

# Introducing FlashCORE III From Data I/O Applications

Data I/O is the world's leading provider of quality programming solutions for high volume electronic products. Data I/O's FlashCORE programmers are used by leading providers to produce a wide range of applications like:

- mobile phones
- automotive infotainment
- GPS
- set top boxes
- game consoles
- ... and many more

## FlashCORE III™ Technology

Using the FlashCORE III programming architecture, the latest version of the world's best flash programmer, will allow you to keep your production processes running at maximum velocity, for devices and files of any size.

Benefits include:

### Fastest Performance

- Read and Write Speeds greater than 10 MBytes per second (80 Mbits/s) for capable devices.
- Fast downloads over 100 Base-T Ethernet connection.
- Configurable FPGA for optimized programming now and in the future.

### Latest Device Technology and Device Sizes

- Supports all the latest device types like:
  - NAND
  - OneNAND
  - eMMC
  - eSD
  - MovinAND
  - iNAND
  - GBNAND
  - SD Cards
  - MMC Cards
  - ...many more
- Supports image files and devices of all sizes, including file sizes greater than 4 GBytes.

### Proven Quality Solutions

- Compatible with all existing FlashCORE algorithms and adapters.
- Compatible with all Data I/O process control software applications.
- Compatible with the largest library of NAND supports and bad block schemes available anywhere in the world.
- Global support by our worldwide service team on a local basis.

# Seamless Migration from Development to Production with a Single Architecture

Your Engineering department can design and develop your products, platforms, services at their desks.

Your R&D department can experiment with product iterations and future designs in the lab.

The FLX500 with FlashCORE III programmers is ideal for low to mid-volume production. Its automated tray to tray handling provides high quality manufacturing with a small footprint.

FlashPAK III with FlashCORE programming architecture.

High volume production programming and handling with our PS Systems offer many options such as programming and marking or labeling devices and moving them from input tray, tubes, or taped reel to output media of choice.

Inline production with ProLINE-RoadRunner reduces pre-programmed inventory, programming devices Just-In-Time with the same FlashCORE III architecture.

PS Models: PS388, and PS588 are optimized for high-mix, high-volume. They offer the highest throughput with FlashCORE III.

## FlashCORE III Programming Times

Device Manufacturer	Device/Size	Other Programmers	FlashCORE III
Samsung OneNAND	KAT00F00NM-A 256 MB (2048 Mbits)	321 seconds	76 seconds
Samsung OneNAND	KFM2G16Q2M 256 MB (2048 Mbits)	295 seconds	57 seconds
Samsung MovinAND	KMBLG0000M-B 4 GB (32768 Mbits)	7070 seconds	1920 seconds
Sandisk iNAND	SDIN2C2 1 GB (8192 Mbits)	3665 seconds	278 seconds
Times Include program, verify, and overhead.			
Download speed	256 MB (2048 Mbits)	7.1 minutes	1 minute

## Programming Flash

Common Formats

### Flash and MCP Flash

- Macronix
- Numonyx
- Samsung
- Sharp
- Spansion
- SST
- Toshiba

### NAND & Managed NAND (iNAND, eMMC, SD, MoviNAND, OneNAND, etc.)

- Samsung
- SanDisk
- Toshiba
- Hynix
- Micron
- Numonyx

### Microcontrollers and ARM-Based Micros

- Atmel
- Freescale
- Microchip
- Renesas
- STM
- TI

### Package Support

- BGA:
- EBGA
  - FBGA
  - CSP
- QFP
- QFP
  - TQFP
  - LQFP
- Leadless:
- QFN
  - WSON
  - MLF
  - MLP
- Others:
- TSOP
  - SOIC
  - SSOP
  - TSOP2
  - PLCC
  - DIP
  - TSSOP

## Process Control Software to Manage Today's Manufacturing Demands

- Serial Number Server
- Remote Monitor
- Enhanced Automation Control
- Advanced Statistics for Statistical Process Control (SPC) programs
- Data Auditing
- Version Control
- NAND Bad Block Schemes
- Security Software
- Custom Software Solutions and more



## Products with FlashCORE III

### PS 388 PS 588™

The fastest and most versatile series of automated handling solutions for Medium Volume/High Mix to High Volume/High Mix applications.

- Accommodates large or small batches.
- TF20™ tray feeder handles 20 trays without an operator.
- Scalable from 2 to 48 sockets.
- Optional input/out media: tray, tape, tube, laser, label and vision.

### ProLINE RoadRunner

The world's fastest and most efficient in-line device programming system mounts directly on the SMT line.

- Lean Manufacturing process programs devices in-line and just before placement on the board.
- Respond immediately to code-changes.
- Lowers device inventory and drastically reduces rework costs.
- Rapid ROI realized in a matter of months.

### FLX500

Affordable automation for low to mid-volume production in a desktop footprint.

- Changeover time in less than 2 minutes increases productivity.
- Configured to support from 2 to 16 programming sites.
- Language-independent graphical user interface makes it easy to use and easy to learn.

### FlashPAK III

High speed manual programmer ideal for design engineering and low volume applications.

- Simple set up and ease-of-use speeds up manual operation.
- Built-in networking capability allows code and programming algorithms remotely distributed from PC to workstation.
- Supports the latest Flash and Microcontroller devices on the market.

## Innovation at Data I/O

- Complete version control management with back-revving capability.
- Common programmer architecture supports your work-flow from engineering to production.
- High Insertion Count Socket Adapters reduce your wear items and downtime for changeovers (improving yields), and reduce the cost per device.
- A device handler sized for desktop operation.
- IP Security management software.
- Remote monitoring of off-site programmers.
- Immediate device algorithm access on our Web site.
- A new Pick & Place head design, our J-Head, which is extremely robust and reliable.
- The largest library of NAND Bad Block schemes.

With over 35 years of expertise in delivering intellectual property to programmable devices, Data I/O provides innovative manufacturing solutions to the wireless, automotive, semiconductor and industrial controls market segments. With a view to the horizon, Data I/O continues to invest in cutting edge technology to support your future programming needs.

### Americas

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### Other Regions

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**Data iO**

## Introducing

# FlashCORE III — TECHNOLOGY —

- Cutting Edge Technology
- Fastest Performance
- Quality Solutions

**Data iO**

[www.dataio.com](http://www.dataio.com)