

**3610™**
Automated Programming System**Simple. Efficient. Versatile.**

The 3610 is the first automated programming system to incorporate self-teaching and non-stop operation. It is designed to be the most convenient way to program all varieties of surface mount devices. The 3610 is a powerful tool capable of accurately programming up to 700 devices per hour and is designed to be the most simple and efficient programming system for medium-volume production environments.

- High-speed universal programming system with support for over 23,000 devices
- Production throughput up to 700 devices per hour
- Programs Flash memories, FPGAs, antifuse FPGA, PLDs, and Microcontrollers, including MCU's with embedded Flash memory
- Programs at an unsurpassed 0.24s/Mb* with Sixth Generation Technology
- Very low voltage support down to 1.5V (Vdd)
- On-the-fly vision centering and fine-pitch handling without throughput reduction
- Handles all package types from DIP to µBGA including very small package such as SOT23 and MSOP8, a BPM Microsystems exclusive
- Automated tray shuttles provide true non-stop operation
- Automatic self-teaching
- Small footprint
- USB 2.0 communications bus
- Configurable options and quick job changeover make it ideal for high mix or high volume production
- Variety of input/output and marking options with tubes, trays or tape
- Laser marking with serialization and date code option
- The fastest programming times and unrivaled throughput means lower cost-per-device

*ST Microelectronics™ M28W640CB, program only.

**BPM MICROSYSTEMS**

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PICK & PLACE SYSTEM

Handler Throughput:	700 DPH (for comparison purposes)
Component Processing Range:	SOT23 to 240-pin QFP
Laser Alignment:	component range - SOT23 to 208-pin QFP; minimum pitch 0.5mm
Placement Force:	60-600 grams positional control
Dimensions:	length 50" (127cm), width 24" (61cm), and height 45" (114.3cm)
Weight:	400 lbs. (182kg)
Shipping Weight:	650 lbs. (295kg)
Shipping Dimensions:	length 64" (162cm), width 38" (96cm), and height 60" (162cm)
Self Test:	power supplies, CPUs, memory, X, Y, Z, θ 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:	0.0002" (0.0050mm)
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:	± 0.02"
Placement Accuracy:	90 μ @ 4 sigmas, 67 μ @ 3 sigmas

VISION SYSTEM

Type:	CyberOptics Laser Align system
Component Location Resolution:	1 micron

SYSTEM REQUIREMENTS

Air Pressure:	80 psi (5.56 bars)
Air Flow:	2.0 SCFM (50.1L/min)
Operational Temperature:	55° to 90° F (13°-32° C)
Relative Humidity:	30-80%
Minimum Floor Space: (without tape and reel attachment)	length 72" (182.9cm) and width 42" (106.6cm)
Input Line Voltage:	100-130/200-260 VAC
Input Line Frequency:	50/60 Hz
Power Consumption:	1 KVA

PROGRAMMING SYSTEM

Architecture:	Concurrent, independent universal programmer at each site
Devices Supported:	including, but not limited to, Antifuse, Low Voltage, PROM, EPROM, EEPROM, Flash EEPROM, Microcontrollers, SPLD, CPLD, FPGA
Technologies Supported:	TTL, CMOS, ECL, BiCMOS, Flash, EPROM, EEPROM, fuse, anti-fuse, (including FPGAs)
Included System Controller:	High-Grade Industrial Pentium PC, SVGA monitor, keyboard and mouse
Calibration:	automatic self-calibration
Diagnostics:	pin continuity test, RAM, ROM, CPU, pin drivers, power supply, communications, cable calibration, timing, ADC, DAC, actuator, leakage current
Memory:	64MB per site
Pin Controllers:	one CPU with hardware accelerator per site
Programming Sites:	4

PIN DRIVERS

Quantity:	240 per site
Analog Slew rate:	0.3 to 25V/ μ s
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 and concurrent on each site

SOFTWARE

File Type:	binary, Intel, JEDEC, Motorola, POF, straight hex, hex-space, Tekhex, Extended Tekhex, and others; automatic file type recognition
Device Commands:	blank check, sum, compare, program, test, verify, secure, continuity, ID check, erase
Features:	graphic display or job status, JobMaster™ control software, data editor, revision history, session logging, on-line help, device and algorithm information, optional simple and complex serialization

