3710MK2

Automated Programming System

SEVENTH 7TH GEN GENERATION

3710MK2™

Automated Programming System

- High-speed Flash programming with 16 sockets utilizing FX4™ socket modules and universal programming with 4 standard socket modules
- Production throughput up to 1,100 devices per hour
- Programs Flash memories, FPGAs, antifuse FPGA, PLDs, and Microcontrollers, including MCU's with embedded Flash memory
- Supports device densities up to 4 Gbits
- Programs at an unsurpassed 0.24s/Mb* with Seventh 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
- FX4™ socket module compatible for expanded capacity for high density devices
- 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.*

Hands-free Flash and Universal Support

The 3710 Mark 2 is a fine-pitch automated device programmer that combines high-speed Flash programming with full universal support for over 23,000 devices including Flash, Microcontrollers, FPGAs, PLDs and all other programmable device types using our ASM, FX or FX4 socket modules. Whether you are programming 20,000 or 200,000 parts per month, the 3710MK2 used in combination with BPM Micro's FX4 socket modules is the lowest cost per device solution for high-density flash up to 4Gb with programming times from 15 to 120 seconds. In addition, we have incorporated the industry's widely accepted high-speed USB 2.0 standard bus for communications. The 3710MK2 is robust and easy to use. Updates have improved the maximum handling throughput, achieving production throughput of up to 1,100 devices per hour.

BPM MICROSYSTEMS

5373 WEST SAM HOUSTON PKWY N., SUITE 250
HOUSTON, TEXAS 77041
T: 713.688.4600
T: 800.225.2102
F: 713.688.0920
WWW.BPMMICRO.COM

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3710MK2
Technical Specifications

PICK & PLACE SYSTEM

Handler Throughput:	1,100 DPH
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 in. 96cm), and height 60 in.(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)
X-Y Axis Maximum Velocity:	30"/sec (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:	± 0.02"
Placement Accuracy:	90µ@ 4 sigmas, 67µ@ 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
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:	512MB per site
Pin Controllers	one CPU with hardware accelerator per site
Programming Sites:	2 to 4 sites, 1 to 4 sockets per site

PIN DRIVERS

Quantity:	240 per site
Analog Slew rate:	0.3 to 25V/µs
Vpp Range:	0-25V in 25mV steps
Ipp Range:	0-70mA continuous, 250mA peak
Vcc Range:	0-12V
Icc Range:	0-1A, 12µA resolution
Very low voltage:	to 1.5V (Vdd)
Rise Time:	800ps
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

CE

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BPM MICROSYSTEMS - Setting the Standard in Device Programming

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