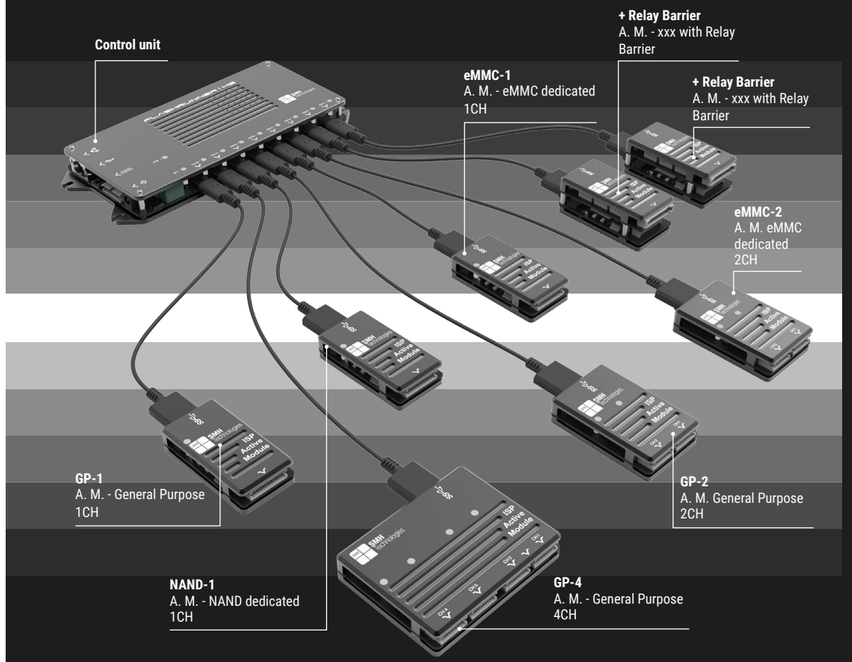
HIGHEST FLEXIBILITY

FlashRunner HS hardware capability satisfies all application fields, thanks to its ISP Active Modules that can be employed for the programming of following devices:
eMMC
NAND
General Purpose (Microcontrollers, Serial Memories, CPLD)

The programming system is composed by a HS Control Unit board plus related ISP Active Modules up to 8 channels; in this way solution cost will be adjusted to production needs, optimizing programmer's efficiency also in respect to the economic investment.

A NEW FRIENDLY INTERACTIVE GUI (GRAPHIC USER INTERFACE)

The new GUI interface cuts off overall configuration efforts, guiding the customer in creating a working project in few mouse clicks and detecting mismatches between the target device and customer's firmware, as well as power supply setup.



TECHNICAL SUPPORT

Purchasing a product is only part of solving your programming needs. We know that you must rely on professional help, should the need arise. FlashRunner is sold and supported by a worldwide network of Technological Partners and Distributors, as well as several SMH operational offices located in America, Far East and Europe. FlashRunner is equipped 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.

DEVICE SUPPORT

Our supported device list is updated daily and counts more than 10.000+ items.
However, if you still can't find the device you are looking for we offer you a development service, which meets your needs. Every request will be handled in order to meet your production deadlines in time.

FlashRunner HS Control Unit programmer is fully equipped with:

- → Detailed User Manual
- → Quick start guide
- → 3-years warranty certification
- → FlashRunner HS Control Unit programmer
- → 15V 40W AC/DC Wall Switching Power Adapter
- → Ethernet cross cable 2 meter RJ45
- → USB 2.0 cable 1.8 meter (type-A to type-B micro)
- → WIKI section with complete documentation for each driver

FlashRunner HS ISP Active Modules are fully equipped with:

- → Detailed User Manual
- → Quick start guide
- → 3-years warranty certification
- → FlashRunner HS Active Module
- → USB 3.1 Gen1 SuperSpeed cable 1.5 meter (type-C to type-C)
- → WIKI section with complete documentation for each driver

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SMH Technologies

FLASHRUNNER HIGH-SPEED

Where the innovative thinking improves production efficiency

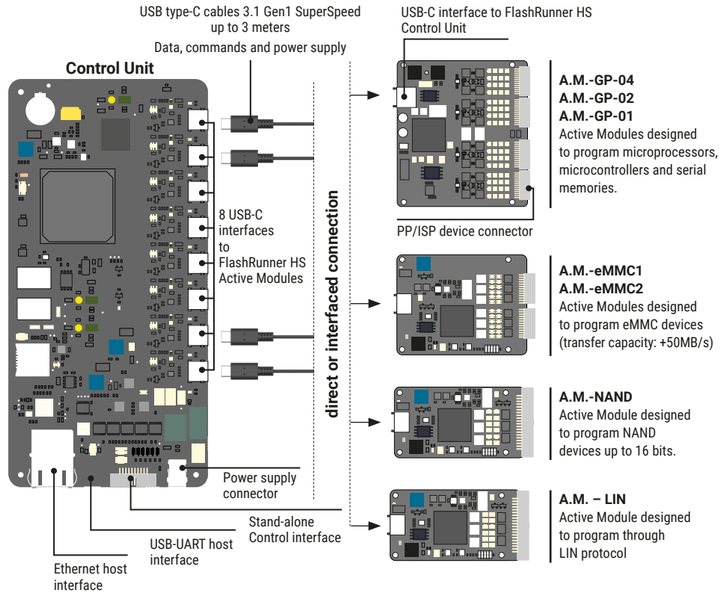
HIGHEST FLEXIBILITY THAN EVER

OVERVIEW

FlashRunner 2.0 technology is the most popular and innovative of In-System Programming industry. SMH Technologies, taking advantage of its decennial experience in this field, developed a brand-new programming system to face the challenge of an increasingly demanding sector.

WHY FLASHRUNNER HIGH-SPEED

FlashRunner High-Speed combines very high programming performances and high modularity to obtain a Multi-end programming solution that perfectly fits the needs of Pre-Programming and In-System Programming. This new member of the FlashRunner family is specifically designed to place the programmer header in the near proximity of the programmable devices without being affected by long distance and guaranteeing optimal signal integrity. The new programmer implements cutting-edge technology that allows to manage really big amount of data maintaining the best possible programming performance. This is particularly suited for Pre-Programming applications since high speed performance can be better exploited in case of good contact conditions with the programmable device.



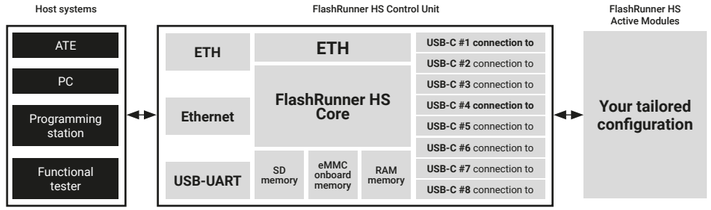
HARDWARE FEATURES

INTEGRATION · HIGH SPEED · INDUSTRIAL STRENGTH · UNIVERSAL

FlashRunner HS Control Unit
- ➜ LAN Communication Interface;
- ➜ Digitally Optoisolated USB-UART communication interface;
- ➜ Digitally Optoisolated ATE parallel interface for standalone operations;
- ➜ 8 USB type-C ports to connect up to 8 HS Active Modules;
- ➜ Intel SOC FPGA with 800MHz dual-core ARM Cortex-A9 hard processor system (HPS) with support for symmetric and asymmetric multiprocessing;
- ➜ 1 GB on-board RAM DDR3 memory;
- ➜ Micro SD Card reader (up to 256 GB);
- ➜ 256 GB on-board eMMC memory;
- ➜ On-board timekeeper and calendar for time-stamped log file.

FlashRunner HS Active Module
- ➜ Very small form factor to be placed in near proximity with the device to be programmed;
- ➜ USB type-C port to be connected with HS Control Unit;
- ➜ ISP/PP device connectors to communicate with the devices to be programmed;
- ➜ Supports most ISP/PP protocols (eMMC, parallel-NAND, BDM, JTAG, DAP, CSI, SPI, QUAD-SPI, I2C, UART, MC2W, ISSP, SWD, ICSP, EICSP, MDI, PPM, PDI, SWIM, and many others);
- ➜ Cutting-edge digital line driver to improve performance;
- ➜ Communication frequency towards device up to 50MHz;
- ➜ Power conversion section to supply the board and to provide programmable voltages to the output;
- ➜ External relay power line and command line;
- ➜ Output power lines voltage and continuous current monitoring.

TYPICAL APPLICATION

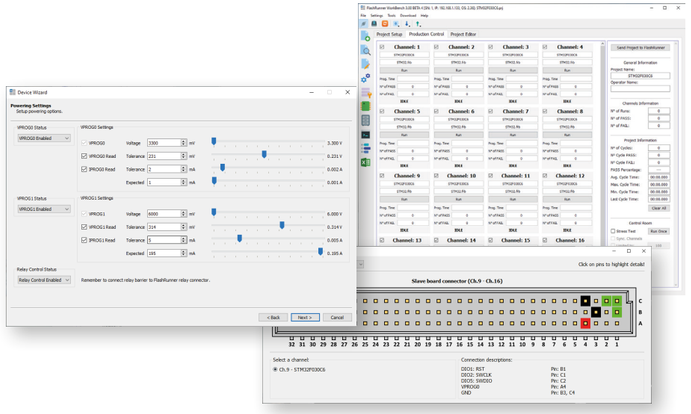


Programming sites	FR HS Control Unit connected to 8 distributed FR HS Active Modules (each one with a programming connector to a programmable device)
Protocols	eMMC, NAND, BDM, JTAG, DAP, CSI, SPI, QUAD-SPI, I2C, UART, MC2W, ISSP, SWD, ICSP, EICSP, MDI, PPM, PDI, SWIM, and many others
Communication frequency	Up to 50MHz
Digital Lines	8 or 12 Digital communication lines per programming connector according to FR HS Active Module in use
Host Interface	Ethernet LAN,1Gbps, micro-USB, Control Interface
Dimensions	Control Unit: 170 x 83 x 19 mm Active Module: 63 x 32 x 12 mm
Power Supply	Control Unit: 15V DC power jack Active Module: provided by FR HS Control Unit through USB-C cable

Power Supplying features	eMMC Active Module VPROG0: 1.2V – 3.6V @ 300mA VPROG1: 1.2V – 5.5V @ 300mA General Purpose Active Module VPROG0: 1.65V – 5.5V @ 300mA VPROG1: 5.5V – 13.5V @ 300mA
ISP connector	30 position, 2 row, 1.27mm pitch, vertical or right-angle male connector
Dynamic Memory	1 GB RAM DDR3 memory
Static Memory	Up to 256 GB microSD-CARD memory 256 GB on-board eMMC memory
Relay Barrier	Power supply and command line provided through programming connector to an external board
Voltage and current monitor	Yes, continuous monitoring
Logging	Via on-board timekeeper and calendar for time-stamped log files
LEDs	Status LED and Operation LED for each programming channel

SOFTWARE FEATURES

- ➜ **Device Test:** UART/JTAG transceiver able to test device functions;
- ➜ **Watchdog feeder:** square wave generator, frequency trimmable, feeding on-board watchdog;
- ➜ **Cybersecurity:** firmware encryption and secure data transfer;
- ➜ **DLL** (C,C++,C#), easy integration with Teststand/Labvierw/CVI;
- ➜ **Voltage Monitor:** overvoltages and undervotlages detection during flashing process;
- ➜ **Serial Numbering:** dynamic data flashing, runtime defined;
- ➜ **Digital lines shuffling:** dynamic pinout management;
- ➜ **Conditional erase:** decrease cycle time by adding this option to erase only if device is not blank;
- ➜ **Online driver knowledgebase:** complete online Wiki, daily updated, online video lectures, troubleshooting articles.



CONTROL	COMMAND	SECURITY
Programming cycle time	Project Wizard	Encrypted FRB files to avoidbinary hacking
Easy wire-wrapping with pinout manager	File transfer manager	Dump and compare features of all channels
DLL interface libraries for C/C++/C#/Labview/Teststand	One-click driver updates	Log file and Production
Log file and Production report	Windows, Linux and Mac compatible GUI software Interface	Report file
Dump and compare		User Permission
Voltage Monitor		Management
Production batch counter		Tracking of programming cycles number
		Errors w/language descriptions