

microEngineering Labs LAB-X1 Experimenter's Module Board

The LAB-X1 is a pre-assembled experimenter's platform. It provides an assembled testbed containing most of the circuitry commonly used with PICmicro microcontrollers (MCUs). Many different projects may be created using the LAB-X1, including calculator, voltmeter, LCD backpack, tone dialer, and RC servo controller.



- 40-pin ZIF socket for PICmicro MCU (not included, recommend PIC16F877-20/P, P/N 176882CJ pg 7)
- Reset button • 16 switch keypad • 3 potentiometers • LED bargraph
- 2 lines x 20 characters LCD module • Speaker • 2 RC servo connectors
- RS232 interface • Socket for RS485 interface (device not included)
- Socket for I2C & SPI serial EEPROM (device not included) • One-year warranty
- Socket for Microwire serial EEPROM (device not included)
- Socket for real time clock/serial analog to digital converter (devices not included)
- EPIC in-circuit programming connector • Prototyping area for additional circuit
- Wiring for microchip in-circuit debug connector • Size: 5.5" x 5.6"

Requires: AC adapter (below)

☛ Blue Part No. = Limited Quantity Available

SALE

Part No.	Description	1	10
169113CJ	LAB-X1 Experimenter Board	\$199.95	\$189.95
176903CJ	LAB-X1 Experimenter Board Kit (unassembled)	139.95	132.95
198168CJ	LAB-X2 for 28 and 40-pin MCUs ☛	69.05	65.00
176882CJ	PIC16F877-20/P microcontroller (pg 7)	9.49	8.49
127976CJ	AC adapter (details on page 186)	4.75	4.29

microEngineering Labs EPIC Plus PICmicro Programmer

The EPIC Plus Programmer quickly and easily programs the PIC12Cxxx, 12CExxx, 16C505, 16C55x, 6xx, 7xx, 84, 9xx, 16CE62x, 16F62x, 7x, 8x, 87x, 14C000, 17C7xx, 18Cxxx microcontrollers from Microchip. The basic programmer includes an 18-pin socket for programming 8, 14 and 18-pin PICmicro MCUs. Devices available separately on page 6.

- Simple installation with parallel port (printer) interface
- Command line operation for automated, non-interactive programming • PICmicro Assembler software included

Requires: Two 9V batteries or AC adapter (below)

Part No.	Description	1	10
132679CJ	EPIC Plus PICmicro programmer	\$59.95	\$53.95
136397CJ	8/18/20-pin ZIF adapter	34.95	31.95
132610CJ	40/28-pin ZIF adapter	34.95	31.95
162317CJ	AC wall adapter (16VDC/500mA, details on page 187)	8.75	7.65
67256CJ	6' DB25 cable (details on page 96)	6.45	5.79



Developing Development Systems

Microchip's PIC microcontrollers offer embedded systems developers a lot of bang for the buck. Compilers and development boards are widely available, and there's a great base of software to grab from shared sites.

If you're thinking about more advanced development though, you may want to consider taking a second look at the many RabbitCore™ development environments available on pages 11-13. Now you can develop embedded applications with 100Base-T, GSM/GPRS, Wi-Fi, SSL, Flash plus analog and digital I/O on these development kits.

Extensive integrated features and glueless architecture facilitate rapid development with the provided C source code and compiler. Plus, pre-written royalty-free software libraries are provided, making these the best integrated development environments we've seen for fast embedded systems prototyping.

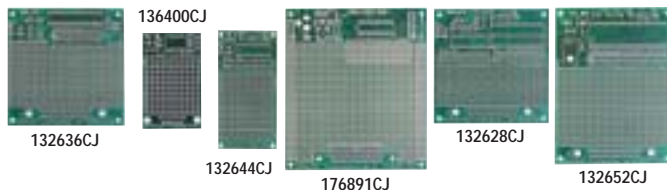


Practical Practices
Money Saving Tips for the Engineer

microEngineering Labs "PICProto" Prototyping Boards

- High quality blank prototyping boards for PICmicro microcontrollers
- Holds microcontroller, 5V regulator, oscillator, capacitors and DB9-25 connector
- Double-sided board with plated-through holes • Large prototyping area
- Solder mask on both sides makes soldering easy • Silkscreen legend

Includes: Documentation sheet with schematic, suggested parts and placement



PICProto 18, 18L: For all 18-pin PICs including PIC16C52, 54, 56, 58, 554, 558, 61, 620, 621, 622, 71, 710, 711, 712, 715, 716, 84, 16CE623, 624, 625, 16F627, 628, 83, and 84

Part No.	Description	Size (L" x W")	1	10
132644CJ	PICProto 18	3.0 x 1.5	\$9.95	\$8.95
176891CJ	PICProto 18L	3.6 x 4.1	19.95	17.95

PICProto 3: For the 28-pin PIC16C62, 63, 642, 66, 72, 76, 773, 16F73, 76, 870, 872, 873, 876, 18C242, and 252

132636CJ	PICProto 3	3.0 x 3.0	\$14.95	\$13.49
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PICProto 64: For the 40-pin PIC16C64, 65, 662, 67, 74, 77, 774, 16F74, 77, 871, 874, 18C422, and 452

132652CJ	PICProto 64	4.0 x 3.0	\$16.95	\$14.95
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PICProto 8: For all 8-pin PIC12Cxxx and 12CExxx

136400CJ	PICProto 8	2.0 x 1.2	\$8.95	\$7.95
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PICProto Dual: For 18-pin PIC16C52, 54, 56, 58, 554, 558, 61, 620, 621, 622, 71, 710, 711, 712, 715, 716, 84, 16CE623, 624, 625, 16F627, 628, 83, & 84, as well as 28-pin PIC16C55, & 57. Accepts standard 0.6" 28-pin device or 0.3" skinny DIP

132628CJ	PICProto Dual 18/28	3.0 x 3.0	SALE \$12.95	\$11.66
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microEngineering Labs PICBasic and PICBasic Pro Compiler

PICBasic converts your BASIC programs into files that can be programmed directly into a PICmicro MCU.

- Compatible with most PICmicro MCU programmers including EPIC plus
- Use in DOS or Windows (includes Windows editor/DE software)
- I2C instructions to access external serial EEPROMs
- In-line assembler and call support

- 132661CJ: PICBasic Compiler**
- Expanded BASIC Stamp I compatible instruction set
 - PEEK and POKE instructions to access any register from BASIC
 - Serial speeds to 9600 baud
 - Supports PC12C67x, PIC14Cxxx, PIC16C55x, 66x, 7xx, 84, 92x, and PIC16CF8xx microcontrollers
 - May use up to 2k of code space

- 150543CJ: PICBasic Pro Compiler**
- Direct and library routine access to any pin or register
 - Automation page boundary handling past 2k • Bit, byte, word arrays
 - Real If...Then...Else...Endif • Hierarchical expression handling
 - Interrupts in BASIC and assembler • BASIC Stamp I and II library
 - Built-in LCD support • MPLAB/MPASM/ICE compatibility
 - Supports 12C5xx, 12C67x, 12CE67x, 14C000, 16C5x, 16C55x, 6xx, 7xx, 84, 92x, 16CE62x, 16F62x, 7x, 8x, 87x, 17Cxxx, and 18Cxxx microcontrollers

Part No.	Description	1	10
132661CJ	PICBasic compiler	\$99.95	\$89.95
150543CJ	PICBasic Pro compiler	249.95	224.95



 For Our Complete Selection of PIC Microcontrollers See pages 6 – 8	 For Development Kits See pages 11 – 13
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