## Universal USB/XBee/RS232 Breakout Board
### Order Code: USB2X232    Price: $30.00

This is a multi-talented interface module, providing support for USB, RS232, and the popular XBee RF module-- all in one compact easy-to-use package.
• USB-to-RS232 with power breakout: interface to any microcontroller, via a solderless breadboard, your own wiring scheme, or optional DB9P (included)
• USB-to-XBee interface via 2mm socket strips for XBee, with on-board 3.3V regulator, handshaking lines, and reset button to support easy firmware updates
• XBee breakout function: 2mm socket strips accept XBee, with two rows of 10 pins on 0.1" center underneath for bringing out all pins to breadboard or DIP socket, 3.3V regulator for XBee, jumper-selectable option for powering target via 5V or 3.3V

**Features:**
- standard miniB USB connector for connection to host computer
- activity LEDs for RX and TX monitoring
- 500mA polyfuse protects host computer's USB port from accidental shorts
- 2mm socket strips accept XBee and XBeePro modules
- Reset button for XBee, supports easy firmware reconfiguration
- re-configurable via 6-pin jumper block to any of the following functions:
    - USB-to-XBee
    - USB-to-RS232 (with optional DB9P connector)
    - XBee-to-RS232 (with optional DB9P connector and external 5VDC power)
- DB9P connector and headers included with product

## USB-to-RS232 with Power Breakout
### Order Code: USB232    Price: $29.00

- USB-to-RS232 translation of TX, RX, and DTR signals; LEDs for RX and TX monitoring
- on-board 3.3V regulator; jumper-selectable option for powering target via 5V or 3.3V
- 500mA polyfuse protects host computer's USB port from accidental shorts
- flying leads with two-pin polarized Molex connector for power out to target board
- DB9P connector plugs into any target board having a DB9S RS232 serial connector

## USB-to-XBee Explorer with 3V Regulator
### Order Code: USB2X    Price: $24.00

Provides a handy USB-to-XBee interface via 2mm socket strips for XBee. Features on-board 3.3V regulator, RX and TX activity LEDs, miniB connector, and reset button to support easy firmware updates. Includes 500mA polyfuse protects host computer's USB port from accidental shorts. Small footprint (approx. 1.0x1.5 inches; 25x37 mm).

## RS232-to-XBee Explorer with 3V Regulator
### Order Code: X232-DB9P    Price: $15.00

Provides a handy RS232-to-XBee interface via 2mm socket strips for XBee. Features on-board 3.3V regulator, RX and TX activity LEDs, DB9P connector. You supply 5VDC input power from your target board.

## USB-to-TTL UART Breakout Board for Solderless Breadboard
### Order Code: USB2NCT    Price: $19.00

- designed to plug into a solderless breadboard next to a TTL NanoCore12 module
- can be used with your own MCU instead
- brings power from USB port to breadboard via two pins that plug into bus strips
- jumper-selectable voltage to breadboard (5V or 3V or 0V)
- on-board 3.3V 500mA regulator
- standard USB miniB for host connection
- 500mA polyfuse protects host computer's USB port from accidental shorts
- activity LEDs for RX and TX monitoring
- small footprint (approx. 1.0x1.2 inches; 25x37 mm)
- TX, RX, and DTR pins brought out to optional pin-strip beneath board

## USB-to-TTL DB9 Retrofit Module
### Order Code: USB2MCU    Price: $14.00

This product was designed to convert a legacy RS232 circuit to USB by replacing the existing DB9. This is accomplished by removing the MAX232 chip and associated capacitors, and bridging the RXD and TXD pins across the MAX232 footprint. It can also be used simply as a USB-to-TTL UART interface with your own board or in a breadboard.
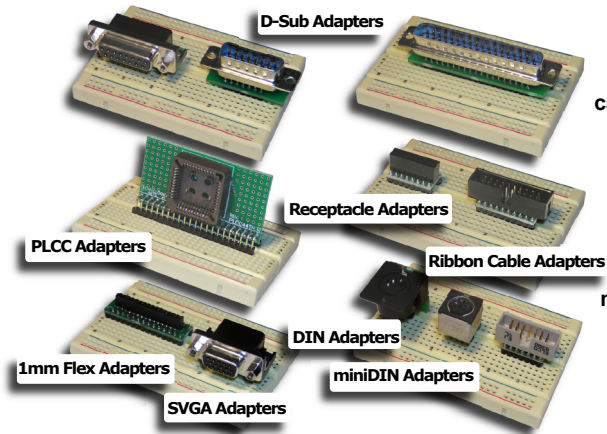- capable of supplying 5V power to the legacy board from the USB port
- standard USB miniB for host connection
- 500mA polyfuse protects host computer's USB port from accidental shorts
- activity LEDs for RX and TX monitoring
- small footprint (approx. 1.0x1.2 inches; 25x37 mm)
- TX, RX, and DTR pins brought out to optional breadboard-compatible pin-strip beneath board
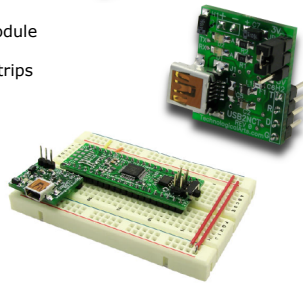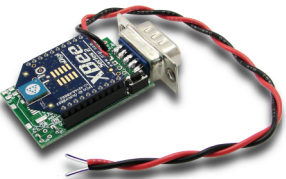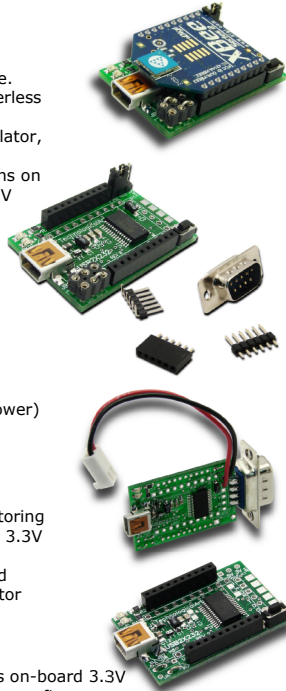
# SOLDERLESS BREADBOARD ADAPTERS
## for Ribbon Cable, Flex Cable, D-Sub, DIN, MiniDIN Connectors, PLCCs and more
### www.BreadboardBuds.com

D-Sub Adapters

Receptacle Adapters

PLCC Adapters

Ribbon Cable Adapters

1mm Flex Adapters

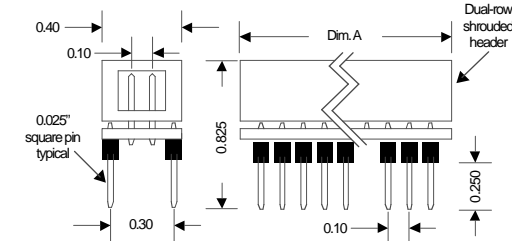DIN Adapters

miniDIN Adapters

SVGA Adapters

Now you can plug serial cables, Printer cables, ribbon cables, MIDI cables, USB cables, Ethernet cables, and 1mm flex cables into your solderless breadboard as easily as DIPs!

Interface disk drives, LCDs, PC keyboards, mice, parallel ports, serial ports, MIDI controllers, VGA monitors, FPGAs, and more, to your application or test circuit on your solderless breadboard.

### RIBBON CABLE-TO-BREADBOARD ADAPTERS

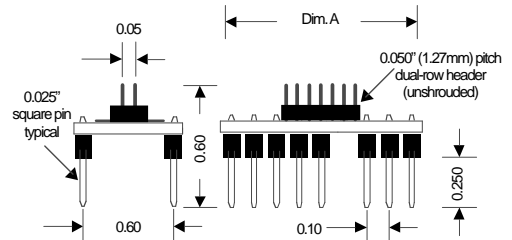| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| ADIDC10-M | 10 | 0.9 | $2.50 |
| ADIDC14-M | 14 | 1.0 | $3.00 |
| ADIDC16-M | 16 | 1.1 | $3.50 |
| ADIDC20-M | 20 | 1.3 | $4.00 |
| ADIDC26-M | 26 | 1.6 | $4.50 |
| ADIDC34-M | 34 | 2.0 | $5.00 |
| ADIDC40-M | 40 | 2.3 | $5.50 |
| ADIDC50-M | 50 | 2.8 | $6.00 |
| ADIDC60-M | 60 | 3.3 | $7.50 |

### DUAL-ROW RECEPTACLE ADAPTERS

| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| ADHDR08-F | 8 | 0.8 | $1.60 |
| ADHDR10-F | 10 | 0.9 | $2.00 |
| ADHDR14-F | 14 | 1.0 | $2.50 |
| ADHDR16-F | 16 | 1.1 | $3.00 |
| ADHDR20-F | 20 | 1.3 | $3.50 |
| ADHDR26-F | 26 | 1.6 | $4.00 |
| ADHDR34-F | 34 | 2.0 | $4.50 |
| ADHDR40-F | 40 | 2.3 | $5.00 |
| ADHDR50-F | 50 | 2.8 | $5.50 |
| ADHDR60-F | 60 | 3.3 | $7.00 |
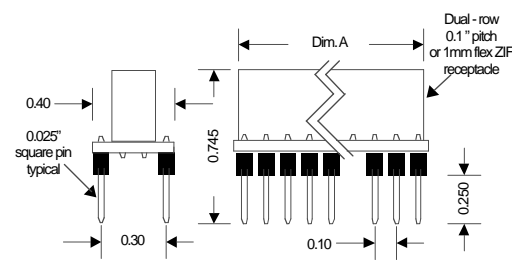
### 1MM FLEX CABLE ZIF ADAPTERS

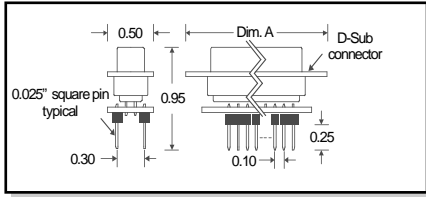| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| AD1MMFLEX15 | 15 | 0.8 | $4.75 |
| AD1MMFLEX16 | 16 | 0.8 | $4.75 |
| AD1MMFLEX24 | 24 | 1.2 | $5.50 |
| AD1MMFLEX30 | 30 | 1.5 | $5.75 |

### HALF-PITCH RIBBON CABLE ADAPTERS

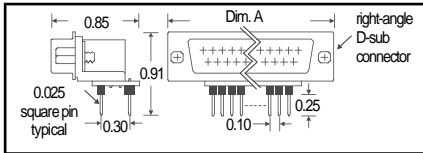| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| ADMIDC10 | 10 | 0.5 | $2.50 |
| ADMIDC20 | 20 | 1.0 | $4.00 |

Dimensions in Inches

## D-SUB ADAPTERS

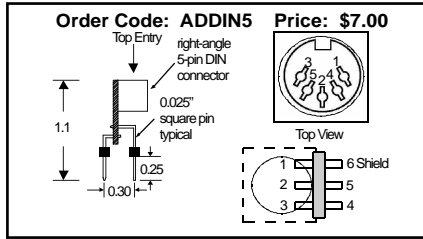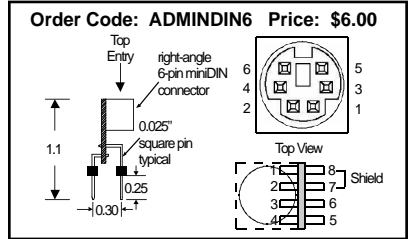| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| ADDB9S | 9 | 1.2 | $3.00 |
| ADDB9P | 9 | 1.2 | $3.00 |
| ADDB15S | 15 | 1.5 | $3.50 |
| ADDB15P | 15 | 1.5 | $3.50 |
| ADHD15S | 15 | 1.5 | $4.50 |
| ADHD15P | 15 | 1.5 | $4.50 |
| ADDB25S | 25 | 2.1 | $5.00 |
| ADDB25P | 25 | 2.1 | $5.00 |
| ADDB37S | 37 | 2.7 | $7.50 |
| ADDB37P | 37 | 2.7 | $7.50 |

0.50  Dim. A  D-Sub connector
0.025" square pin typical
0.95
0.30  0.10  0.25

S = socket  P = plug
HD = high density (SVGA)

## RIGHT-ANGLE D-SUB ADAPTERS

| Order Code: | # of pins | Dim. A | Price: |
|---|---|---|---|
| ADDB9S-RA | 9 | 1.2 | $3.50 |
| ADDB9P-RA | 9 | 1.2 | $3.50 |
| ADDB15S-RA | 15 | 1.5 | $4.00 |
| ADDB15P-RA | 15 | 1.5 | $4.00 |
| ADDB25S-RA | 25 | 2.1 | $6.00 |
| ADDB25P-RA | 25 | 2.1 | $6.00 |

0.85  Dim. A  right-angle D-sub connector
0.91
0.025 square pin typical
0.30  0.10  0.25

S = socket  P = plug

## CIRCULAR DIN ADAPTER (MIDI)

Order Code: ADDIN5  Price: $7.00

Top Entry  right-angle 5-pin DIN connector
0.025" square pin typical
1.1
0.30  0.25
Top View
1 2 3 4 5 6 Shield

## CIRCULAR MINI DIN ADAPTER (PS/2)

Order Code: ADMINDIN6  Price: $6.00

Top Entry  right-angle 6-pin miniDIN connector
0.025" square pin typical
1.1
0.30  0.25
Top View
Shield
6 4 2 5 3 1
1 2 3 4 5 6 7 8

## 40-PIN DIP ADAPTER
Order Code: SBADIP40-SB†
Price: $7.50

## XBee ADAPTER
Order Code: ADXB-SB†
Price: $9.00

## ESP12 WiFi Breakout Board
Order Code: BOBESP12-SB†
Price: $13.00

†Other connector styles available. Visit www.BreadboardBuds.com for details

## RJ45 ADAPTER
with integrated magnetics*
Order Code: ADRJ45IM
Price: $13.50

* Uses MagJack 08B0-1X1T-36-F

## MiniB USB ADAPTER
Order Code: ADMINIB
Price: $1.80

## RaspberryPi Breakout Adapter Set
40-pin cable + adapter
Order Code: RPBA40
Price: $5.00

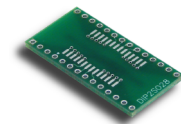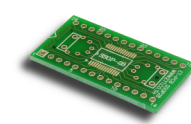## PLCC ADAPTERS

| Order Code: | # of pins | Dim. A | Dim. B | Price: |
|---|---|---|---|---|
| PLCC20TH | 20 | 1.0 | 1.15 | $10.00 |
| PLCC28TH | 28 | 1.4 | 1.25 | $11.00 |
| PLCC32TH | 32 | 1.6 | 1.35 | $12.00 |
| PLCC44TH | 44 | 2.2 | 1.55 | $13.00 |
| PLCC52TH | 52 | 2.6 | 1.75 | $17.00 |
| PLCC68TH | 68 | 3.4 | 1.80 | $20.00 |
| PLCC84TH | 84 | 4.2 | 2.05 | $22.00 |
| PLCCTHSET | set of 7 different sizes: | | | $95.00 |
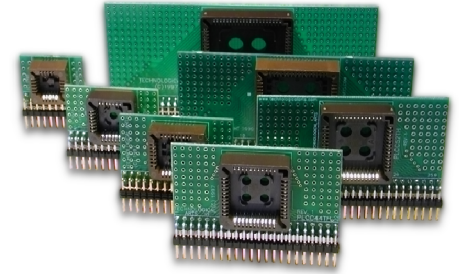
- same pin-numbering scheme as DIPs
- compact vertical design gives maximum access to tie-points
- gold-plated 0.025" square pins for reliable breadboard connections
- rows spaced 0.3" apart to plug into standard solderless breadboard
- great for technicians, engineers, students, and hobbyists

Dimensions in Inches
PLCC Socket
Dim. A
Dim. B
0.025 square pin typical
0.225
0.30

## Carrier for Wide SO28 chips
Order Code: DIP2SO28
Price: $2.25

## Carrier for SSOP28 chips
Order Code: DIP2SSOP28
Price: $2.25
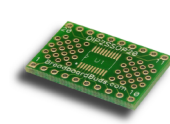
## Carrier for TSSOP20
Order Code: DIP2SSOP20
Price: $2.25

## Carrier for SO16 and TSSOP16 chips
Order Code: DIP2SM16
Price: $2.25

## Carrier for SO14 and TSSOP14 chips (not shown)
Order Code: DIP2SM14
Price: $2.25

## 4-channel bi-directional voltage level shifter chip (TXB0104) mounted on carrier
Order Code: AD325V14
Price: $4.50

## 4-channel bi-directional voltage level shifter chip with Open Drain outputs (TXS0104) mounted on carrier
Order Code: AD325VOD14
Price: $6.50
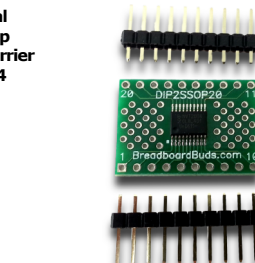
## Low-cost 8-channel level translator chip (NVT2008) mounted on carrier, supplied with pin strips
Order Code: AD125V20
Price: $5.00
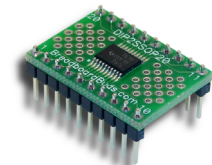
## 8-channel level translator chip (TXB0108) mounted on carrier
Order Code: AD325V20
Price: $9.85