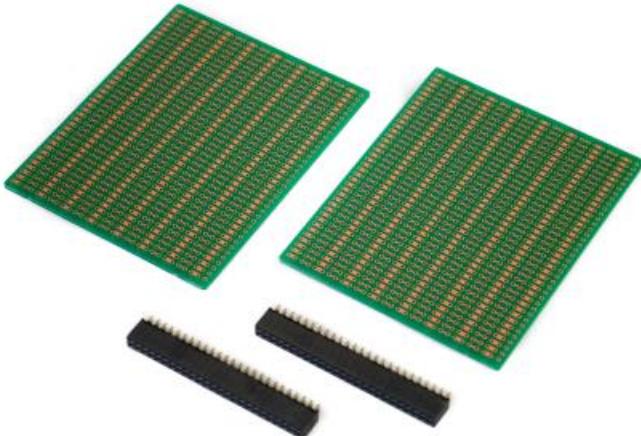
KIT-BB2+F3+F4 SIZE **2**

BusBoard zig-zag pattern gives access to both odd & even pins of DIL headers for the STMicro STM32-Discovery F3 or F4 modules.

KIT-BB3+F3+F4 SIZE **3**

BusBoard zig-zag pattern gives access to both odd & even pins of DIL headers for the STMicro STM32-Discovery F3 or F4 modules.

Peripheral PCB Adapter Boards
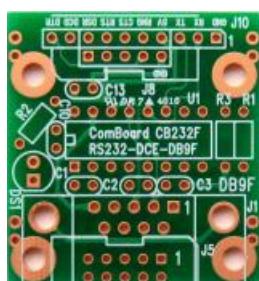
CB-232F
ComBoard Adapter
RS-232 DB-9F
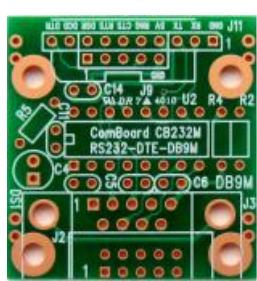
CB-232M
ComBoard Adapter
RS-232 DB-9M
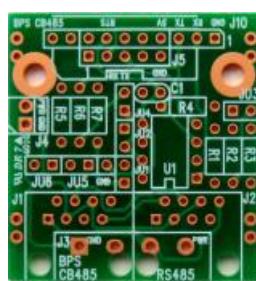
CB-485
ComBoard Adapter
RS-485
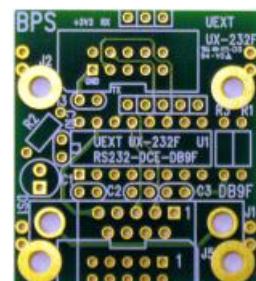
UX-232F
UEXT Adapter
RS-232 DB-9F
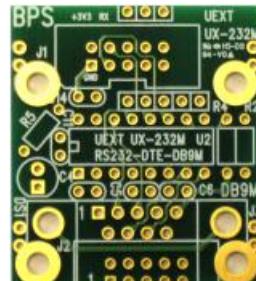
UX-232M
UEXT Adapter
RS-232 DB-9M
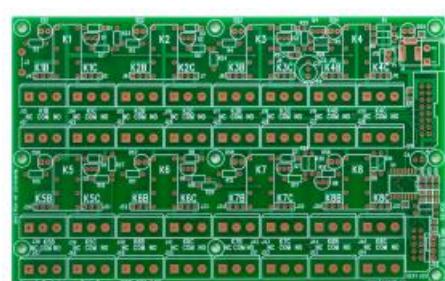
RELAY8 SIZE **3**

Octal relay board with terminal blocks. Each of the 8 DPDT relays has up to four 3-pin terminal blocks. Can be controlled via an I2C interface or 8 logic lines.

www.BusBoard.com

ZipWires™

RoHS COMPATIBLE

ZW-MM-10
10cm multi-color ribbon of 40 wires with male-to-male connectors.

ZW-MF-10
10cm multi-color ribbon of 40 wires with male-to-female connectors.

ZW-FF-10
10cm multi-color ribbon of 40 wires with female-to-female connectors.


KIT-ZW-10x3
3 pack of male-to-male, male-to-female, female-to-female 10cm ZipWires.

ZW-MM-20
20cm multi-color ribbon of 40 wires with male-to-male connectors.

ZW-MF-20
20cm multi-color ribbon of 40 wires with male-to-female connectors.

ZW-FF-20
20cm multi-color ribbon of 40 wires with female-to-female connectors.

KIT-ZW-20x3
3 pack of male-to-male, male-to-female, female-to-female 20cm ZipWires.

NEW

ZW-MM-30
30cm multi-color ribbon of 40 wires with male-to-male connectors.

NEW

ZW-MF-30
30cm multi-color ribbon of 40 wires with male-to-female connectors.

NEW

ZW-FF-30
30cm multi-color ribbon of 40 wires with female-to-female connectors.

NEW

KIT-ZW-30x3
3 pack of male-to-male, male-to-female, female-to-female 30cm ZipWires.

ZipWires™

RoHS COMPATIBLE

ZW-MM-100
100cm multi-color ribbon of 40 wires with male-to-male connectors.
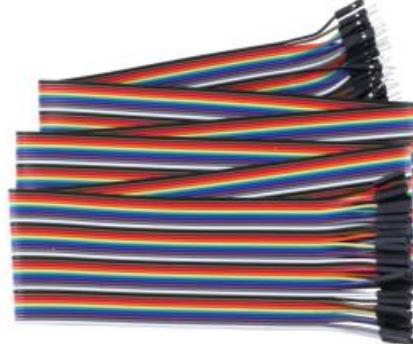
ZW-MF-100
100cm multi-color ribbon of 40 wires with male-to-female connectors.

KIT-ZWx4
4 pack of male-to-male, male-to-female, female-to-female 20cm ZipWires and male-to-male 10cm ZipWires.

Wires & Clips With Pins For BreadBoards

Alligator-Clips

CA-M-20 - Alligator-to-Male
CA-A-30 - Alligator ends

20cm long wires are soldered to the alligator clip. Machined male pins for breadboard use with strain relief heatshrink tubing.
6 colors per pack.

J-Clips

CJ-M-20 - Male ends
CJ-F-20 - Female ends

20cm long wire soldered to the J-clip. Machined male pins for breadboard use with strain relief heatshrink tubing, or female ends. Securely grab 0.1" header pins without touching adjacent pins.
2 colors per pack.

www.BusBoard.com

Power - Battery Holders & Clips with BreadBoard Pins

RoHS COMPATIBLE

PW-3AA

3 x AA battery box (4.5 Volts) with switch, 15cm - 26AWG stranded wires. Machined pins provide a reliable and rugged connection to breadboards.

PW-1AAX

1 x AA battery holder (1.5 Volts), 15cm - 26AWG stranded wires. Machined pins provide a reliable and rugged connection to breadboards.

PW-9VX

1 x 9V battery clip (9 Volts), 15cm - 26AWG stranded wires. Machined pins provide a reliable and rugged connection to breadboards.

Motors & Motor Kits

M1W2

DC Motor with wired power connector and two grippy wheels.

M1W2-KIT

DC Motor with wire power connector, two grippy wheels, ZipWires and a battery box with switch

www.BusBoard.com

Electronic Parts - LEDs

RoHS COMPATIBLE

LRDx40
Red 5mm LED Body
Radial, Thru-hole type
40 qty

LGRx40
Green 5mm LED Body
Radial, Thru-hole type
40 qty

LYWx40
Yellow 5mm LED Body
Radial, Thru-hole type
40 qty

KIT-LED200
Case of 200 LEDs in five colors
(white, yellow, green, blue, red)
and two sizes (5mm, 3mm) each.

Electronic Parts - Resistors
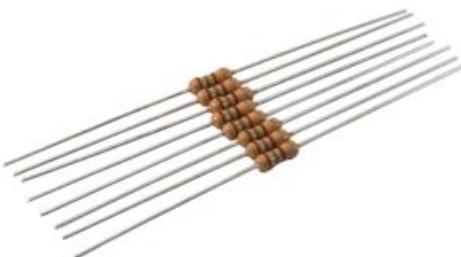
R151x100
150Ω, 1/4 Watt, Axial,
Thru-hole type with value stripe.
100qty
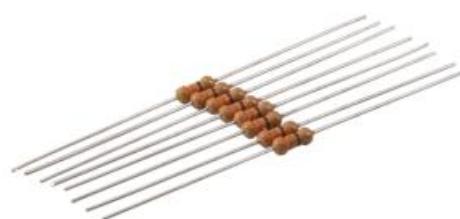
R331x100
330Ω, 1/4 Watt, Axial
Thru-hole type with value stripe.
100qty
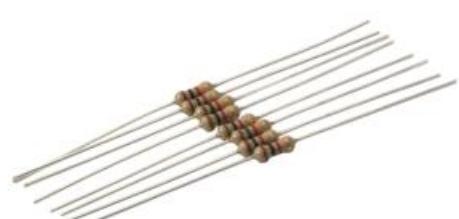
R102x100
1kΩ, 1/4 Watt, Axial
Thru-hole type with value stripes
100qty

R223x100
22kΩ, 1/4 Watt, Axial
Thru-hole type with value stripes
100qty

R473x100
47kΩ, 1/4 Watt, Axial
Thru-hole type with value stripes
100qty

R104x100
100kΩ, 1/4 Watt, Axial
Thru-hole type with value stripes
100qty

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Junior Genius Kits #1 - Blinky Lights (JRG01-KIT)
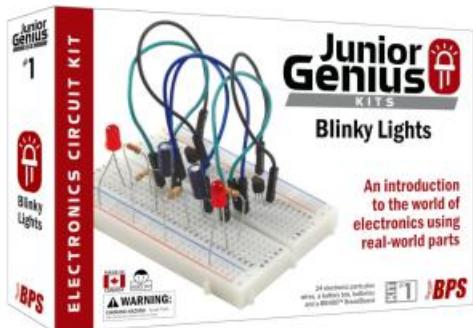
A great introduction to the world of electronics for both students and adults!

Junior Genius Kits are built for experimentation, learning and fun! Experience the joy of seeing your first LED light up! The Blinky Lights kit leads you through 10 main activities from a simple LED circuit up to more advanced transistor LED blinky light circuits using industry-standard parts on a real-world breadboard.

Learn about voltage and current by using LEDs, resistors, capacitors, and transistors. You'll be able to build circuits using a schematic diagram - and there's plenty of help to get you there. Simple examples make it easy to grasp the basics, and 'What's Happening?' and 'Things To Try' sections encourage you to dig deeper.

Smart has never been so much fun!

FEATURES:
Includes Full-color illustrated 60-page manual • 10 core Activities plus many additional 'Things To Try' experiments • Online Club Access to additional knowledge, illustrations and activities • 24 parts plus a power box, wires, batteries and BB400 BreadBoard • Industry standard, reusable parts

Replacement Parts Bag   Solder Kit

(JRG01-PARTS)   (JRG01-PCB)

A complete set of electronic parts for Junior Genius Kits #1 - Blinky Lights. Electronic parts included: 4 LEDs (Red, Green), 4 Transistors (2N3904 NPN), 10 Resistors (150Ω, 330Ω, 1kΩ, 47kΩ, 100kΩ) and 6 Capacitors (10uF, 100nF).

Parts can be used with standard breadboards such as the BB400 and BB830.

All the parts needed to make the Junior Genius Kits #1 - Blinky Lights circuit on a solderable PCB breadboard. Learn to solder by building the same circuit you built in the breadboard kit.

Includes a circuit layout diagram, a link to the downloadable "Soldering is Easy" comic, and all of the resistors, LEDs, capacitors, transistors and wires needed to build the circuit and connect a PW-3AA battery box (not included) to the SB404 single-sided PCB.

Expansion #1 - More LEDs (JRG01-EXP1)
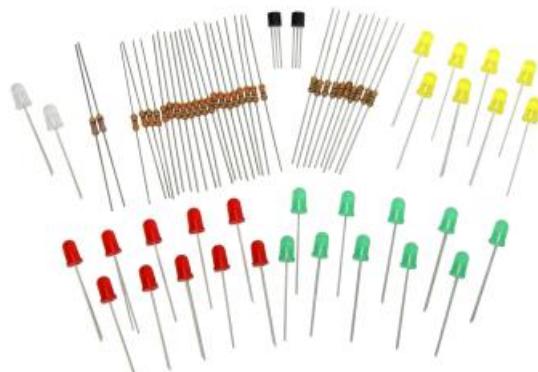
We all love lighting up lots of LEDs, so Expansion Pack #1 provides additional LEDs, resistors, and transistors to light up even more LEDs with your Blinky Lights kit! In addition to the red, green, and yellow LEDs included, bi-color LEDs are also provided to allow experimentation with LEDs that can be either red or green! The Junior Genius Club online content gets you started by showing how to switch multiple LEDs with a transistor so you can flash 5, 10 or more LEDs at a time!

# Expansion #2 - I.C. Chaser (JRG01-EXP2)

Take your circuits to a whole new level with Integrated Circuits! Learn how Integrated Circuits and diodes work with advanced LED chaser and flasher circuits in Expansion #2! Build three new types of circuits: 10 LED Chaser, 5 LED Back-and-Forth, and a 3 LED Traffic Light. An additional BB400 BreadBoard is included to give you more room to build circuits with the included LEDs, resistors, diodes, and male-to-male ZipWires. Basic instructions are included to get you started, with full instructions available online in the Junior Genius Club.
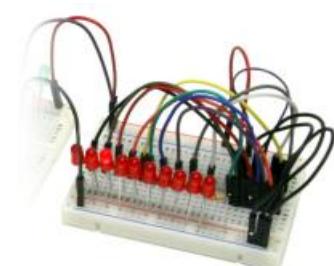
# Expansion #3 - Buzzer & Buttons (JRG01-EXP3) *NEW*

Take the knowledge you've learned from Blinky Lights see how practical electronic circuits can be used for everyday situations! This kit expands your Blinky Lights Kit by adding a sound-making buzzer, push-button switches, alligator clips,a new type of transistor, long extension ZipWires, and more.
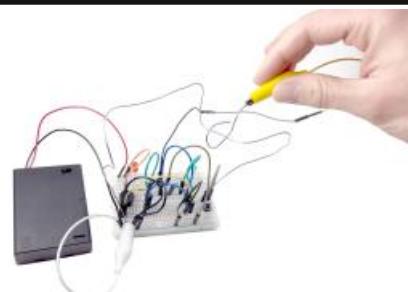
Learn to build nine new circuits including a Morse code transmitter, flood alarm, burglar alarm, and the Skill Tester game.

www.BusBoard.com

Blinky Lights Classrom Packs
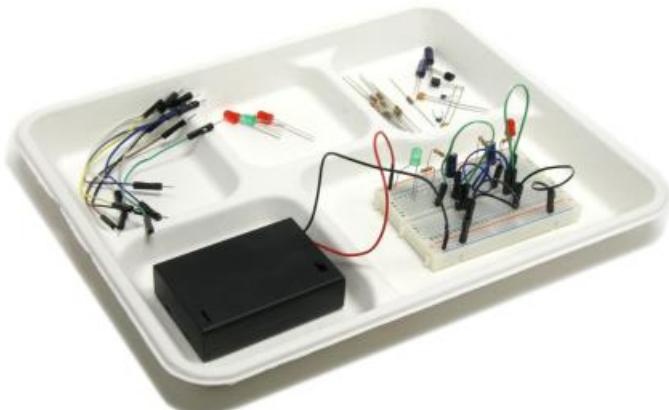
We provide the retail kit in a classroom pack for 5, 20 or 30 students that includes all the same contents: 60 page instruction guide, BB400 BreadBoard, battery box, wires, and electronic parts. But it forgoes the flashy box for a helpful parts tray. This allows students to lay out all the parts without them falling off the desk. Peel-apart ZipWires help the students easily make connections without the need to cut and strip wires. Batteries are included!

An additional instruction guide is included for the educator along with a parts bag (JRG01-PARTS).

JRG01-EDU5 - 5-student classroom pack
JRG01-EDU12 - 12-student classroom pack
JRG01-EDU20 - 20-student classroom pack
JRG01-EDU30 - 30-student classroom pack

Teacher Resources

We know you love teaching, and our cost-effective Teacher Resources help you cut down lesson prep time so that you can be a prepared and engaged teacher. A Teacher Resources Access Card is included for free in the 20 and 30 classroom kit packs giving a school-wide license to use the downloadable content. A license can be purchased separately for small classroom kit pack purchases.

PowerPoint Files

Each core activity has a pre-made PowerPoint presentation that steps through the construction of the circuit and ends with the circuit's schematic diagram.
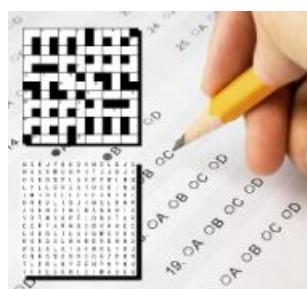
Activity Sheets

Activity sheets to use for classroom exercises including wordsearch and crossword puzzles, spot the difference, draw the wires, and more.
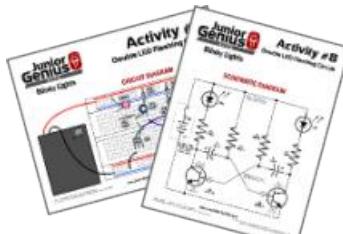
Printable Diagrams

We provide ready-to-print PDFs with circuit diagrams, schematic diagrams and more. Great for having at a student's desk, activity station, or as a PowerPoint replacement.
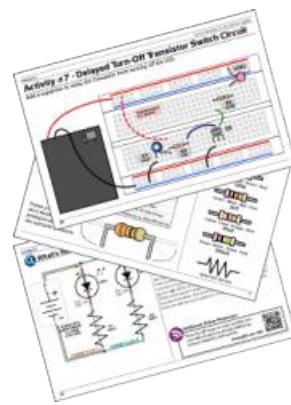
Graphic Files

Graphics of electronic components, circuits, and diagrams used in the instruction guide are provided to aid in the creation of custom materials for your classroom. Make circuits, PowerPoint presentations or handouts with ease.
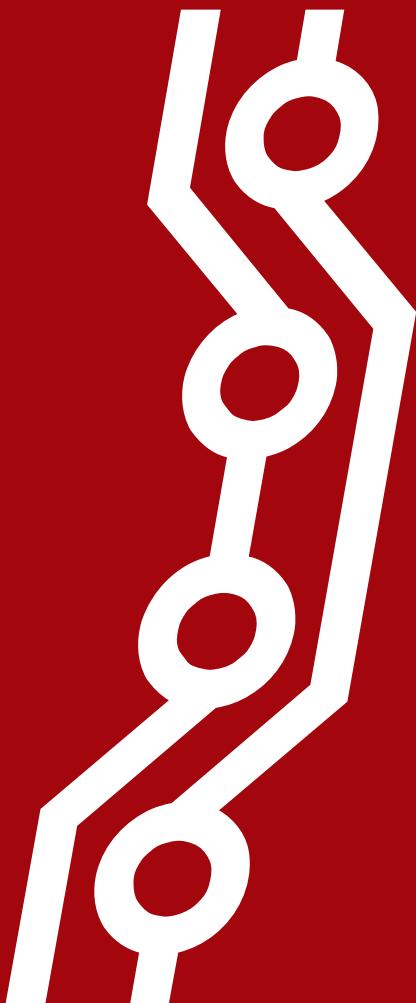
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