

# FLASHRUNNER

In-System Programming Solutions



UNIVERSAL PRODUCTION IN-SYSTEM PROGRAMMING

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## About SMH Technologies

SMH Technologies (ISO9001 Certified) is a global, independent, high-tech company, leader in Silicon Device In-System Programming and related services. Dedicated to providing cutting edge solutions that increase productivity and product quality for the electronic boards manufacturing industry.

Our Intellectual Property portfolio, combined with strategic alliances with Silicon Device Manufacturers and ATE Producers, places the company at the forefront of the device programming industry. Some of the biggest names in the OEM/EMS world trust the quality and reliability of FlashRunner as their preferred programming solution.

SMH Technologies is supported by an established global network of over 50 distributors, system integrators, channel partners and industry experts in more than 30 countries.

We are committed to customer support. Highly specialized technical support and a series of customized professional services is essential to smoothly integrate any programming system into OEM/EMS/ODM board manufacturing lines. Our R&D and support teams include experts with experience in microcontroller technology, including development and embedded operating systems, flash programming, data communication and analysis, mechanical design and system integration.

The technical departments are complimented by highly motivated and forward-thinking sales and marketing teams, whose goal it is to create an environment to better server its customers & business partners needs.

## Why In-System Programming

The programming of devices In-Circuit or In-System (ISP) eliminates limitations associated with traditional programmable devices (On-Socket or Pre-Programmed). ISP delivers benefits to In-Board and System Level design, manufacturing and programming processes.

- ISP makes manufacturing easier and cheaper
- ISP devices can be programmed while the devices are already soldered to the PCB
- ISP makes firmware updates possible without additional costs
- Lower manufacturing costs, enables flexible in-circuit testing, and delivers faster time-to-market

## Why FlashRunner

FlashRunner is a universal, production In-System Programmer. It is the result of many years of experience in developing programming and debugging solutions for microcontrollers. FlashRunner has been carefully designed to be:

- Universal - Supports multiple device manufacturers
- Fast - Reduced programming time means reduced production costs
- Flexible - Can be applied to any programming configuration
- Reliable - Features ensuring data integrity and uninterrupted production flow



**Built for Speed** FlashRunner hardware and firmware have been engineered to work together in such an efficient way as to eliminate communication bottlenecks. Programming Algorithms are developed to reach the memory technology speed limit of target devices. This makes FlashRunner one of the fastest universal In-System Programmers on the market, enabling you to significantly cut production costs.



**Extensive Device Coverage** Currently supporting more than 3000 flash-based microcontrollers and serial memories, FlashRunner's supported device list is continuously growing. Thanks to strategic alliances with the most important Silicon Manufacturers, our R&D department is updated with first-hand technical information.



**Compact and Robust** Every component of the system has been engineered to withstand the harshest production environments. Features such as opto-isolation, galvanic isolation, ESD protection, CRC on data transfers and detailed reports make FlashRunner the perfect choice when certainty of the programming flow is of the utmost importance.



**Professional Services** We offer customized product implementation services. Our engineers are available for custom design and validation reports, to help you start up your projects and provide you with accurate programming flow certifications.

**Easy ATE and Fixture Integration** A versatile interface system allows FlashRunner to be easily integrated into Automatic Test Equipment (ATE) systems. FlashRunner is compatible with Agilent, Teradyne, SPEA, Genrad, as well as other systems and test fixtures. FlashRunner works either in standalone mode or driven by a host system, through Ethernet or RS-232 connections.



**Paneled PCB Programming** FlashRunner supports programming of paneled PCBs. 4 True parallel channels allow multiple device programming whether on a single board or distributed across multiple boards in a panel assembly. 8 & 16 ISP channel versions are also available.



**Technical Support** FlashRunner is sold and supported by a worldwide network of distributors and SMH Support Alliance members who include channel partners and industry experts in more than 30 countries. Strategic alliances with leading Silicon Producers allow our R&D department to better satisfy our customers requirements.



**Data Protection System** The optional data protection system allows for secure transfer of data between R&D and remote production facilities. The protection system extends to the programming cycle, preventing production personnel from tampering with the programming flow.





## FEATURES

### FR01ENG

### FR01LAN

### FR01ATO

### FR01M01

**Programming Support**

Universal

Universal

Universal

Universal

**Host Interface(s)**

RS-232

LAN, RS-232

LAN, RS-232

LAN, RS-232

**ISP Sites**

1

1

1 (Switchable to ATE)

8 (Multiplexed)

**ISP Connector Type**

Header

D-Sub

DIN 41612

Header

**Power Supply**

9-24V DC

9-24V DC

9-24V DC

9-24V DC

**SDCard (Fat16 up to 2GB)**

Yes

Yes

Yes

Yes

**Logs/Reports**

Yes

Yes

Yes

Yes

**On-Board Dynamic Memory**

512 Bytes

512 Bytes

512 Bytes

512 Bytes

**IP Piracy Protection**

Yes

Yes

Yes

Yes

**Scripts (host Mode)**

Unlimited

Unlimited

Unlimited

Unlimited

**Scripts (Standalone Mode)**

32

32

32

32

**Dimensions (mm)**

130x74x27

145x82x45

145x105x50

130x74x50

**Real-Time Clock/Calendar**

Yes

Yes

Yes

Yes

**Optoisolation**

Yes

Yes

Yes

Yes

# FLASHRUNNER

## Comparison Table



FR01PRO	FlashRunner 2nd SERIES	FlashRunner 3rd SERIES	FlashRunner Quattro SERIES	FlashRunner FR3070A	FR Cube
Universal	One Manuf.	One Manuf.	Universal	Universal	Universal
LAN, RS-232	LAN, RS-232	RS-232	LAN, RS-232	LAN, RS-232	LAN, RS-232
1	1	1	4 (Parallel) Up to 16 (Mult.)	1	2, 4, 8
D-Sub	D-Sub	D-SUB	DIN 41612	Header	DIN 41612
110/220V AC	9-24V DC	7,5V DC	9-18V DC	12V DC	12-25V DC
Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	No	Yes	Yes	No
512 Bytes	512 Bytes	-	512 Bytes	512 Bytes	128 Bytes / Site
Yes	Yes	No	Yes	Yes	Yes
Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
32	32	1	32	-	64
370x212x46	130x74x43	95x65x35	181x160x50	152x75x13	111x146x26
Yes	Yes	No	Yes	No	Yes
Yes	Yes	No	FR04A08 Only	No	Yes

# FLASHFURNER

High-Performance, Standalone In-System Programmer

Supported Silicon Producers:



**SMH Technologies S.r.l.**

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