



POWERED BY 9TH GENERATION PROGRAMMING TECHNOLOGY



The industry's **only** programming solution that offers both the **fastest** programming speeds with **true universal** device support.

With 9TH Gen Universal Site Technology, 3900 delivers measurable cost savings

Unmatched Programming Speed

- High programming speed for MCUs, eMMC, NAND, NOR and Serial Flash
- Up to 100MBytes/s for industry's fastest program /verify times
- Download image files up to 25MB/s to all programmers simultaneously
- Faster programming times reduces the number of systems, sites and sockets you need to buy
- Up to 9 times faster than competing universal programmers
- The Largest Memory Support in the industry - 512GB

Device Support Without Limits

- True universal support – One solution for all your programming requirements
- Programming a wider range of devices on the same socket reduces the number of systems, sites and sockets you need to buy
- Having one site for all devices reduces the number of systems, sites and sockets you need to buy, saving you money, training, complexity, floor space and reducing the size of the system
- Compatible with existing 7THGEN and 8THGEN socket cards and algorithms so our customers can retain the value of their investment in assets

Production Capabilities that Deliver

- Proprietary upward and downward vision system provides the most accurate and reliable handling
- Combined with our patent pending EDGE socket design, we support the the smallest CSP requirements that no other Automated Programming System can match.
- Upward vision system aligns balls of micro BGA packages instead of device outline so variations in wafer cutting won't lead to fractured or misaligned devices
- Pocket Recognition ensures accurate placement in the tape output eliminating device damage caused by variations in tape

Complete Ecosystem

- BPM has ownership of all designs, manufacturing and support for all programming sites, robotics, vision systems, and software so we can provide unmatched support and responsiveness
- Reduce your time to market by doing New Product Introduction/First Article through Automated Production with the same hardware, algorithms and software.
- 1900 for Fast First Articles, 2900 for Manual Production, 3900 and 4900 for Automated Production

3900 UNIVERSAL AUTOMATED PROGRAMMING SYSTEM

Product Specifications

PICK & PLACE SYSTEM

| | |
|---------------------------|---|
| Handler Throughput: | up to 1100DPH |
| Component Handling Range: | 0402 to 240-pin QFP |
| Placement Force: | 60-600 grams positional control |
| Machine Dimensions: | length 127cm, width 61cm, height 137cm 182kg |
| Machine Weight: | length 162cm, width 96cm, height 177cm; |
| Shipping Specifications: | weight 295kg CE compliant |
| Safety Standard: | power supplies, CPU, memory, X, Y, Z, theta |
| Self-test: | motion systems, nozzle run-out and height |

POSITIONING SYSTEM

| | |
|----------------------------|---|
| X-Y Drive System: | high-performance stepper motor driven precision belt |
| X-Y Encoder Type: | linear optical scale |
| X-Y Axis Resolution: | 0.0050mm |
| X-Y Axis Maximum Velocity: | 76cm/s |
| Z Drive System: | high-performance stepper motor driven lead screw |
| Theta Drive System: | precision stepper motor-driven direct drive assembly |
| Theta Axis Resolution: | 0.014° |
| Theta Axis Repeatability: | +/- 0.5mm |
| Placement Accuracy: | 90µm @ 4 sigma, 67µm @ 3 sigma |

VISION SYSTEM

| | |
|---------------------|---|
| Type: | dual CCD, Upward and Downward |
| Light Ring: | dual light rings, configurable, bright and dark field lighting |
| Image Capture Rate: | 30micro seconds |
| Communication: | GigE compliant |

SYSTEM REQUIREMENTS

| | |
|--------------------------|-----------------------------|
| Air Pressure: | 80psi (5.56 bars) minimum |
| Air Flow: | 2.0scfm (50.1L/min) |
| Operational Temperature: | 55° to 90° F (13° to 32° C) |
| Relative Humidity: | 30-80% |
| Minimum Floor Space: | length 183cm x width 107cm |
| Input Line Voltage: | 100-130/200-260VAC |
| Input Line Frequency: | 50/60 Hz |
| Power Consumption: | 1KVA |

SOCKET OPTIONS

| | |
|-----------------|--|
| Socket Modules: | Support for existing FX and FVE socket modules. Universal 1900/2900 socket cards with 144 universal pins. Available Socket Cards including, but not limited to, standard PLCC, CSP, BGA, µBGA, SOIC, QFN, MLF, LAP, QFP, TSOP, LCC, SDIP, SIMM Other Options: Advanced Feature Software, simple and complex serialization, CJob, Monitor and CJob Control (API), Receptacle Socket options, EDGE™ High Performance Socket Cards |
|-----------------|--|

PROGRAMMING HARDWARE

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|-------------------------|---|
| Architecture: | 9THGEN Concurrent Programming System with Vector Engine Co-Processor |
| Programming Sites: | 2 to 4 sites, 1 to 4 sockets per site |
| Calibration: | annual, may be performed on site |
| Diagnostics: | RAM, communications, calibration, timing, LEDs, fans, pinoe, power supplies, voltage/current/slew for vpp and vcc, high current vcc mode, digital pin drivers, and relays. Ground Transistors, digital driver path to programmer, dcard LEDs, customizable diagnostics per dcard. |
| Memory: | 512GB per site |
| Communications: | USB 2.0 |
| Data Pattern Broadcast: | 25MB/s |
| Firmware Updates: | Software automatically performs firmware download |

PIN DRIVERS

| | |
|----------------|---|
| Quantity: | 240-pins standard, per site |
| Vpp Range: | 0V to 25V |
| Ipp Range: | Up to 1.2A total |
| Vcc Range: | 0V to 13V |
| Icc Range: | 0-2A |
| Rise Time: | 4ns |
| Protection: | overcurrent shutdown, power failure shutdown pin drivers and waveform generators are fully independent and concurrent on each site |
| Digital Range: | 0-4.5V |
| Clocks: | 800kHz to 64MHz |

SOFTWARE

| | |
|--------------------|---|
| Required: | BPWin |
| File Type: | binary, Intel, Motorola, RAM, straight hex, hex-space, Tekhex, Extended Tekhex, ASCII, hex, OMF, LOF, MER and others |
| Device Processes: | ID check, blank check, continuity, auto start, compare, read, erase, program, verify, multi-pass verify, test, checksum, secure, device configure, auto-range, options and more |
| Operating Systems: | Windows XP Professional, Windows 7 32bit |
| Network Interface: | Gigabit Ethernet |

PERIPHERAL OPTIONS

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|--------------|---|
| Peripherals: | Tape I/O, Tray Stacker, Tray Shuttle, Tube I/O, Laser Marker, Labeler, ID-PRO |
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WARRANTY

| | |
|-----------|----------------------------|
| Hardware: | One Year Hardware Warranty |
| Software: | One Year Software Support |



BPM MICROSYSTEMS
5373 West Sam Houston Parkway North, Suite 250
Houston, Texas 77041-5214 USA

www.bpmmicro.com
info@bpmmicro.com
inside_sales@bpmmicro.com
tech@bpmmicro.com

Toll-Free: 800-225-2102 (USA only)
Phone: +1-713-688-4600
Fax: +1-713-688-0920

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