**DIGITAL I/O MODULE**

*KIT / ASSEMBLED*

This trainer comes in kit form. It provides all necessary features for experimentation and prototyping of digital circuits. This trainer includes 8-SPDT toggle DIP switches, 8-LED indicators, a clock conditioning circuit, two pulse switches, and 26 screwless terminal blocks for easy circuit connection. The kit comes with easy to follow instructions.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3200DIGKIT</td>
<td>$27.95</td>
</tr>
<tr>
<td>3200DIGASSMB</td>
<td>38.95</td>
</tr>
</tbody>
</table>

**DIGITAL TRAINER**

*MODEL NO. DT3*

*KIT VERSION ONLY*

This Digital Trainer comes in kit form and provides all the functions necessary for digital experimentation and prototyping. The DT3’s features include 8 binary switches (4 buffered), 8 LED indicators, a clock conditioning circuit, two pulse switches, and 26 screwless terminal blocks for easy circuit connection. The kit comes with easy to follow assembly instructions.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>3200DT-3</td>
<td>$24.95</td>
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</table>

**USB EXPERIMENT INTERFACE BOARD**

The K8055 interface board features 5 digital input and 8 digital output channels. There are also 2 analog inputs and outputs with 8 bit resolution. Number of inputs/outputs can be expanded by connecting up to a maximum of four cards the PC's USB connectors. All communication routines are contained in a Dynamic Link Library (DLL). Write custom Windows (98SE, 2000, Me, XP) applications in Delphi, Visual Basic, C++ Builder or any other 32-bit Windows application development tool that supports calls to a DLL.

**DIAGNOSTIC/TEST SOFTWARE:**

- Separate output / input test
- Clear all / set all function
- Counter function on inputs 1 and 2
- Analog output set sliders
- Analog input bar-graph indicator
- Conversion time 20ms per command

**SPECIFICATIONS:**

- 5 digital inputs, 8 outputs
- 2 analog inputs and outputs
- Power supply through USB
- Diagnostic software with DLL included
- Requirements – Pent. CPU, SB1.0, Windows 98SE, CD ROM player & mouse

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>32VK8055</td>
<td>Kit Version</td>
<td>1-4 $44.95</td>
</tr>
<tr>
<td>32VKMV110</td>
<td>Assembled Version</td>
<td>79.00</td>
</tr>
</tbody>
</table>

**ANALOG-DIGITAL TRAINER**

*SINGLE BOARD*

Compact, affordable and practical. Offers all the necessary features for any curriculum requiring electronic lab training and experimentation. Includes a multiple output power supply, signal generator, independent clocks, logic switches, tri-state LED indicators, frequency function and more. This is a powerful training and prototyping tool. Comes complete with 12vdc adapter with din connector to mate directly to board, plus operation manual.

- **Portable:** Easily transported. Large solderless breadboard area (1,640 tie points)
- **Power Supply:** ±9V and +5V @ 500ma
- **Digital:** 16 tri-state multi-color LED indicators which remain in a normally lit pattern which alerts user that the LED is functioning (color then changes when in operation). Two independent clocks, 16 logic switches, 2 momentary switches.
- **Analog:** Sine and square wave generator. Variable amplitude, variable offset, variable frequency to 20K
- **Operation manual and power adapter (±12V) included**
- **Optional – 344 page circuit experiment and training book used by leading technical colleges. Emphasizes the relationship between design, analysis and testing. To fully utilize optional Experiment Book including circuit analysis, some additional hardware items (available from ELECTRONIX EXPRESS) and software may be needed.**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
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<tr>
<td>01ADASM</td>
<td>Single Board Analog-Digital Trainer</td>
<td>$74.95</td>
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<tr>
<td>2700MJW70</td>
<td>140 Piece Jumper Wire Kit</td>
<td>3.90</td>
</tr>
<tr>
<td>31WI470474341</td>
<td>344 Page Experiment/Training Book</td>
<td>42.95</td>
</tr>
</tbody>
</table>
MICROWAVE TRAINING SYSTEM
SOLID STATE / KLYSTRON TRAINER
MODEL LRL 550B-SS

Best value for hands-on microwave training. 22 microwave components per trainer. Features dual power source facilitating both Klystron and solid state microwave instruction within a single system. Includes both a Klystron “Tube-to-Waveguide” mount for use with the 2K25 Klystron, and a Solid State Oscillator, enabling selection of either a Klystron or Solid State Signal source for experiments.

- 22 rugged microwave components
- 24 snap-fast waveguide clips for fast assembly time
- RG-52/U brass and copper waveguide construction with UG-39/U cover flanges
- Nickel plated components for durability
- Includes complete course in microwave theory supported by training manual with fifteen experiments
- Instructor can utilize standard lesson plan or create many other demonstrations with components provided
- Solid State Oscillator for simple one-step conversion between Klystron and Solid State modes with no additional wiring, power sources or adjustments
- 220V 50Hz version available for export for an additional charge

Part No. | Description | Price
--- | --- | ---
01LRL550BSS | Microwave Training System | $4,200.00
01LRL575SC | Storage Case for Microwave Training System Components | 185.00

“C” FOR PICmicro® MICROCONTROLLERS CD ROM

The C for PICmicro microcontrollers CD ROM is designed for students and professionals who need to learn how to use C to program embedded microcontrollers. It also provides all the software tools needed to actually program a PIC16F84 – including a full C compiler and device programmer that is compatible with the Matrix PICmicro development board. Although the course focuses on the use of the PIC series of microcontrollers, this CD ROM will provide a relevant background in C programming for any microcontroller. The CD ROM assumes no previous experience of C programming – the only assumed knowledge is an ability to use a web browser and an understanding of basic digital electronics. In addition to the required underpinning knowledge PIC-C includes 9 complete projects, each of which has up to 5 sub-sections, that take users through the material in a relevant context.
**RSR — TELECOMMUNICATIONS TRAINER**

**HANDS-ON TELEPHONY, LAN, CATV, FIBER OPTIC EXPERIENCE**

**MODEL TCM-200**

TELECOMMUNICATIONS skills are necessary to succeed today. "TCM-200" introduces you to telephony, cabling, LAN and CATV with one self-contained unit. A comprehensive workbook walks you through the world of telecommunications from the very basic fundamentals of electronics to networks. Priced under $225.00, the TCM-200's innovative design covers more material in less time than units costing thousands of dollars more. The TCM-200 delivers the platform to teach the skills your students need FOR TODAY AND TOMORROW.

$220.95

* Tools, workbook, supplies and meter available at additional cost

---

**Tool Kit Includes:**

- Punch-Down Tool – Impact type w/blades for 66 & 110 punch down blocks
- Crimping Tool – Deluxe ratchet type with four different dies
- Wire Strippers – (3) for coax cable, data / phone cable and hook-up wire
- Long nose plier
- Diagonal cutter
- Screwdrivers (2)
- Magnifier – lighted
- Telephone Set
- Tool Box

---

**Part No.** | **Description**                  | **Price**  
-------------|----------------------------------|-----------
01TCM200     | T-Comm Trainer (TCM-200)        | $220.95   
3300TCOM200  | Lab Manual / Work Book          | 34.95     
3200TCOMCSK200| Component and Supplies Kit      | 39.95     
3200TCOMTK   | Tool Kit                        | 119.95    

---

**Component and Supplies Kit**
RSR® — PLDT-2 PROGRAMMABLE LOGIC DEVICE PROTOTYPING BOARDS

WHY USE OLD, OBSOLETE TTL GATES TO IMPLEMENT COMPLEX LOGIC & STATE MACHINE DESIGNS?

with the ALTERA® EPM7128SLC™ CPLD

User design software available from the chip manufacturer.* Then download your design from the PC with the parallel port cable (included), each comes with a user’s manual containing a complete description of the board together with Lab experiments, power supply and cable.

• Design software is available at the following chip manufacturer websites:
  For the Altera chip: http://www.altera.com. You can also go to the PLDT page on the Electronix Express website at http://www.elexp.com/tst_pldt.htm which has links directly to the software pages.

HAS THE ON-BOARD I/O CAPABILITY YOU NEED:
• DIP Switches
• De-bounced Momentary Switches
• LEDs
• 7-Segment Displays
• Numerous Connectors for Jumper-Wires and Ribbon Cables

ACCESSORY KIT (32RSRFPGAACC)

INCLUDES:  
1 RSR MB-102 Breadboard with Wire Kit  
1 RSR LP-610 Logic Probe  
50 Breadboarding Pins

Part No. | Description | Price
--- | --- | ---
01PLDT2 | PLDT-2 Board | $79.00
31CPLD | CPLD Programming Lab Manual | 69.95
31P0130453056 | Experiments In Digital Fundamentals With VHDL | 81.95
311401840302 | Digital Design With CPLD Applications & VHDL, 2Ed. | 190.95
32RSRFPGAACC | Accessory Kit | 19.95

RSR® — PLDT-3 PROGRAMMABLE LOGIC DEVICE PROTOTYPING BOARDS

WHY USE OLD, OBSOLETE TTL GATES TO IMPLEMENT COMPLEX LOGIC & STATE MACHINE DESIGNS?

with the XILINX® XC95108™ CPLD

User design software available from the chip manufacturer.* Then download your design from the PC with the parallel port cable (included). Each comes with a user’s manual containing a complete description of the board together with Lab experiments, power supply and cable.

• Design software is available at the following chip manufacturer website: For the Xilinx chip: http://www.xilinx.com
  You can also go to the PLDT page on the Electronix Express website at http://www.elexp.com/tst_pldt.htm which has links directly to the software pages.

HAS THE ON-BOARD I/O CAPABILITY YOU NEED:
• DIP Switches
• De-bounced Momentary Switches
• LEDs
• 7-Segment Displays
• Numerous Connectors for Jumper-Wires and Ribbon Cables

ACCESSORY KIT (32RSRFPGAACC)

INCLUDES:  
1 RSR MB-102 Breadboard with Wire Kit  
1 RSR LP-610 Logic Probe  
50 Breadboarding Pins

Part No. | Description | Price
--- | --- | ---
01PLDT3 | PLDT-3 Board | $79.00
31DELE | Digital Electronics Laboratory Experiments | 69.00
32RSRFPGAACC | Accessory Kit | 19.95

CPLD PROGRAMMING & DIGITAL LOGIC SIMULATION — By Steve Waterman

A lab manual to accompany any digital electronics textbook. This lab manual can help you learn how to use Max+plusII software by Altera Corporation. This manual starts with fundamentals of logic gates, then progresses to MSI devices, latches and flip flops. Then it moves on to clock dependent circuits including counters and registers, memory addressing, and converters.

Provides laboratory exercises that support Digital Fundamentals with VHDL by Tom Floyd. The manual supports the PLDT-2 and PLDT-3 boards from RSR Electronics, as well as the DeVry University board, and the Altera University Program board.

DIGITAL DESIGN WITH CPLD APPLICATIONS & VHDL, 2ED

2nd edition; 896 pages. Updated Altera’s Quartus II software and LabSource CD included with book. Thorough coverage of basic techniques and fundamentals to advanced principles.
FPGA ALTERA BOARD WITH USB

Provides ideal vehicle for advanced design prototyping in the multimedia, storage, and networking. The board offers a rich set of features that make it suitable for use in a laboratory environment for university and college courses, for a variety of design projects, as well as for the development of sophisticated digital systems. Altera provides a suite of supporting materials for the DE1 board, including tutorials, “ready-to-teach” laboratory exercises, and illustrative demonstrations.


FEATURES
DE1 board provides users many features to enable various multimedia project development. Component selection was made according to the most popular design in volume production multimedia products. The DE1 platform allows users to quickly understand all the insight tricks to design projects for industry.

- Altera Cyclone II 2C20 FPGA with 20000 LEs
- Altera Serial Configuration devices (EPCS4) for Cyclone II 2C20
- USB Blaster built in on board for programming and user API controlling
- JTAG Mode and AS Mode are supported
- 8Mbyte (1M x 4 x 16) SDRAM
- 4Mbyte Flash Memory
- 512Kbyte (256K x 16) SRAM
- SD Card Socket
- 4 Push-button switches
- 10 DPDT switches
- 8 Green User LEDs
- 10 Red User LEDs
- 4 Seven-segment LED displays
- 50MHz oscillator, 24MHz oscillator, 27MHz oscillator and external clock sources
- 24-bit CD-Quality Audio CODEC with line-in, line-out, and microphone-in jacks
- VGA DAC (4-bit R-2R per channel) with VGA out connector
- RS-232 Transceiver and 9-pin connector
- PS/2 mouse/keyboard connector
- Two 40-pin Expansion Headers
- DE1 Lab CD-ROM which contains many examples with source code

Part No. 01FPGA2 • Price: $150.00

FPGA BOARD WITH USB PORT

- Provides means of learning and prototyping digital logic, computer systems and FPGA code. This board provides a complete low cost platform using Altera Cyclone II (EP2C8) chip connected to various LEDs, switches and 7-segment displays. One can use web edition of Altera Quartus II to design FPGA code using Verilog HDL, VHDL as well as other design methods
- USB port for transferring FPGA to chip configurations
- 8 red LEDs, 8 green LEDs
- 2 sets of 4 SPDT switches
- 2 debounced, 4 non-debounced switches
- 40 pin and 2 DB-9 I/O connectors for interfacing
- 24MHz clock; can be multiplied or divided using internal PLL

Part No. 01FPGA4 • Price: $149.00

Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 (732) 381-1572
SOFTWARE AND PROGRAMMERS

**matrixmultimedia ELECTRONIC PROJECTS**

**PLATFORM:** WINDOWS 3.1/95/98/NT; **FORMAT:** CD ROM

- 10 projects to build
- Component lists – also included as separate files for easy access
- Fully functional schematic design and PCB layout software included on the CD (CAD Pack)
- Component and general construction guides
- Project specific construction and testing

The projects on this CD are as follows:

- **Part No.**
- **Description**
- **Price**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
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<tbody>
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<td>01ELDIG102</td>
<td>Digital Electronics – 10 User</td>
<td>$192.00</td>
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<td>01ELDIGS</td>
<td>Digital Electronics – Single User</td>
<td>$93.00</td>
</tr>
<tr>
<td>01ELDIGST2</td>
<td>Digital Electronics – Student Ver.</td>
<td>$59.00</td>
</tr>
</tbody>
</table>

**matrixmultimedia ELECTRONIC CIRCUITS AND COMPONENTS – VER. 2**

**PLATFORM:** WINDOWS 95/98/NT/2000/ME; **FORMAT:** CD ROM

- Spoken text caters to students with low reading ability.
- Thorough assessment – multiple choice, worksheets, fault finding circuits, written exam questions and assignments.
- Flexible resources – stand alone, in front of class, class activity on a network, revision/remediation.
- Browser based – Intranet ready.
- Teachers’ notes and editable worksheets included on CD.
- Multi Sim® / Electronics Workbench® circuits provided.

<table>
<thead>
<tr>
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<tr>
<td>01ELEPSST</td>
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<td>01ELEPSI</td>
<td>Electronic Projects – Single User</td>
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<tr>
<td>01ELEPS10</td>
<td>Electronic Projects – 10 User</td>
<td>$192.00</td>
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</tbody>
</table>

**matrixmultimedia ANALOG ELECTRONICS**

**PLATFORM:** WINDOWS 3.1/95/98/NT; **FORMAT:** CD ROM

- Virtual labs circuits included
- SPICE® simulation of over 50 editable circuits
- Design parameters for Editable worksheets

<table>
<thead>
<tr>
<th>Part No.</th>
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<th>Price</th>
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<td>01ELANAST2</td>
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<td>01ELANASIN2</td>
<td>Analog Electronics – Single User</td>
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<td>01ELANA102</td>
<td>Analog Electronics – 10 User</td>
<td>$192.00</td>
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</table>

**matrixmultimedia DIGITAL ELECTRONICS**

**PLATFORM:** WINDOWS 3.1/95/98/NT; **FORMAT:** CD ROM

- Virtual labs
- Full audio commentary
- Over 20 links to pre-designed Electronics Workbench® circuits and crocodile clips
- Teachers’ notes
- Editable worksheets

Digital Electronics provides a broad introduction to the principles and practice of digital electronics, including logic gates, combinational and sequential logic circuits, clocks, counters, shift registers, and displays. The CD ROM also provides an introduction to microprocessor based systems.

<table>
<thead>
<tr>
<th>Part No.</th>
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<tbody>
<tr>
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<td>$93.00</td>
</tr>
<tr>
<td>01ELDIG102</td>
<td>Digital Electronics – 10 User License</td>
<td>$192.00</td>
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</tbody>
</table>

**PROTOLAB™ CIRCUIT SIMULATION SOFTWARE**

**CREATE AND ANALYZE CIRCUITS INSTANTLY ON YOUR PC!**

**Release 4.0**

Protolab™, a total computer-simulated, electronics laboratory including free built-in test instruments and tools to build and test actual circuits.

- Easy-to-use interface: Create AC&DC circuits moments after installation with ProtoLab’s easy "click & drag" component placement and on-line help
- Choose from a complete list of active and passive components
- Five virtual instruments allow for instant, accurate circuit analysis: Voltmeter, Ammeter, Wattmeter, Oscilloscope, Ohmmeter
- Pre-designed circuit library included

**SYSTEM REQUIREMENTS:**

- IBM/PC 386 or compatible with 4MB RAM
- SVGA video
- Windows 3.1 or Windows 95
- Mouse
- 3 ½ floppy drive

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<thead>
<tr>
<th>Part No.</th>
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<tr>
<td>01PL300-0007</td>
<td>Price $49.95</td>
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</tbody>
</table>

**RSR™ – PIC WRITER – HANDHELD**

**SERIAL PROGRAMMER COMPATIBLE WITH MICROCHIP® MPLAB DEVELOPMENT SOFTWARE**

Low cost programmer supports many devices from PIC family. Operates with PC-compatible host system running Windows 3.XME/NT/2000/XP. Reads, programs, verifies EPROM and EEPROM program and data memory. MPLAB Project support to automatically download object file to PSTART. Complete with RS-232 cable, 9V universal power adapter. Includes MPLAB Development Software (CDROM).

`LP-PICD is manufactured under license from MICROCHIP®`

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
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<td>01LPPSTART</td>
<td>Price $205.00</td>
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</table>

**matrixmultimedia ASSEMBLY FOR PICmicro® MICROCONTROLLERS CD ROM**

- Virtual PIC allows full on-screen simulation programs
- Over 80 exercises
- Over 30 full working programs
- On-screen challenges
- Includes shareware assembler and send programs

The PICtutor is designed to teach users of all levels how to write assembler programs for the PIC series of microcontrollers. The CD ROM’s 39 tutorial sections guide the complete beginner through PIC architecture, commands and programming techniques up to advanced programming techniques including discussion and examples of watchdog timers, interrupts and sleep modes. Over 80 exercises and challenges are provided.

<table>
<thead>
<tr>
<th>Part No.</th>
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<tr>
<td>01PICST2</td>
<td>Assembly for PICmicro / Student Ver.</td>
<td>$59.00</td>
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<td>01PICSI2</td>
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<td>01PIC102</td>
<td>Assembly for PICmicro / 10 User</td>
<td>$375.00</td>
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</tbody>
</table>

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ELECTRONIX EXPRESS / RSR • 900 Hart Street, Rahway, NJ 07065
**SOFTWARE AND PROGRAMMERS**

**E-BLOCK™ SYSTEM**

The E-Block™ System consists of small circuit boards each of which contains electronics that you would typically find in an Electronic System. The E-Blocks™ range consists of around 150 separate items which can be combined to make a variety of systems offering a wide range of learning opportunities. Select a Programmer Board, add a number of peripheral boards, combine with a range of software utilities including “Flow Code” to develop a fully functional electronic system.

**PROGRAMMING BOARDS**

**PICMICRO DEVELOPMENT BOARD VER. 3**

This is an ideal platform for learning how PICmicros are programmed and also for project work. This board programs a range of 8, 14, 18, 28 and 40 pin devices from the 12, 16 and 18 series PIC micro ranges. The on-board LED’s, switches and displays can be used in CD ROM based courses or with Microchip’s MPLAB software. The board also has two E-Blocks parts (on ports C and D) which makes it compatible with a large range of E-blocks add-ons and sensors.

**Features:**
- 2 line LCD display
- USB Connector
- Onboard sensors
- Single bit audio output
- Quad 7 segment displays

Part No. 01HP488 • Price: $285.00

**PICMICRO MULTIPROGRAMMER**

This programmer connects to your PC via USB to provide you with a low cost and flexible PIC microcontroller programmer. This board can be used with Assembly, C or Flowcode programming utilities provided by Matrix Multimedia. This board will program most 8, 14, 18, 28 and 40 pin flash PIC micro devices using the flexible programming software provided and provided “clean” access to all I/O lines. The board has 5 E-blocks parts to which you can connect a variety of peripheral boards.

Part No. 01EB006 • Price: $115.00

**FLOWCODE / PICMICRO PLATFORM WIN95/98/ME/NT/2000/XP**

Flowcode is a very high level language programming system for PICmicro® microcontrollers based on flowcharts. Flowcode allows students to design complex robotics and control systems in a matter of minutes. Flowcode is a powerful language that uses macros to facilitate the control of complex devices like 7-segment displays, motor controllers, and LCD displays. The use of macros allows students to control highly complex electronic devices without getting bogged down in understanding the programming involved.

**PERIPHERAL BOARDS**

**LED BOARD**

It has 8 LEDs which shows the status of each bit on the port

**LCD BOARD**

This E-block contains a 16 character 2 line alphanumeric LCD display on a 5 wire serial bus.

**SWITCH BOARD**

This E-block contains 8 push-to-make switches. Connectors allow this board to be used in bus configuration.

**PROTOTYPE BOARD**

It contains a small breadboard for developing circuits and projects. Connectors for two E-block ports allow prototype wires and leads to be connected to the rows and columns on the prototype board.

**SENSOR BOARD**

This board contains a variable resistor and a simple light sensor which can be used for simple analog experiments. It also contains sockets which allow users to interface with many other sensors.

**BLUETOOTH BOARD**

This board allows you to add Bluetooth capability to any microcontroller with UART functionality.

**INTERNET BOARD**

This board adds Ethernet functionality to a microcontroller with UART functionality.

**VOICE CODEC BOARD**

This audio coder-decoder board allows students to investigate Bluetooth systems that use audio. It is based on the MC145483 linear 13 bit CODEC which allows voice digitization and reconstruction as well as pre and post filtering.

**MOTORS BOARD**

This board is based on L298 device which can drive two motors operating up to 46 V @ 4A each. It can be used in a variety of motor control configurations including PID control.

**OPTO-ISOLATOR BOARD**

This Opto-Isolator Board allows you to add 4 separate optically isolated inputs to your E-blocks system. This is ideal for developing industrial control systems like PLCs (Programmable Logic Controllers) where electrical systems need to be isolated from one another.

**KEYPAD BOARD**

A simple 4 x 3 keyboard that allows data entry into bus based systems.

---

**Call Toll Free: 1 (800) 972-2225 • In NJ: (732) 381-8020 • Fax: (732) 381-1006 / (732) 381-1572**
PROGRAMMERS

HANDY UNIVERSAL WRITER

MODEL LP-48

This advanced, portable unit is competitively priced and supports: EPROMs, EEPROMs, FLASH EPROMs, Serial EPROMs, NV RAMs, Micro-Controllers, DSP, PLDs...

• Comes complete with USB cable, CD-ROM software and power adapter
• 48 Pin ZIF socket accepts DIP devices up to 48 pins, and both 200-600 mil width
• Fast programming – takes only 30 seconds for 16M bit FLASH memory device
• Easy to operate software with automatic processing function
• Supports low voltage components
• System Requirements: Windows (9X/ME/2000/NT/XP, Pentium II, min. 32 MB RAM but 64 MB recommended, 30MB free drive hard drive space.
• Optional Accessories:
  IC Adaptors: SOP, TSOP, SSOP, VSOP, SDIP, PLCC, QFP, μBGA.
  Approximately 2 weeks delivery on adapters

Part No. 01LP48 • Price: $650.00

USB INTERFACE – MODEL 844USB

Great common device programmer.
Reads, copies and programs IC’s via USB computer interface.

• 40 pin dual-in-line zif socket accepts both 300 and 600 mil devices up to 40 pins.
• In circuit serial programming (ISP) capability.

Part No. 01BK844USB • Price: $539.00

PIC PROGRAMMER BOARD KIT

This board can program a wide range of Microchip® PIC™ microcontrollers.
Suitable for the programming of the VM142® mini PLC microcontroller
• Onboard configurable 40 pin. ZIF socket
• Microcontroller selection using patch jumper
• Easy to use programming PICprog2006™ software included
• SUBD connector set included
• Minimum system requirements:

SPECIFICATIONS
• Power supply (required): 15V DC, min. 300mA adapter
• Serial port connector: 9 p. SUBD
• Dimensions: 132x65x20mm / 5,23 x 2,57 x 0,79"
• Currently supported controllers:
  — PIC10F200
  — PIC12C508A,PIC12CE518
  — PIC12F629,PIC12F675
  — PIC16F54
  — PIC16F84A
  — PIC16F876,PIC16F877
  — PIC16F627,PIC16F627A,
  — PIC16F628,PIC16F628A
  — PIC16F648A
  — PIC16F630,PIC16F676
  — PIC18F2550....

Part No. 32VK8076 • Price: $41.95

PROGRAMMER UNIVERSAL

• Low cost USB 2.0 with Windows support and low voltage capability
• Extremely portable
• Supports devices that include EPROMs, Flash, PIC, AVR GAL, CPLD, PEEL, PALCE, EPLD, Microcontrollers
• 48 pin zif socket with universal pin driver
• Accepts most compiler outputs in JDEC format including ABEL, CUPL, PALASM, TANGO PLD, OrCADPLD, PLD Designer and ISDATA
• Features test vector capability and multiarray fuse map editor
• Test TTL/CMOS logic IC’s and DRAM devices
• Supports Windows Vista/XP/2000/NT/9X/ME
• Support Devices: 25,000+ (Model VP590); 7,000+ (Model VP280), 6,000+ (Model VP290)
• Go to our website at http://www.elexp.com/tst_v190.htm for complete device support list
• Power adapter (optional)
• Dimensions: 166 x 98 x 23mm; Wt. 10 oz.

Part No. 01VP290 • Price: $195.00
01VP280 • Price: $235.00
01VP590 • Price: $445.00
16DVP • Price: $15.00

Model 666

• Windows 2000/95/ME/NT compatible
• Parallel port and USB interface
• Includes ZIF socket for DIP IC’s. 48 pin ZIF
• Optional adapters available for PLCC, SOIC, TSOP, TQFP, SSOP, PSOP, QFP
• EPROM, EEPROM, Flash, NVIDIA, and serial EEPROM capability

Part No. 01BK866 • Price: $1,095.00
GETTING STARTED WITH ARDUINO

This valuable little book offers a thorough introduction to the open-source electronics prototyping platform that's taking the design and hobbyist world by storm. Getting Started with Arduino gives you lots of ideas for projects and helps you get going on them right away. To use the introductory examples in this book, all you need is a USB Arduino, USB A-B cable, and an LED. This 128-page book is a greatly expanded follow-up to the author's original short PDF that's available on the Arduino website.

Part No. 01ARDAM328 • Price $37.50

SHIELD PROTO KIT

This kit is composed of:
- 1 Protoshield bare PCB
- 1 40 way with long terminal 0.1" strip
- 1 3x2 way male 0.1" strip
- 2 Pushbuttons
- 5 220 Ohm resistors
- 5 1 K Ohm Resistors
- 5 10 K Ohm Resistors
- 3 LEDs

Part No. 01ARDSPKIT • Price $16.95

LILYPAD MAIN BOARD

The LilyPad Arduino is a microcontroller board designed for wearables and "e-textiles". It can be sewn into fabric with conductive thread. The board is based on the ATmega168V (the low-power version of the ATmega168). Board will run from 2V to 5V. Board comes fully assembled and tested with ATmega168V pre-loaded with bootloader.

Part No. 01ARDLPMB • Price $28.50

SHIELD-MOTOR KIT

Full kit with all components and 1 Motor shield PCB to mount: it allows to Arduino boards to drive two 12V DC motors

Part No. 01ARDSMKIT • Price $39.95
PORTABLE RADIO TELESCOPE

MODEL RTL-11

Have hours of fun learning about the wonders of Radio Astronomy. Make a study of the principles of microwave radiometry through the use of RTL-11. This simple instrument is easy to assemble and operate. It is capable of detecting solar radio noise at approximately 11-12 GHz as determined by satellite receiver LNB (low noise block converter).

RTL-11 can be used to:
- Demonstrate remote measurement of temperature of various objects
- Demonstrate that the human body or hand generates solar noise
- One can use a data logger connected to radio telescope output. The solar noise magnitude can later be plotted vs. time on a PC
- Other than astronomical applications can be found as various objects absorb, radiate, or reflect microwaves in a manner different from that at visible light

RTL-11 includes:
- Parabolic dish (32 cm)
- 11 GHz LNB
- F-F coaxial cable (2 ft. long)
- IF in-line amplifier
- F/F male/male adapter
- Indicator box
- AC/DC wall adapter
- Instruction manual
- Tripod Not included

Part No. 01RTL-11 • Price: $350.00

PC BOARD DESIGN AND FABRICATION KIT

This kit includes PCB layout software plus material and instructions to make your own printed circuit boards. No dark room processing needed.

Included in Kit:
- Board Creator Software
- Press-N-Peel image transfer film
- Etching solution
- Copper clad boards
- Software manual
- Complete instructions for making PCBs
- More than 100 hobby circuits on CD

Features of the Board Creator Software included in this kit
- Boards up to 10” x 8” up to 6 layers with 8 masks each
- Built-in print queue up to 10 masks
- User selectable cursor layout grid up to 1 mil resolution. Items not limited to grid
- Full surface mount device support
- Multiple line widths, from 0.001 to 0.255 inches wide
- Up to 10 different pad shapes and sizes
- Locates and displays errors on-screen

Part No. 32AMSPCBDFKIT • Price: $145.00

STAMPWORKS EXPERIMENT KIT

Parallax popular StampWorks manual has been revised and is better than ever. The StampWorks manual includes 35 experiments based on the BASIC Stamp 2 microcontroller and the amazing Professional Development Board. StampWorks gives you the hardware, electronic components and most important, the know-how to become a confident embedded programmer. Working your way through StampWorks you will learn about efficient embedded design, connecting circuits and “smart” sensors to the BASIC Stamp, adding computer control to your projects and “Power PBASIC” programming techniques.

After you have become familiar with StampWorks, you will be able to control opto devices and displays, monitor switches, introduce sounds and sound effects to your projects, control lighting, servos and stepper motors, measure temp, voltage and much more. Finally, you will be confident in writing your own BASIC Stamp programs to control your proto-types, engineering designs or student projects by using a variety of circuits.

Part No. Description Price
32PX27297 StampWorks Experiment Kit $286.00
32PX27220 StampWorks Manual 24.90

SERVO CONTROLLER USB

The Propeller Servo Controller allows you to control up to 16 servos (32 using two Propeller Servo Controllers) by sending serial commands from a microcontroller or PC via its USB connection. The Propeller Servo Controller USB is Propeller-based and open-source.

Outputs are set at 5V. The Propeller Servo Controller USB contains a superset of the original servo controller commands. Any output can be disabled on startup or set to a custom startup position. The Propeller Servo Controller USB can be powered from a PC USB port or by the host microcontroller.

- Propeller chip on-board
- Compatible with our previous servo controllers (and superset of instructions)
- Open-source firmware
- Network ready - the Propeller Servo Controller USB can be linked to other units to expand the number of channels

Part No. 32PX28830 • Price: $39.90