



**1710**  
Universal Engineering Programmer

- Supports tens of thousands of devices with voltage down to 1.5V (V<sub>dd</sub>) including EPROM, EEPROM, Flash EPROM, Microcontrollers, PLD, CPLD, FPGA and antifuse FGAs
- Uses USB 2.0 communication
- With onboard memory capable of concurrent production programming
- 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
- With on board memory capable of concurrent production programming
- Optional lever socket actuator available

### Flash and Universal Support

The 1710 manual universal device programmer is manufactured for design engineering to low volume production. It has the versatility to program flash memory, microcontrollers, E/EPROMs, FPGAs, PLDs and more with any manual or automated socket module, including standard, high-speed FX™, and FX4™ socket modules. FX4™ socket modules are designed specifically for the 7th Generation series of programmers and have the capability of programming four devices simultaneously, enabling users to achieve greater productivity. With existing support for tens of thousands of devices and support for new devices added each day, the 1710 is certain to meet your device programming needs.



### 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)

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

### SOFTWARE

**Required:** BPWin

**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, checksum, compare, program, test, verify, erase, secure

**Features:** JobMaster™, data editor, revision history, session logging, device and algorithm information

### HARDWARE

**Calibration:** Annual, may be verified on-site with optional socket module

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

**PC System Requirements:** Microsoft Windows XP/7

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

**Memory:** 512MB

### 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

**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  
1-year hardware warranty

### FEATURES

**File Loading:** automatic file type identification; 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; banana jack for ESD wrist straps

**Options:** available Socket Modules including, but not limited to, Universal PLCC, standard PLCC, PGA, CSP, μBGA, SOIC, QFP, TSOP, LCC, SDIP, PCMCIA, QFN, MLF, LAP, receptacle socket options, 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 meet manufacturer approved specifications. BPM Microsystems has an excellent record of being first to provide certified algorithms for new devices

**Software Updates:** Weekly updates with access to the latest algorithms are available throughout the year at no cost

