http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

SMH Technologies™

UNIVERSAL PRODUCTION IN-SYSTEM PROGRAMMING

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 FlashRunner as their preferred programming solution. This is a testament to the quality and reliability of our products.

SMH 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. We know that offering the best programming technology is not enough. We are convinced that offering 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.

At the heart of SMH Technologies are its people. They are the source of our strength. A team with many years of experience in microcontroller technology, includes experts in development and embedded operating systems, flash programming, data communication and analysis, mechanical design, system integration, plus well-motivated and forward-thinking sales & marketing teams.

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

FLASHRUNNER

A Revolutionary, Universal, Production In-System Programmer

FlashRunner Programmer Solutions

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

- Used in a production environment
- Extremely fast
- Completely configurable and updateable without requiring any additional external component
- Safe (data integrity guaranteed)

The Advantage of 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

FLASHRUNNER

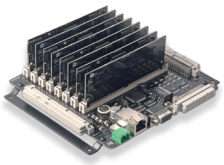
FR01ENG
Programming engine
(piggyback, RS-232)

FR II Series
Specific to single
Silicon Producer

FR01LAN
Programming engine
(RS-232/LAN)

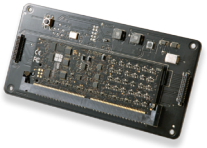
FR III Series
Suitable for low cost
solutions “No frills”

FR01AT0
ATE-oriented
programming engine
(RS-232/LAN)



FR Quattro Series
High integration
In-System gang
programmer.
Multi PCB panel
assemblies

FR01M01
8-site programming
engine (piggyback,
RS-232/LAN)



FR3070A
In-System
programming board
for Agilent 3070
Medalist Utility Card

FR01PRO
Rackmount/Desktop
programmer
(RS-232/LAN)

FR Cube
True Parallel
Panel-target
Standalone
In-System
Programmer

FLASHRUNNER

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

Extensive Device Coverage FlashRunner's fully re-configurable and flexible hardware is capable of programming a vast number of Flash-based microcontrollers and serial memories. Currently supporting more than 3000 devices, FlashRunner's device list is continuously increasing at a fast pace. Thanks to special partnerships with the most important Silicon Manufacturers, our engineers are constantly updated with first-hand technical information, which results in prompt and comprehensive device support.

Compact and Robust FlashRunner features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint. Every component of the system has been engineered to withstand the harshest production environments. Optoisolation, 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.

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

Data Protection System FlashRunner implements an optional data protection system that makes the contents of the binary file to be programmed to the target device unreadable (and not able to be copied) by non-authorized people. Moreover, the protection system extends to the programming cycle, preventing production personnel from tampering with the programming flow.

Paneled PCB Programming FlashRunner supports programming of paneled PCBs. Multiple ISP outputs are provided, which allow multiple device programming whether on a single board or distributed across multiple boards in a panel assembly.

Technical Support and Services Purchasing a product is only part of solving your programming needs. We know that you must count on professional help should the need arise. FlashRunner is sold and supported by a worldwide network of resellers and system integrators, comes with a three-year warranty and is backed up by knowledgeable and fast technical support. Additionally, our engineers are available for custom designs and validation reports, to help you start up your projects and providing you with accurate programming flow certifications.

FLASHRUNNER

A The top panel protects the main hardware and replicates status LEDs can be easily removed if space is an issue when integrating in your programming/testing system.

B A built-in timekeeper/calendar allows for detailed, timestamped logs. Production problems can thus be traced back to the exact moment they happened.

C FlashRunner uses a standard, removable Secure Digital card (up to 2GB) to store binary image files, projects and log files.

D Mounts easily inside ATE and test fixtures. Compatible with Agilent, Teradyne, SPEA, Genrad and other systems.

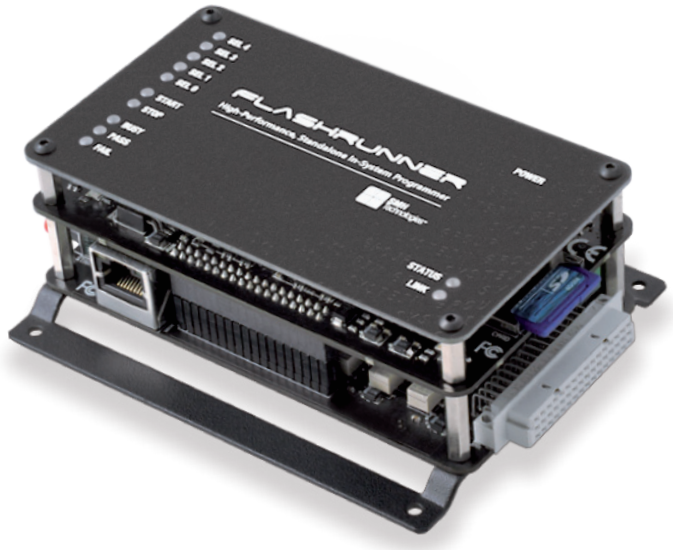
E The connection layer provides connectors to interface to your programming/testing system. Includes optoisolation circuity and an Ethernet connector to interface to a host system.

F The programming engine layer (common to all FlashRunner Series instruments) contains all of the FlashRunner electronics in a compact footprint.

FLASHRUNNER

I Series Universal

Standalone In-System Programmers



Overview

FlashRunner I series is a range of high-performance, standalone In-System Programmers specific for Flash-based microcontrollers and serial memories. FlashRunner I series is targeted at production environments and can work either in full standalone mode or controlled by a host system.

All of the models of the FlashRunner I series have been designed for maximum performance and reliability.

Features

- Fastest programming algorithms (as fast as target device's memory technology limit), approved by silicon manufacturers;
- Easy ATE integration;
- Standalone operations (projects and code images stored on a memory card);
- Also controllable by any host system via RS-232 or Ethernet (depending on the model);
- Supports most ISP protocols (BDM, JTAG, SPI, I2C, MON, ICC, SCI, etc.);
- Flexible, fully configurable;
- Compact and robust design for production environments;
- Data integrity guaranteed (every data transfer to/from the host system or SD card is CRC tagged).

FLASHRUNNER

FlashRunner I Series Hardware Features

FlashRunner features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint.

- 9 to 24V DC power supply input (110/220V AC for the FR01PRO model);
- Five digital I/O lines;
- Two digital I/O or analog output lines;
- Two programmable output voltages (0 to 15V, 0.25A and 0 to 5V, 0.5A);
- One analog input line;
- One programmable clock output;
- Secure Digital memory card (up to 2 GB);
- 512 bytes on-board dynamic memory;
- On-board timekeeper and calendar;
- I/O protection;
- Optoisolated inputs for project selection;
- Two optoisolated command inputs (START and STOP);
- Three optoisolated status outputs (FAIL, PASS, BUSY);
- Optoisolated RS-232/Ethernet channel.

FlashRunner's open architecture makes its firmware easily upgradable to support both new devices and new features.

FlashRunner I Series Software Features

FlashRunner is set up and controlled via ASCII-based commands. FlashRunner can receive and execute commands in two ways:
- Over the RS-232 or Ethernet connection (Host mode);
- Via "scripts" stored in its SD card (Standalone mode).

In the first case, FlashRunner is controlled by a host system (e.g. Windows HyperTerminal); in the latter case, FlashRunner works in standalone mode and is fully autonomous.

- Fully autonomous standalone mode thanks to its SD memory card (FAT16);
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Unlimited projects (scripts);
- Log files;
- Erase, blank check, program, read, verify, oscillator trimming, etc.

FlashRunner comes with a Windows utility that allows you to communicate with the instrument and perform the most common operations: send commands, manage SD card files, update the instrument's firmware, etc.

FLASHRUNNER

FR01ENG Programming engine (piggyback, RS-232)
Designed to work inside the Test-Fixture.

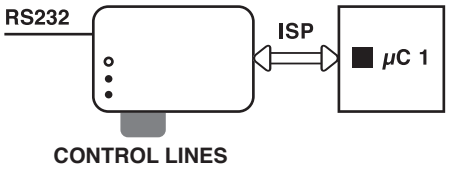
FR01AT0 ATE-oriented programming engine (RS-232/LAN) - Designed to work inside the ATE machine or in an any In Circuit Tester. Its simple and versatile interface system allows FlashRunner to be easily and seamlessly integrated into Automatic Test Equipment (ATE) systems. FlashRunner is compatible with Agilent, Teradyne, SPEA, Genrad, and other systems and test fixtures. FlashRunner works either in standalone mode or driven by a host system, through Ethernet or RS-232 connections.

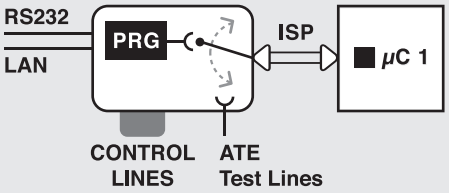
FR01M01 8-site programming engine (piggyback, RS-232/LAN) - Designed to work inside the Test-Fixture for multiple programming applications. Single panel with multiple boards or single board with multiple devices. Test-Fixture Oriented

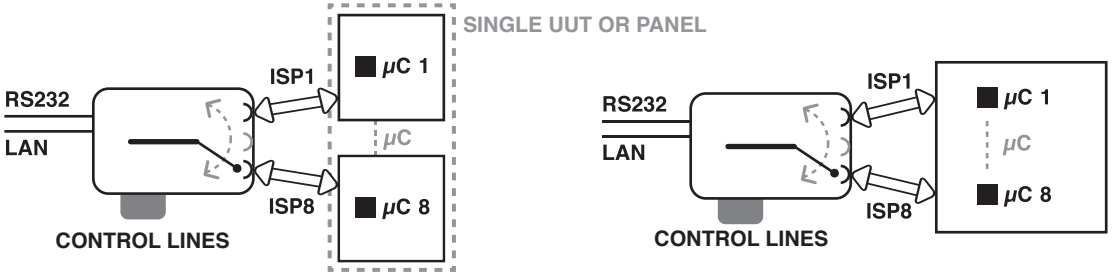
FR01LAN Programming engine (RS-232/LAN) - Designed to work inside and outside the Test-Fixture or in Automated Programming Stations. Thanks to its LAN connectivity, FlashRunner can be set up, controlled and monitored miles away from the production floor. This feature has proved to be extremely useful for companies outsourcing the electronic board manufacturing offshore, since it improves production quality allowing instantaneous exchange and control of files being used by the production personnel.

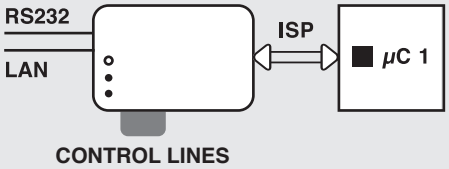
FR01PRO Rackmount/Desktop programmer (RS-232/LAN)
Designed to work in laboratory or in Programming Stations. Thanks to its chassis is easy to mount it in a rack.

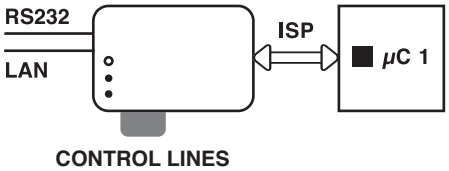
Typical Applications











FLASHRUNNER

II Series Universal

Manufacturer-Specific In-System Programmers

Overview

FlashRunner II series is a range of high-performance, standalone In-System Programmers specific for Flash-based microcontrollers and serial memories. FlashRunner II series is targeted at production environments and can work either in full standalone mode or controlled by a host system.

Features

- Fastest programming algorithms (as fast as target device's memory technology limit), approved by silicon manufacturers;
- Easy ATE integration;
- Standalone operations (projects and code images stored on a memory card);
- Also controllable by any host system via RS-232 or Ethernet;
- Flexible, fully configurable;
- Compact and robust design for production environments;
- Data integrity guaranteed (every data transfer to/from the host system or Secure Digital card is CRC tagged).

FlashRunner II Series Hardware Features

FlashRunner features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint.

- 9 to 24V DC power supply input;
- Five digital I/O lines;
- Two digital I/O or analog output lines;
- Two programmable output voltages (0 to 15V, 0.25A and 0 to 5V, 0.5A);
- One analog input line;
- One programmable clock output;
- Secure Digital memory card (up to 2 GB);
- 512 bytes on-board dynamic memory;
- On-board timekeeper and calendar;
- I/O protection;
- Optoisolated inputs for project selection;
- Two optoisolated command inputs (START and STOP);
- Three optoisolated status outputs (FAIL, PASS, BUSY);
- Optoisolated RS-232/Ethernet channel.

FlashRunner II Series Software Features

FlashRunner is set up and controlled via ASCII-based commands. FlashRunner can receive and execute commands in two ways:
- Over the RS-232 or Ethernet connection (Host mode);
- Via “scripts” stored in its SD card (Standalone mode).

In the first case, FlashRunner is controlled by a host system (e.g. Windows HyperTerminal); in the latter case, FlashRunner works in standalone mode and is fully autonomous.

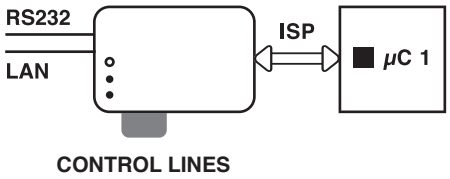
- Fully autonomous standalone mode thanks to its SD memory card (FAT16);
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Unlimited projects (scripts);
- Log files;
- Erase, blank check, program, read, verify, oscillator trimming, etc.

FlashRunner comes with a Windows utility that allows you to communicate with the instrument and perform the most common operations: send commands, manage SD card files, update the instrument’s firmware, etc.

The FlashRunner II series is targeted at production environments and can work either in full standalone mode or controlled by a host system. The FlashRunner II series is suitable for programming systems and Test-Fixtures when the programming applications are for one silicon producer only.

FR02ATM0 Supports Atmel devices
FR02CYP0 Supports Cypress devices
FR02ELM0 Supports ELMOS devices
FR02FJT0 Supports Fujitsu devices
FR02FSL0 Supports Freescale devices
FR02INF0 Supports Infineon devices
FR02MCP0 Supports Microchip devices
FR02MEM0 Supports serial memories
FR02NXP0 Supports NXP devices
FR02REN0 Supports Renesas devices
FR02SLL0 Supports Silicon Labs devices
FR02STM0 Supports STMicroelectronics devices
FR02TXI0 Supports Texas Instruments devices

Typical Applications



FLASHRUNNER

III Series Universal

Manufacturer-Specific In-System Programmers

Overview

FlashRunner III series is a range of high-performance, standalone In-System Programmers specific for Flash-based microcontrollers and serial memories. FlashRunner III series is targeted at production environments and can work either in full standalone mode or controlled by a host system.

Features

- Fastest programming algorithms (as fast as target device's memory technology limit), approved by silicon manufacturers;
- Easy ATE integration;
- Standalone operations (projects and code images stored on a memory card, FAT16 compatible);
- Also controllable by any host system via RS-232;
- Flexible, fully configurable;
- Compact and robust design for production environments;
- Data integrity guaranteed (every data transfer to/from the host system or Secure Digital card is CRC tagged).

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

FlashRunner III Series Hardware Features

FlashRunner features state-of-the-art electronics and provides you with high integration flexibility in a small footprint.

- 7.5V DC power supply input;
- Five digital I/O lines;
- Two digital I/O or analog output lines;
- One programmable output voltage (0 to 5.5V, 0.5A);
- One programmable clock output;
- Secure Digital memory card (up to 2 GB);
- I/O protection;
- One command inputs (START);
- Three status outputs (FAIL, PASS, BUSY);
- RS-232 channel.

FlashRunner III Series Software Features

FlashRunner is set up and controlled via ASCII-based commands. FlashRunner can receive and execute commands in two ways:
- Over the RS-232 (Host mode);
- Via a “script” stored in its SD card (Standalone mode).

In the first case, FlashRunner is controlled by a host system (e.g. Windows HyperTerminal); in the latter case, FlashRunner works in standalone mode and is fully autonomous.

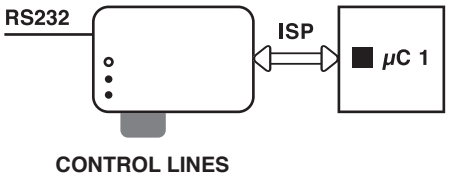
- Fully autonomous standalone mode (thanks to its SD memory card);
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Erase, blank check, program, read, verify, oscillator trimming, etc.

FlashRunner comes with a Windows utility that allows you to communicate with the instrument and perform the most common operations: send commands, manage SD card files, update the instrument’s firmware, etc.

The FlashRunner III series is targeted at production environments and can work either in full standalone mode or controlled by a host system. The FlashRunner III series is suitable for low cost solution when you don't need any special feature like log file handling, serial numbering, board personalization, non-mass-market devices supporting.

FR03ATM0 Supports Atmel devices
FR03CYP0 Supports Cypress devices
FR03ELM0 Supports ELMOS devices
FR03FJT0 Supports Fujitsu devices
FR03FSL0 Supports Freescale devices
FR03INF0 Supports Infineon devices
FR03MCP0 Supports Microchip devices
FR03MEM0 Supports serial memories
FR03NXP0 Supports NXP devices
FR03REN0 Supports Renesas devices
FR03SLL0 Supports Silicon Labs devices
FR03STM0 Supports STMicroelectronics devices
FR03TXI0 Supports Texas Instruments devices

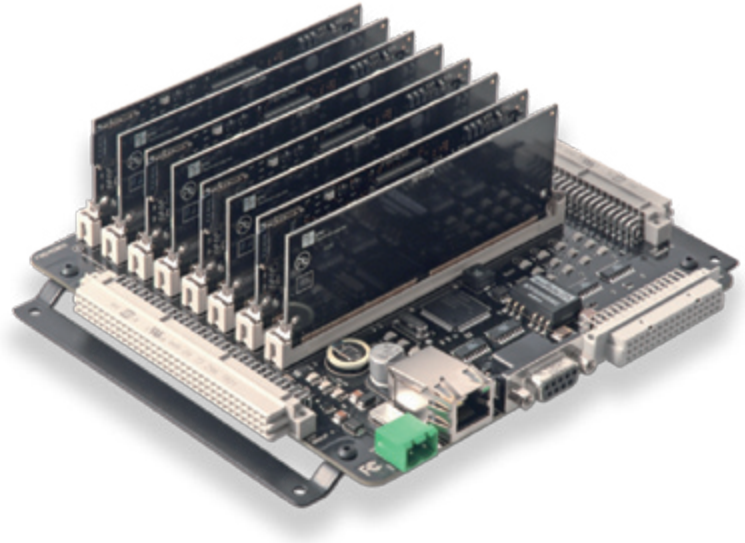
Typical Applications



FLASHRUNNER

Quattro Series

True Parallel In-System Programmers



Overview

FlashRunner Quattro is a high-integration in-system gang programmer, based on the FlashRunner patented technology. FlashRunner Quattro is designed for programming multi-PCB panel assemblies. FlashRunner Quattro is composed of a mainboard which hosts the programming and demultiplexing modules, plus various connectors used to interface to the target system and host/ATE.

Features

- Extremely fast programming (it is one of the fastest in-system programming system on the market);
- Standalone operations (projects and code images stored on memory cards);
- Compact and robust design for production environments.

FlashRunner Quattro Hardware Features

FlashRunner features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint.

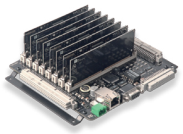
- 9 to 18V DC power supply input;
- Six digital I/O lines;
- Two digital I/O or analog output lines;
- Two programmable output voltages;
- One programmable clock output;
- Secure Digital memory cards (up to 2 GB);
- 512 bytes on-board dynamic memory;
- On-board timekeeper and calendar;
- Optoisolated inputs for project selection;
- Two optoisolated command inputs (START and STOP);
- Three optoisolated status outputs (FAIL, PASS, BUSY);
- Optoisolated RS-232/Ethernet channel.

FlashRunner Quattro Software Features

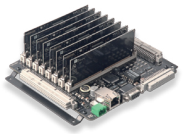
FlashRunner is set up and controlled via ASCII-based commands. FlashRunner can receive and execute commands in two ways:
- Over the RS-232 or Ethernet connection (Host mode);
- Via “scripts” stored in its SD card (Standalone mode).

In the first case, FlashRunner is controlled by a host system (e.g. Windows HyperTerminal); in the latter case, FlashRunner works in standalone mode and is fully autonomous.

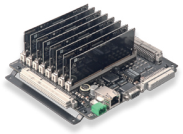
- Fully autonomous standalone mode thanks to its SD memory cards (FAT16);
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Unlimited projects (scripts);
- Interface Library DLL to control the instrument from within user written applications;
- Optional Data Protection System to make the contents of the binary file to be programmed to the target device not readable (and not duplicable) by non-authorized people;
- Log files;
- Erase, blank check, program, read, verify, oscillator trimming, etc.



FR04A04 4 ISP channels system (4 true parallel channels), no ISP channel demultiplexing
The FlashRunner Quattro series is targeted at Manufacturing Mass Programming and can work either in full standalone mode or controlled by a host system. Multiple programming up to 4 devices at a time. Suggested when you have up to 4 devices in the same panel or up to 4 deviced to be programmed in the same board.

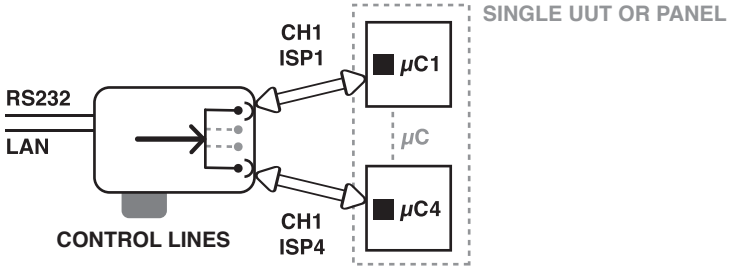


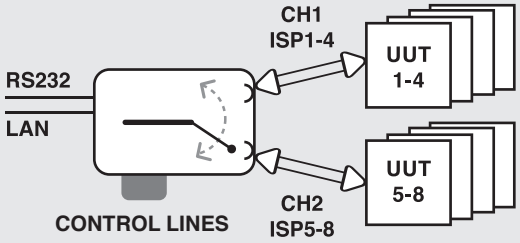
FR04A08 8 ISP channels system (4 parallel channels, each demultiplexable to 2 channels, with galvanic isolation) - The FlashRunner Quattro series is targeted at Manufacturing Mass Programming and can work either in full standalone mode or controlled by a host system. Multiple programming up to 8 devices in two programming cycles. Suggested when you have up to 8 devices in the same panel or up to 8 devices to be programmed in the same board. Best solution for In Circuit testers thanks to galvanic isolation.

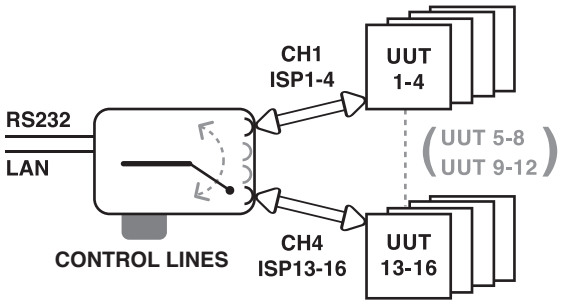


FR04A16 16 ISP channels system (4 parallel channels, each demultiplexable to 4 channels)
The FlashRunner Quattro series is targeted at Manufacturing Mass Programming and can work either in full standalone mode or controlled by a host system. Multiple programming up to 16 devices in four programming cycles. Suggested when you have up to 16 devices in the same panel or up to 16 deviced to be programmed in the same board.

Typical Applications



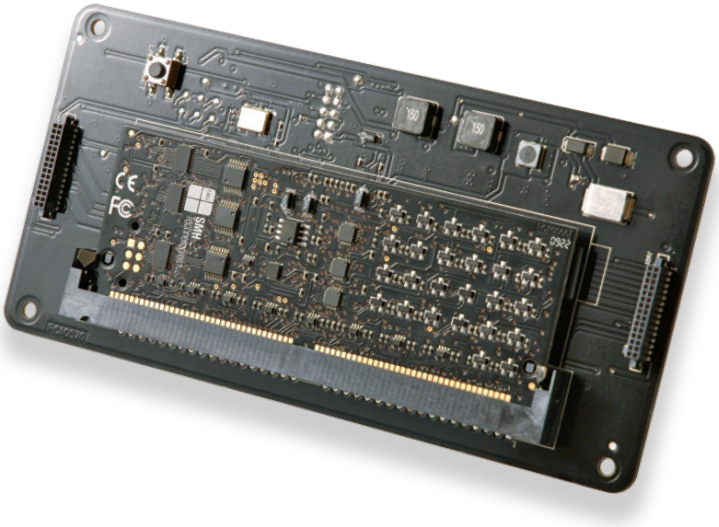




FLASHRUNNER

FR3070A

In-System Programmer for Agilent 3070 Utility Card



Overview

FR3070A is an optional daughter board that can be mounted on Agilent Medalist In-circuit Board Test System Utility Card.

- With the Agilent Medalist In-Circuit Board Test System Utility Card, the integration of implementation of the general MCUs, Flash and EEPROM programming or any other functional testing can be easily achieved
- Multiples of plug-in cards support
- Dedicated 12 signal pins to DUT - (no MUX)

The plug-in card should come with the necessary software and drivers that can be integrated into the Agilent Medalist Window XP environment to improve the user experience in developing and debugging production tests.

Features

- Fastest programming algorithms (as fast as target device's memory technology limit), approved by silicon manufacturers;
- Supports most ISP protocols (BDM, JTAG, SPI, I2C, MON, ICC, SCI, etc.);
- Data integrity guaranteed (every data transfer to/from the host system or Secure Digital card is CRC tagged).
- It provides plug-in slots for common programming protocols for MCUs, Flash and EEPROM used in Automotive and other electronic industries

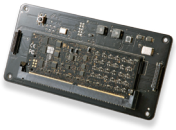
FLASHRUNNER

FlashRunner FR3070A Hardware Features

- 12V power supply input;
- ISP lines:
  Six digital I/O lines;
  Two digital I/O or analog output lines;
  Two programmable output voltages;
- One programmable clock output
- Secure Digital memory cards (up to 2 GB);
- 512 bytes on-board dynamic memory;
- No magnetic isolated Ethernet channels.
- Clear and card reset input lines

FlashRunner FR3070A Software Features

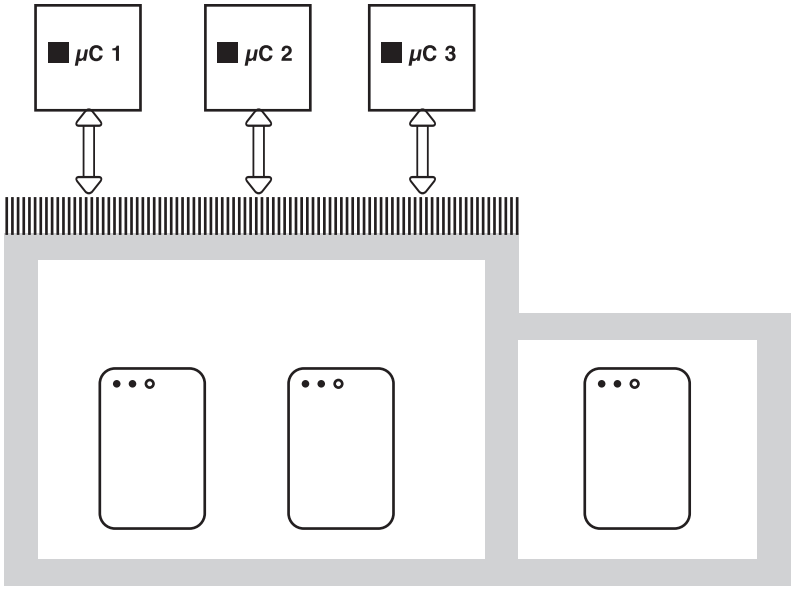
- Controllable by any Windows based system through specific DLL
- Unlimited software-selectable scripts projects
- Interface Library DLL to control the instrument from within user written applications
- Erase, blank check, program, read, verify, oscillator trimming, etc.



FR3070A In-System Programmer for Agilent 3070 Utility Card

Can be mounted on Agilent Medalist In-Circuit Board Test System Utility Card. Single programming.
Can be mounted on Agilent Medalist In-Circuit Board Test System Utility Card. Multiple programming (3 devices at a time) by mounting 3 FR3070A on the same Utility Card.

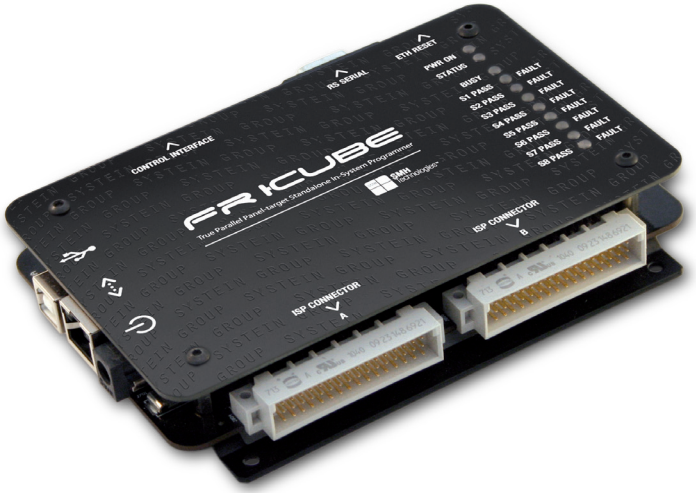
Typical Applications



MEDALIST UTILITY CARD

FR tCUBE

True Parallel Panel-target Standalone In-System Programmer



Overview

FlashRunner Cube is a high-integration in-system gang programmer, based on the FlashRunner technology. FlashRunner Cube is designed for programming multi-PCB panel assemblies.

Features

- Extremely fast programming (it is one of the fastest in-system programming system on the market);
- Standalone operations (projects and code images stored on memory cards);
- Compact and robust design for production environments.

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

FR tCUBE

True Parallel Panel-target Standalone In-System Programmer

FlashRunner Cube Hardware Features

FlashRunner features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint.

- 12 to 25V DC power supply input;
- Seven digital I/O lines;
- One programmable output power voltage;
- One programmable clock output;
- Secure Digital memory cards (up to 2 GB);
- On-board dynamic memory;
- On-board timekeeper and calendar;
- Optoisolated inputs for project selection;
- Optoisolated command inputs (START, START_ENA and STOP);
- Three optoisolated status outputs (FAIL, PASS, BUSY);
- Optoisolated RS-232/Ethernet channel.

FlashRunner Cube open architecture makes its firmware easily upgradable to support both new devices and new features.

FlashRunner Cube Software Features

FlashRunner Cube is set up and controlled via ASCII-based commands. FlashRunner can receive and execute commands in two ways:
- Over the RS-232, USB or Ethernet connection (Host mode);
- Via “scripts” stored in its SD card (Standalone mode).

In the first case, FlashRunner Cube is controlled by a host system; in the latter case, FlashRunner Cube works in standalone mode and is fully autonomous.

- Fully autonomous standalone mode thanks to its SD memory cards;
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Unlimited projects (scripts);
- Interface Library DLL to control the instrument from within user written applications;
- Optional Data Protection System to make the contents of the binary file to be programmed to the target device not readable (and not duplicable) by non-authorized people;
- Erase, blank check, program, read, verify, oscillator trimming, etc.
- Friendly set-up user interface (Windows platform)
- Supports microcontrollers, serial memories and direct programming of parallel memories (eMMC, NAND and NOR)

FlashRunner comes with a Windows utility that allows you to communicate with the instrument and perform the most common operations: send commands, manage SD card files, update the instrument’s firmware, etc.

FR CUBE

True Parallel Panel-target Standalone In-System Programmer

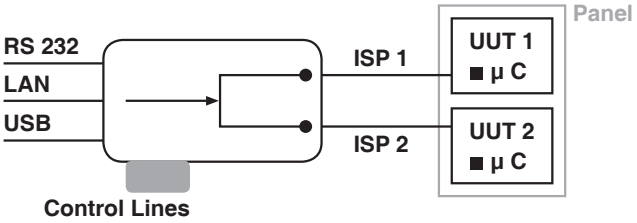
FRC_GP_02 2 true parallel ISP channels system.
FlashRunner Cube series is targeted at Manufacturing Mass Production and can work either in full stand alone mode or controlled by host system. Multiple programming up to 2 identical devices at a time. Suggested when you have up to 2 identical devices, in the same panel or in the same board.
FR_GP_02 may be configured also for direct programming of NOR and eMMC memories.

FRC_GP_04 4 true parallel ISP channels system.
FlashRunner Cube series is targeted at Manufacturing Mass Production and can work either in full stand alone mode or controlled by host system. Multiple programming up to 4 identical devices at a time. Suggested when you have up to 4 identical devices in the same panel.

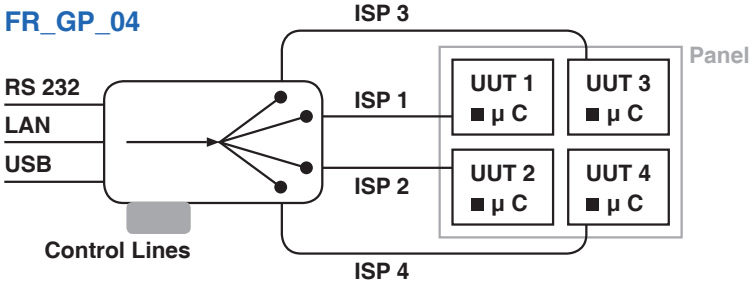
FRC_GP_08 8 true parallel ISP channels system.
FlashRunner Cube series is targeted at Manufacturing Mass Production and can work either in full stand alone mode or controlled by host system. Multiple programming up to 8 identical devices at a time. Suggested when you have up to 8 identical devices in the same panel.

Typical Applications

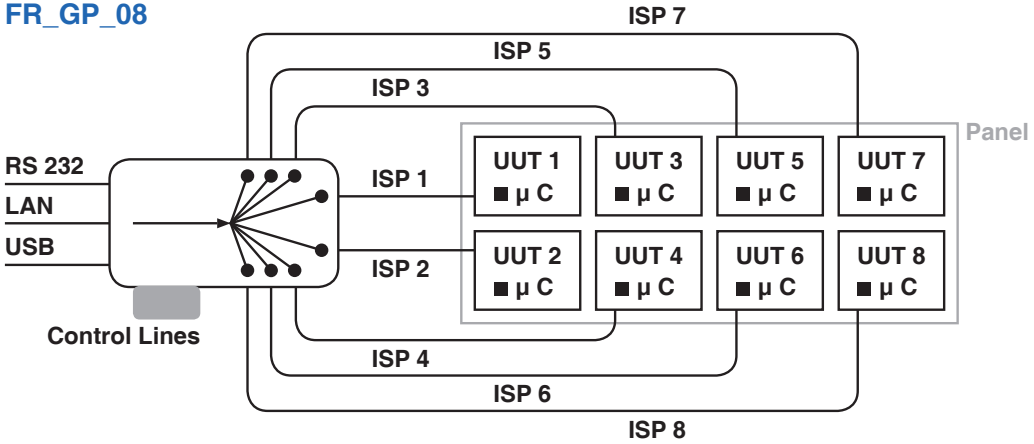
FR_GP_02



FR_GP_04



FR_GP_08



http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

SMH SUPPORT SERVICES

SMH Support Services

means that purchasing a product is only part of solving your programming needs. We know that you will need to rely on efficient and effective professional support should the case arise. FlashRunner is sold and supported by an established global network of official Distributors.

SMH Support Alliance

is a worldwide network of Consultants, System Integrators, Channel Partners and industry experts. They provide complete, high-quality In-System Programming solutions, by developing professional solutions tailored to the customers needs and providing optimized support. The SMH Support Alliance is backed by the SMH Support and R&D Departments. The knowledgeable engineers and experienced support staff have the backing of major silicon producers as partners in technology.

SMH Customer Care

facilitates the processes between the technical and commercial departments and the end customer. The concept of customer care is to provide a consistent, efficient contact with the customer, following up on open cases and ensuring that both customer and technical departments have all the correct information to be able to provide solutions faster.

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

SMH PROFESSIONAL SERVICES

SMH Professional Services

offer specialized and customized product implementation services. Our engineers are available for custom designs, validation reports and to help you start up your projects by providing you with accurate programming flow certifications.

Custom Project Startup

Our engineers will analyze the customer's specific target board setup and programming needs and will provide the customized script(s) needed to properly program the customer's target device(s), optimizing the programming process.

Programming System Compliance Report

This report describes the results of the validation process of our programming algorithms installed on FlashRunner, using the customer's target board.

First Pass Yield Report

This report gives the percentage of units that successfully complete a process with no rework. The number of test cycles must be defined together with customer.

System Thermical Stress Report

This is an accelerated stress test method used during the design of electronic and electrical products. Both the product and manufacturing process strength can be characterized using this procedure. This test must be defined together with the board producer and board designer.

Electrical Test on Programming Hardware/Quality Assurance

This is a comprehensive test on the customer's FlashRunner unit. The goal is to make sure that all of the FlashRunner's hardware characteristics fall within the correct operating ranges.

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

SMH PROFESSIONAL SERVICES

SMH Technologies Engineering Price per Hour, in Our Laboratories
Hourly cost of a SMH Technologies engineer working on a customer's project (in SMH Technologies laboratories).

SMH Technologies Engineering Price per Hour, at Your Premises
Hourly cost of a SMH Technologies engineer working on a customer's project (at the customer's place).

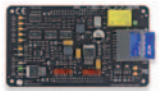
Development of In-Circuit Test Firmware
Our engineers will develop customer-specific firmware (to be programmed to the customer's target board prior to the product's actual firmware programming) that will execute the required functional tests.

Development and Production of Customized Versions
Our engineers will develop a customized version of an existing FlashRunner model to better suit the customer's needs. SMH Technologies will take care of the production and will provide the customer with a fully tested and certified hardware.

Development of Integration Software
Our engineers will analyze the customer's production flow and will develop high-level software (LabView, BT Basic, etc.) which will seamlessly integrate FlashRunner with the customer's testing equipment.

FlashRunner In-House Training
Our engineers will provide the customer's engineers with detailed training for getting acquainted with and correctly using FlashRunner. The training will take place SMH Technologies laboratory and will cover all of FlashRunner topics in detail (hardware, software, programming techniques, tip & tricks, etc.)

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885




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

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

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

Supported Silicon Producers:

freescale semiconductor
MICROCHIP
RENESAS
NEC
ATMEL
infineon
SILICON LABS

ROHM
CATALYST SEMICONDUCTOR, INC.
NXP
CYPRESS PERFORM
FUJITSU
SAMSUNG
ALTERA.
winbond
ELMOS
SST
Lattice Semiconductor Corporation
MXIC
numonyx
SPANSION
TOSHIBA Leading Innovation
AMIC
EON
HOLTEK
SK hynix
Micron
NORDIC SEMICONDUCTOR
ON Semiconductor
RAMTRON International Corporation
SANYO
SII Seiko Instruments Inc.

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885

SMH Technologies S.r.l. - via Giovanni Agnelli, 1 - 33083 Villotta di Chions (PN) Italy
Phone +39 0434 421 111 - Fax +39 0434 639 021 - info@smh-tech.com - **www.smh-tech.com**

http://smh-tech.com.cn sales@smh-tech.com.cn +86-15250087885