

**1610™**
Universal Engineering Programmer

- Supports over 25,000 devices with voltage down to 1.5V (Vdd) including EPROM, EEPROM, Flash EPROM, Microcontrollers, PLD, CPLD, FPGA and antifuse FPGAs
- Proven 6th Generation Technology
- Compatible with FX, standard manual and automated socket modules
- Uses USB 2.0 communications bus
- 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, μ BGA, TQFP and TSSOP
- Ideal for design engineering
- Jobmaster™ files portable to BPM Production programmers

Programming Redefined

The 1610 redefines the term "universal engineering programmer" with device support from 5V all the way down to 1.5V (Vdd). This ultra fast programmer comes standard with 240 pin drivers for complete continuity and functionality testing on all pins, unlike other competitive programmers. The 1610 also comes with software support and a 3-year warranty. The 1610 is ideal for design engineers who need to program a full range of device types and packages. With a high-speed USB 2.0 standard bus, communication speed is increased and greater reliability is provided.

**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: 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, 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

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

Vcc Range: 0-12V

Icc Range: 0-1A

Very low voltage: to 1.5V (Vdd)

Rise Time: 4ns

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

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, JPGA, 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

