

**CAPABILITIES**

- Supports high density NAND, NOR and Serial Flash
- Supports the latest device architecture (OneNAND, eMMC, iNand, MoviNand, MLC, SLC ,ect..)
- 20ns verify with Vector Engine Co-Processor® technology
- 128Gb of onboard memory module included, expandable for future needs
- 64-bit Architecture - push programming beyond the 4GB data density barrier
- Supports device densities up to an 8Eb theoretical limit
- High-speed USB 2.0 communication to PC host

**SOFTWARE FEATURES INCLUDED**

- BPWin Device Programming System
- NAND Bad Block handling: bad block replacement scheme included
- Custom and manufacturer approved NAND Flash bad block handling methods available
- BERT - Bit Error Rate Tolerance
- Serialization support on all sockets
- JobMaster - Production automation tool
- File encryption for IP protection
- Image Format Tool
- (ESS) External Serialization Server

**OPTIONAL SOFTWARE**

- API - Process Monitoring and Control
- Advanced Serializing

**OPTIONAL HARDWARE**

- Lever Socket Actuator with Universal Pressure Plate

\* Times are for quantity 4 of 512 Mb Samsung OneNAND™ KFG1216Q2A-DEB5 with functions of Erase, Program, and Verify. Erase function is inside the programming time listed. Full address range of device programmed with random pattern.  
\*\* Times will vary based on device characteristics.



**FLASHSTREAM®**  
FLASH VECTOR PROGRAMMING SYSTEM

**Breakthrough Flash Programming Technology**

The new Flashstream® 2800F-MK2 combines the largest memory capacity on the market with the latest 64-bit architecture. Breaking past the 32-bit barrier is another industry first for BPM Microsystems and a true milestone in programmer evolution, with full data capacity support for devices larger than 4GB.

Flashstream® is the fastest flash memory programmer on the market today, designed specifically to program high density NAND, NOR and Serial Flash memory devices. Flashstream breaks the Production bottlenecks associated with programming high-density flash

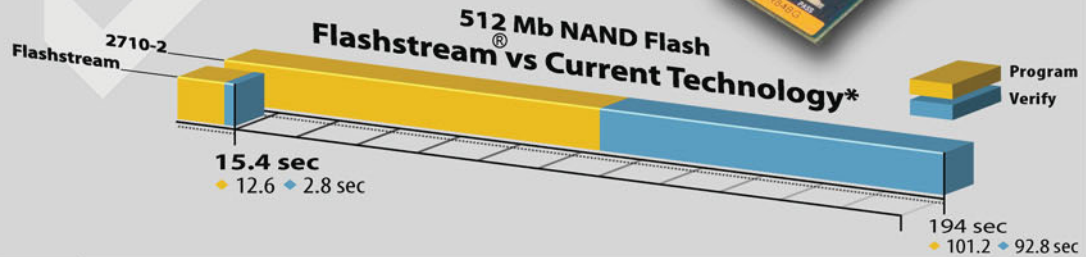
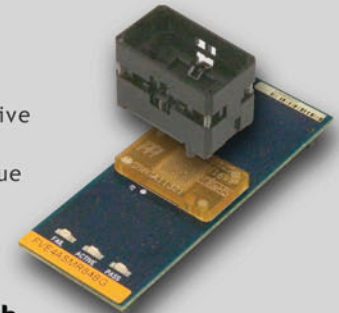
**Next-Gen Processing Power**



Featuring the Vector Engine Co-Processor®, which gives the Flashstream® the programming industry's lowest programming overhead while maintaining the highest production quality programming signal; an industry first for production programming.

**Innovative Socket Card Design**

Flashstream's unique individual Socket Card design with Receptacle Socket options, provides the most cost-effective test socket solution in the industry. Having the ability to change out only the failing socket, enables you to continue programming at full capacity, producing higher yields with full asset utilization.



**BPM MICROSYSTEMS**

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#### GENERAL

<b>Power:</b>	90-240 VAC, 47-63 Hz, 50W, external power supply with IEC inlet
<b>Dimensions and Mass:</b>	Width 7.5" (191mm) x height 4.5" (114mm) x depth 10.25" (260mm), 8 lbs. (3.6 kg)

#### SOFTWARE

<b>Required:</b>	BPWin
<b>File Type:</b>	binary, Intel, Motorola, RAM, straight hex, hex-space, Tekhex, Extended Tekhex, ASCII, hex, OMF, LOF, MER, and others
<b>Device Commands:</b>	blank, check sum, compare, options, program, test, erase
<b>Features:</b>	Jobmaster™, BERT™, Auto Range, Data Editor, Revision History, Device and Algorithm information, Searchable help menu, BBM, ESS

#### HARDWARE

<b>Architecture:</b>	Vector Engine® Concurrent Programming System with Vector Engine Co-Processor®
<b>Sites:</b>	1 site model, multiple programmers may be linked to one PC
<b>Calibration:</b>	annual, may be performed on site with included socket card
<b>Diagnostics:</b>	pin continuity test, RAM, pin drivers, power supply, communications, calibration, timing, ADC, DAC, interconnects
<b>Memory:</b>	128Gb per site standard
<b>Communications:</b>	USB 2.0
<b>Data Pattern Broadcast:</b>	31 Mb/s
<b>Peak Verify Bandwidth:</b>	20ns cycle
<b>Firmware ROM:</b>	No firmware ROM, Software automatically performs firmware download
<b>User Interface:</b>	Pass, Fail, Active, Start LEDs and Start button on each site; PC display shows systems status at a glance; auto-start mode automatically begins programming when device is inserted
<b>PC System Requirements:</b>	Microsoft Windows 2000 or above
<b>Environment:</b>	41° to 104° F (5° to 40° C) up to 70%, non-condensing humidity

#### STANDARD ACCESSORIES

<b>Included:</b>	calibration socket card software on CD-ROM user manual on CD-ROM power cable data cable 1-year hardware warranty 1-year software support
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#### PIN DRIVERS

<b>Quantity:</b>	240-pins standard
<b>Vpp Range:</b>	0-13V Slew rate 2V/us
<b>Ipp Range:</b>	0-50mA continuous
<b>Vcc Range:</b>	0-7V Slew Rate 2V/us
<b>Icc Range:</b>	0-150mA
<b>Rise Time:</b>	4ns
<b>Protection:</b>	overcurrent shutdown, power failure shutdown

#### FEATURES

<b>File Loading:</b>	automatic file type identification; no download time because programmer is PC controlled; supports Intel, Motorola S-record, straight hex, hex-space, Tekhex, and other file formats
<b>Device Selection:</b>	intelligent device selector allows you to type as little or as much of the part number as you like, then choose from a list of devices matching your description
<b>Devices Supported:</b>	NAND Flash, NOR Flash, Serial Flash EPROM, EEPROM
<b>Continuity Test:</b>	each pin, including Vcc, ground, and signal pins, may be tested before every programming operation
<b>Protection:</b>	overheat shutdown, overcurrent shutdown, powerfailure shutdown, ESD protection, reverse insertion, banana jack for ESD wrist strap
<b>Options:</b>	available Socket Cards including, but not limited to, standard PLCC, PGA, CSP, BGA, µBGA, SOIC, QFN, MLF, LAP, QFP, TSOP, LCC, SDIP, SIMM-Advanced Feature Software, simple and complex serialization, CJob Monitor and CJob Control (API), Receptacle Socket options
<b>Programming Yield:</b>	assured by independent universal pin drivers on each socket, short distance from pin drivers to device, and accuracy of waveforms
<b>Algorithms:</b>	all algorithms are manufacturer approved or certified (if required) - BPM Microsystems has an excellent record of being first to provide certified algorithms for new devices
<b>Algorithm Updates:</b>	algorithm changes and updates are available, additional algorithms available by subscription after the first year

Flash stream®, "Flash Vector Programming System®" and "Vector Engine Co-Processor®" are registered trademarks of BPM Microsystems. FLS2800F-MK2\_EN\_0310  
Windows is a registered trademark of Microsoft Corporation. REV A



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