



# 1710™

## Universal Engineering Programmer

- Supports over 25,000 devices with voltage down to 1.5V (V<sub>dd</sub>) including EPROM, EEPROM, Flash EPROM, Microcontrollers, PLD, CPLD, FPGA and antifuse FGAs
- Supports device densities up to 4 Gbits
- Uses USB 2.0 communications bus
- FX4™ socket modules include 3 separate LED's per socket and allow the 1710 to program 4 devices simultaneously
- Compatible with all existing socket modules
- Patented solution to guard against passing blank parts - available only from BPM Microsystems
- Supports all device packages, including, but not limited to, DIP, SDIP, PLCC, TSOP, SSOP, PCMCIA, QFN, MLF, LAP, SOIC, LCC, QFP, PQFP, PGA, SIMM, CSP, BGA, µBGA, TQFP and TSSOP
- Ideal for design engineering and low-volume production
- Serialization support using standard, FX, FX2, and FX4 socket modules
- Jobmaster™ files portable to BPM Production programmers

### Flash and Universal Support

The 1710 Universal Engineering Programmer is the industry standard for programming speed, device support and flexibility. It combines ultra-fast programming technology, BPM Micro's FX4™ socket modules, and support for over 25,000 devices including very low voltage devices down to 1.5V. By taking advantage of the proven 7th Generation technology, we have improved the site hardware to allow us the capability of programming devices with densities up to 4 Gbits. In addition, we have incorporated the industry's widely accepted high-speed USB 2.0 standard bus for communications.

### Unmatched Technology

The 1710 uses BPM Micro's FX4™ socket modules. FX4™ socket modules program up to four devices simultaneously on just one programming site, so it's ideal for low volume production environments that require the speed and device support that only BPM Micro can provide. The 1710 can use any of BPM Micro's over 2,500 standard manual and automated socket modules (including FX™ socket modules.) It is also ideal for design engineers who need to program a full range of device types and packages.



### BPM MICROSYSTEMS

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### GENERAL

**Power:** 90-260VAC, 47-63 Hz., .12 KVA, IEC inlet connector for worldwide use

**Dimensions:** 11.75" (298mm) x 8.65" (220mm) x 4.68" (119mm)

**Mass:** 7.22 lbs. (3.28 kg)

### SOFTWARE

**Required:** BPSWin

**File Type:** including, but not limited to, binary, Intel, JEDEC, Motorola, POF, RAM, straight hex, Tekhex, Extended Tekhex, ASCII hex, Formatted Binary (.DIO), AFM, OMF, LOF, STAPL

**Device Commands:** blank, check sum, compare, options, program, test, verify, erase

**Features:** data editor, revision history, session logging, on-line help, device and algorithm information

### HARDWARE

**Calibration:** automatic self-calibration

**Diagnostics:** pin continuity test, RAM, ROM, CPU, pin drivers, power supply, communications, cable, calibration verification timing, ADC, DAC

**PC System Requirements:** Microsoft Windows 2000 or above

**Operational Temperature:** 41° to 104°F (5° to 40° C)

### PIN DRIVERS

**Quantity:** 240-pins standard

**Analog Slew rate:** 0.3 to 25V/μs

**Vpp Range:** 0-25V in 25mV steps

**Ipp Range:** 0-70mA continuous, 250mA peak

**Vcc Range:** 0-12V

**Icc Range:** 0-1A, 12μA resolution

**Very low voltage:** to 1.5V (Vdd)

**Rise Time:** 800ps

**Overshoot:** none

**Clocks:** continuously variable 1 MHz to 30 MHz

**Protection:** overcurrent shutdown, power failure shutdown

**Independence:** pin drivers and waveform generators are fully independent and concurrent

### STANDARD ACCESSORIES

**Included:** software on CD-ROM  
user manual on CD-ROM  
power cable  
data cable  
3-year hardware warranty

### FEATURES

**File Loading:** automatic file type identification; no download time because programmer is PC controlled; supports Intel, JEDEC, Motorola S-record, POF, straight hex, hex-space, Tekhex, and other file formats

**Device Selection:** intelligent device selector allows you to type as little or as much of the part number as you like then choose from a list of devices matching your description

**Devices Supported:** including, but not limited to, Antifuse, Low Voltage, PROM, EPROM, EEPROM, Flash EEPROM, Microcontrollers, SPLD, CPLD, FPGA

**Continuity Test:** each pin, including Vcc, ground, and signal pins, may be tested before every programming operation

**Protection:** overcurrent shutdown; power failure shutdown; ESD protection, reverse insertion, banana jack for ESD wrist straps

**Options:** available Socket Modules including, but not limited to, Universal PLCC, standard PLCC, PGA, CSP, BGA, JBGGA, SOIC, QFP, TSOP, LCC, SDIP, PCMCIA, QFN, MLF, LAP, SIMM—JobMaster™ software, Advanced Feature Software, simple and complex serialization

**Programming Yield:** assured by independent universal pin drivers on each socket, short distance from pin drivers to device, and accuracy of waveforms

**Algorithms:** all algorithms are manufacturer approved or certified (if required) - BPM Microsystems has an excellent record of being first to provide certified algorithms for new devices

**Algorithm Updates:** software updates are available throughout the year

