

BPM310



UFS • 1,432 DPH • 6 Sites

BPM310

Production Programmer

Up to 6 fully universal programming sites with up to 48 sockets, producing the fastest programming times in the smallest footprint



Programming the Future



10TH Generation Site Technology

Future-proof investment with true universal site technology



UFS 2.1

8-Up UFS Adapter for BGA 153; Up to 440 MB/sec Read & 201 MB/sec Write



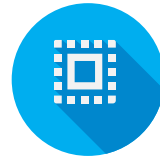
Security

Protection for mission-critical applications and processes with BPM.NCRYPT



CyberOptics®

On-the-fly vision alignment—fast, precise and efficient in a production environment



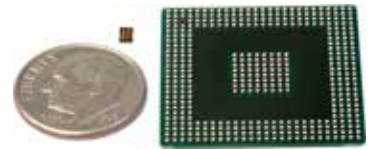
WhisperTeach™

Automatic Z-Teach— reduces setup time per job and improves accuracy & quality

BPM310 High Capacity • Up to 48 Sockets •



Uses same
Award-winning
BPWin™
Software



Full system throughput with
package sizes ranging from the
smallest CSP (0.4 x 0.2mm) to
the largest QFP— a true CSP
Production Machine



Highest throughput combined
with most capacity in the smallest
footprint



• 6 Universal Sites • 1,432 Devices Per Hour • UFS 2.1



Award-Winning Software



WhisperTeach™ provides automated Z-height detection, critical for each pick/place location. Setup is fast and accurate, reducing teach time *as much as 83%*



10TH Generation site technology offers the broadest support in the industry at unsurpassed programming speeds. We support more devices on a single site platform than any other



Award-Winning Service



CyberOptics® Vision with component auto-measure— for fast set-up, true CSP support, and on-the-fly alignment for maximum quality and productivity



Six 10TH Gen sites provides full universal support for UFS*, eMMC HS400, MCU, NAND & Serial Flash, at incredible speeds with **up to 48 devices programmed concurrently**

- Optional Automated Peripherals to maximize/customize your BPM310**
- 3D Inspection
 - Tape In/Out • Label Presenter
 - Stationary Tray • Tray Stacker
 - Tray Shuttle
 - Fiber Laser

UFS 2.1 sequential read/write up to 440 megabytes per second
*UFS Kit Optional



WhisperTeach™ reduces set-up times while dramatically improving device placement

The new BPM310 is the latest 10th Generation Automated Programmer from BPM Microsystems. It features up to 6 fully universal programming sites with up to 48 sockets, producing the fastest programming times in the smallest footprint while offering advanced features such as WhisperTeach™, BPM.NCRYPT, and on-the-fly vision alignment. Unlike other products in

the industry, the BPM310 offers true universal support, including UFS, Microcontrollers, Memory and Complex Devices that can be configured as needed to support the smallest chip-scale-package to the largest QFP, all at blazing speeds.

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BPM310 Specifications

Pick & Place System

Handler Throughput: Up to 1,432 Devices per Hour (with vision centering)

Component Handling Range: 0402 to 240-pin QFP (1.0 x 0.4mm to 32 x 32mm)

Machine Dimensions: Length 127cm, width 61cm, height 137cm

Machine Net Weight: 195.45 kg

Shipping Dimensions: Length 162cm, width 96cm, height 177cm

Shipping Weight: 309.09 kg

Safety Standard: CE compliant

Self-test: Power supplies, CPU, memory, X, Y, Z, theta motion systems, nozzle run-out, and height

UFS Kit: Optional; Universal 8-up UFS Adapter for BGA 153.
UFS 2.1 Programming Performance: Up to 440 Megabytes per second Read/201 Megabytes per second Write

Positioning System

X-Y Drive System: High-performance stepper motor driven belt

X-Y Encoder Type: Linear optical scale

X-Y Axis Positioning Accuracy: ±0.015mm

X-Y Axis Maximum Velocity: 150cm per second

Z Drive System: High-performance stepper motor driven lead screw

Theta Drive System: Precision stepper motor-driven direct drive assembly

Theta Accuracy: 0.014°

Z-Axis Teach Accuracy with WhisperTeach™ ±0.015mm (15 μ)

Vision System

Alignment: CyberOptics® LNC-120 On-The-Fly vision camera

Downward Vision: CCD, GigE compliant

System Requirements

Air Pressure: 80 psi (5.56 bars) minimum

Air Flow: 2.0 scfm (50.1L/min)

Operational Temperature: 55° to 90° F (13° to 32° C)

Relative Humidity: 30-80%

Minimum Floor Space: 183cm x 107cm (not including UFS Computer sidcar)

Input Line Voltage: 20A 240VAC

Input Line Frequency: 50/60 Hz

Power Consumption: 1KVA

Socket Options

Socket Card: Including, but not limited to, CSP, QFN, μ BGA, BGA, MLF, SOIC, LAP, TSOP, LCC, PLCC, QFP

Other Options: Receptacle Socket options

Computer Specs

Processor: i7 Quad processor

RAM: 8 GB DDR3 SDRAM

Hard Drive: 500GB SATA3, SSD (Solid-State Drive) or 2TB NVMe (Non-Volatile Memory)

Power Supply: 750W ATX

Network Interface: 10 GB Ethernet

DVD Drive: Read Write SATA

The Computer in the BPM310 is an industrial-grade, purpose-built computer, that is a machine controller as opposed to a personal computer. It has the ability to access a user's Network/Domain but also has special hardware to control and monitor the various subsystems necessary for complex system operation.

Programming Hardware

Architecture: 10th Gen Concurrent Programming System with Vector Engine Co-Processor

Programming Sites: 2 to 6 sites, 1 to 8 sockets per site, 48 sockets max

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, Precision Measurement Unit (PMU) pin drivers

Memory: 256GB per site, upgradeable to 512GB

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: 350 ps

Protection: ESD, overcurrent shutdown, power failure shutdown

Independence: Pin drivers and waveform generators are fully independent and concurrent on each site

Digital Range: 0-4.5V

Clocks: 800kHz to 200MHz

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 System: Windows 10 Pro, 64-bit

Advanced Feature Software: Simple and complex serialization, CJob Monitor and CJob Control (API)

Peripheral Options

Peripherals: Tape Input/Output, 3D Inspection, Tray Input/Output, Tray Stacker, Tray Shuttle, Tube Input/Output, Fiber Laser Marker, Label Presenter

Warranty

Hardware: One Year Hardware Warranty

Software: One Year Software Support

Product specifications subject to change without notice

See the video at bpmmicro.com/BPM310



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Made in the USA



with globally-sourced components



Certificate Registration
No. 56 100 18560071