BPM MICROSYSTEMS
Setting the Standard in Device Programming

3900 UNIVERSAL AUTOMATED PROGRAMMING SYSTEM

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

POWERED BY 9TH GENERATION PROGRAMMING TECHNOLOGY

DEVICE PROGRAMMING
NINTH 9TH GEN GENERATION TECHNOLOGY

+

VECTOR ENGINE® CO-PROCESSOR

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

HIGH-SPEED PROGRAMMING

- 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

TRUE UNIVERSAL SUPPORT

- 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 7th and 8th gen socket cards and algorithms so our customers can retain the value of their investment in assets

UNMATCHED CAPABILITIES

- 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, software and Edge Sockets 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 Automated Production and EDGE™ Sockets

3900 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:	90µ@ 4 sigma, 67µ@ 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
	Other Options: SIMM Advanced Feature Software, simple and complex serialization, CJob, Monitor and CJob Control (API), Receptacle Socket options, EDGE™ High Performance Socket Cards

PROGRAMMING HARDWARE

Architecture:	9th Gen 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:	128GB 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
Independence:	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
	ID check, blank check, continuity, auto start,
Device Processes:	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

Peripherals:	Tape I/O, Tray Stacker, Tray Shuttle, Tube I/O, Laser Marker, Labeler