

Production Programmers Flasher Portable



Flasher Portable/Flasher Portable PLUS

Handheld Flash Programmer for on-chip and external flash memory.

Flasher Portable and Flasher Portable PLUS are battery driven programming tools for microcontrollers with on-chip and/or external flash memory. They have been designed to fill the need of an extremely portable, production grade flash programmer used for in-field firmware updates.

Flasher Portable can be powered by its internal battery (rechargeable for Flasher Portable PLUS) or USB.

Initial setup/preparation for stand-alone mode operation is done via the [J-Flash](#) software, also used by other Flasher models, which requires a PC running Microsoft Windows 2000, Windows XP, Windows 2003, Windows Vista, Windows 7, Windows 8 or Windows 10.

Flasher Portable PLUS also supports having up to eight (four in case of Flasher Portable) configurations/image files stored on the Flasher, so one unit can be used for different targets, versions or configurations. Proper image selection is done by simply clicking a button. The currently selected image is displayed.

[Adapters](#) for all common connections are available which may be used to do everything from fully electrically isolating the Flasher Portable II from the target device, to remapping the pins and reducing the pitch and/or pins to the target header.

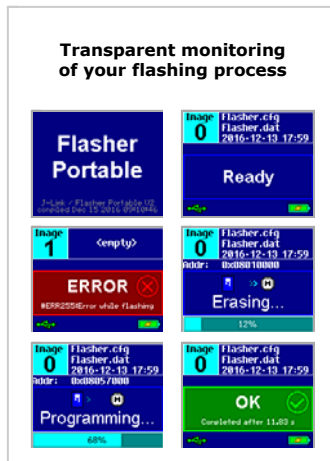
Features

- Stand-alone in-circuit-programmer (Once set up, Flasher can be controlled without the use of a PC program)
- Powered by internal battery, no external power supply required
- Up to 10 hours programming with one battery charge
- Supports having up to eight configurations/data files being stored on Flasher
- Push button allows easy selection between multiple images/configurations stored on Flasher
- 128 MB internal memory for configuration and data file storage
- Supports ARM, Cortex, PowerPC and Renesas RX cores. For a complete list, please click [here](#)
- Supports internal and external flash devices
- Free software updates¹, 1 year of support
- Data files can be updated via mass storage or via J-Flash
- Target interface: JTAG / SWD / FINE / SPD
- Programming speed typically between 30 KB/second and 1 MByte/second. Max. programming speed highly depends on target hardware and max. programming speed of the flash itself
- SECURITY: Flasher Portable and Flasher Portable PLUS support [Authorized Flashing](#). It allows to limit the number of flash programming cycles and to protect the Flasher against non-authorized access in case of external production

¹ As a legitimate owner of a SEGGER Flasher, you can always download the latest software free of charge. Though not planned and not likely, we reserve the right to change this policy. Note that older models may not be supported by newer versions of the software. Typically, we support older models with new software at least 3 years after end of life.

² Actual programming speed depends on flash & target hardware.

- ✓ In-field programming
- ✓ Powered by Li-Ion
- ✓ Up to eight images
- ✓ Authorized programming



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Model Overview

Flasher Portable



Flasher Portable PLUS



Portable Power Supply

3 AAA batteries

Internal lithium-ion rechargeable battery (Sony US14500VR)

LCD Display

Max. Number of Firmware Configurations

Size

Weight

✘	✔
4	8
130mm x 65mm x 25mm	126mm x 70mm x 28mm
120g (excl. batteries)	140g

Package content

Flasher Portable PLUS is delivered with the following components:



Flasher Portable PLUS



20-pin, 0.1" target ribbon cable



USB cable

Flasher Portable is delivered with the following components:



Flasher Portable



20-pin, 0.1" target ribbon cable



USB cable



3x AAA batteries

Specifications

Power Supply	Powered via battery (Li-Ion) or USB
USB Host Interface	USB 2.0
Target Interface	Standard 20-pin J-Link target connector (optional adapters available)
Serial Transfer Rate between Flasher Portable II and Target	Up to 15MHz
Supported Target Voltage	1.8V - 5V
Current drawn from target voltage sense pin (V _{Tref})	< 25µA
Target supply voltage	4.5V max. (depends on current battery voltage)
Target supply current	Max. 400mA
Operating Temperature	+ 5 °C ... + 60 °C
Storage Temperature	- 20 °C ... + 65 °C
Relative Humidity (non-condensing)	< 90% rH
Size (without cables)	130mm x 65mm x 25mm
Weight (without cables)	140g
Supported OS	Microsoft Windows 2000 Microsoft Windows XP Microsoft Windows XP x64 Microsoft Windows 2003 Microsoft Windows 2003 x64 Microsoft Windows Vista Microsoft Windows Vista x64 Microsoft Windows 7 Microsoft Windows 7 x64 Microsoft Windows 8 Microsoft Windows 8 x64 Microsoft Windows 10 Microsoft Windows 10 x64

Target interfaces

Since Flasher Portable and Flasher Portable PLUS are compatible to [J-Link](#) they also support the same target interfaces. Currently the following target interfaces are supported:

- JTAG
- SWD
- FINE

- SPD

For more information about the target interfaces please refer to [J-Link - Interface description](#).

Standard 20-pin connector pinout

Flasher Portable and Flasher Portable PLUS use the standard J-Link 20-pin connector. There are various adapters available to fit all customer needs.

JTAG interface connector signals:

Pin	Signal	Type	Description
1	VTref	Input	This is the target reference voltage. It is used to check if the target has power, to create the logic-level reference for the input comparators and to control the output logic levels to the target. It is normally fed from Vdd of the target board and must not have a series resistor.
2	Vsupply	NC	This pin is not connected in Flasher Portable II. It is reserved for compatibility with other equipment. Connect to Vdd or leave open in target system.
3	nTRST	Output	JTAG Reset (optional). Output from Flasher Portable II to the Reset signal of the target JTAG port. Typically connected to nTRST of the target CPU. This pin is normally pulled HIGH on the target to avoid unintentional resets when there is no connection. Not mandatory for Flasher operation. Should not be shortened with RESET. In case of doubt, leave open/unconnected.
5	TDI	Output	JTAG data input of target CPU. It is recommended that this pin is pulled to a defined state on the target board. Typically connected to TDI on target CPU.
7	TMS	Output	JTAG mode set input of target CPU. This pin should be pulled up on the target. Typically connected to TMS on target CPU.
9	TCK	Output	JTAG clock signal to target CPU. It is recommended that this pin is pulled to a defined state on the target board. Typically connected to TCK on target CPU.
11	RTCK	Input	Return test clock signal from the target. Some targets must synchronize the JTAG inputs to internal clocks. To assist in meeting this requirement, you can use a returned, and retimed, TCK to dynamically control the TCK rate. Flasher Portable II supports adaptive clocking, which waits for TCK changes to be echoed correctly before making further changes. Connect to RTCK if available, otherwise to GND.
13	TDO	Input	JTAG data output from target CPU. Typically connected to TDO on target CPU.
15	RESET	I/O	Target CPU reset signal. Typically connected to the RESET pin of the target CPU, which is typically called "nRST", "nRESET" or "RESET".
17	DBGREQ	NC	This pin is not connected in Flasher Portable II. It is reserved for compatibility with other equipment to be used as a debug request signal to the target system. Typically connected to DBGREQ if available, otherwise left open.
19	5V-Target supply	Output	This pin can be used to supply power to the target hardware. Supply voltage is 5V, max. current is 300mA. If not needed, leave open.

Notes:

All pins marked NC are not connected inside Flasher Portable II. Any signal can be applied here; Flasher Portable II will simply ignore such a signal.

Pins 4, 6, 8, 10, 12, 14, 16, 18, 20 are GND pins connected to GND in Flasher Portable and Flasher Portable PLUS. They should also be connected to GND in the target system.

Power can be controlled via the J-Link commander. The following commands are available to control power:

Command	Explanation
power on	Switch target power on
power off	Switch target power off
power on perm	Set target power supply default to "on"
power off perm	Set target power supply default to "off"

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