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## FS2009 - Portable multi-project ISP Programmer for Atmel AT91SAM7 Microcontrollers

The FS2009 is a portable multi-project USB programmer ideal for Development, Field-Service and Production. In Standalone Mode (without a PC) the operator can select from any 1 of 64 pre-loaded 'Programming Projects' using the keypad and Display and then simply presses the key to program the Target Device. This makes the FS2009 programmer ideal for use in Development, Field-Service or Production programming environments. The FS2009(SAM7) version supports high-speed In System Programming (ISP) of the Atmel AT91SAM7 microcontroller family.

### Key features:

- Portable In-System (ISP) Programmer
- Ideal for Development, Production or Field use
- Supports ISP of AT91SAM7 devices
- Supports 'Standalone' operation i.e. no PC required after programmer has been configured
- Very fast programming speeds suitable for high-throughput production environments
- Up to 64 individual Programming Projects can be uploaded to the non-volatile On-board FLASH Store (4Mbytes).
- Robust I/O driver stage
- Individually configurable programmer I/O pins
- Programmer firmware is field upgradeable to cater for future algorithms
- CE / FCC / RoHS approved product

### Features

- ▶ [Supported Programmer Control Methods](#)
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- ▶ Supported Programmer Control Methods

The programmer supports the following control methods:

- **Standalone Mode** - Keypad and LCD controlled (no PC)
- **Development Mode** - Controlled via PC Software - Equinox Development Suite (EDS)
- **Project Upload Mode** - PC Controlled
- **ISP-PRO** - Production Software (chargeable upgrade)
- **ASCII Text Communications Protocol** (RS232 Serial control - chargeable upgrade)

- ▶ Target Interface Capabilities

The FS2009(SAM7) supports the following Target Interfaces / Algorithms:

- **AT91SAM7 JTAG** In-System Programming (ISP)

- ▶ Standalone Programming Mode



### Product Information

**Product:** FS2009 - Portable multi-project ISP Programmer for Atmel AT91SAM7 Microcontrollers

**Manufacturer:** [Equinox Technologies](#)

**Order Code:**

**Equinox:** FS2009(SAM7)

**Digi-Key:** 483-1019-ND

**Availability:** 4 in stock

**Price:** 299.95 (GBP)

[Excl. VAT]



### Overview Product



**FS2009 - Portable high-speed multi-project USB In-System (ISP) Programmer - OVERVIEW >>**

### Device Support

[Device Support List](#)



### Further Information



In 'Standalone Mode', the FS2009 is controlled via the push buttons on the front panel of the programmer - no PC connection is required. The programmer LCD and the LED Status Indicators are used to display the current status of the programmer. It is possible to select from 1 of 64 previously uploaded Programming Projects and then to repeatedly execute this project to program a batch of devices.

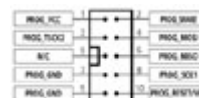
### In Standalone Mode...

- Programmer is completely portable as no PC connection is required
- Programmer supports storage up to **64** independent Programming Projects in the non-volatile On-board **4Mbits** FLASH Memory Store .
- The operator simply selects the required project using LCD and keypad
- Each project name is version controlled showing the project name, date, firmware revision and build date. e.g. **myproject-240402-2.3.4.12**
- Single key auto-program mode
- Simple PASS / FAIL response with diagnostics on program failure
- Operator can not inadvertently change the programming data or settings

### To configure the programmer for Standalone Mode...

- A Project Collection containing 1 - 64 Programming Projects must be uploaded on a one-off basis to the programmer using the EQTools PC software
- This is a single file which can be easily distributed to remote sites. It contains all projects, Hex File data, Fuse information etc.

### ► Development Mode



[ISP Header Overview >>](#)

### Downloads



[View Downloads for this Product](#)

### Product Software

[View All](#)

**ConsoleEDS**

[ConsoleEDS - Overview >>](#)



[EQTools Version 2 >>](#)

### Product News

[View All](#)



**28 January 2009:**

**Serial EEPROM Memory ISP programming support extended >>**



**13 January 2009:**

**Cost-effective programmer 'Bundles' available - Epsilon5 & FS2009 >>**



**12 November 2008:**

**STOCK AVAILABILITY now displayed. >>**



**10 September 2008:**

**NEXT DAY delivery via FedEx to main USA and European destinations >>**

**05 May 2008:**

**New Equinox Programmer Firmware V3.07 >>**



**05 May 2008:**

**Atmel 24Cxxx Serial EEPROM Memory ISP programming support >>**

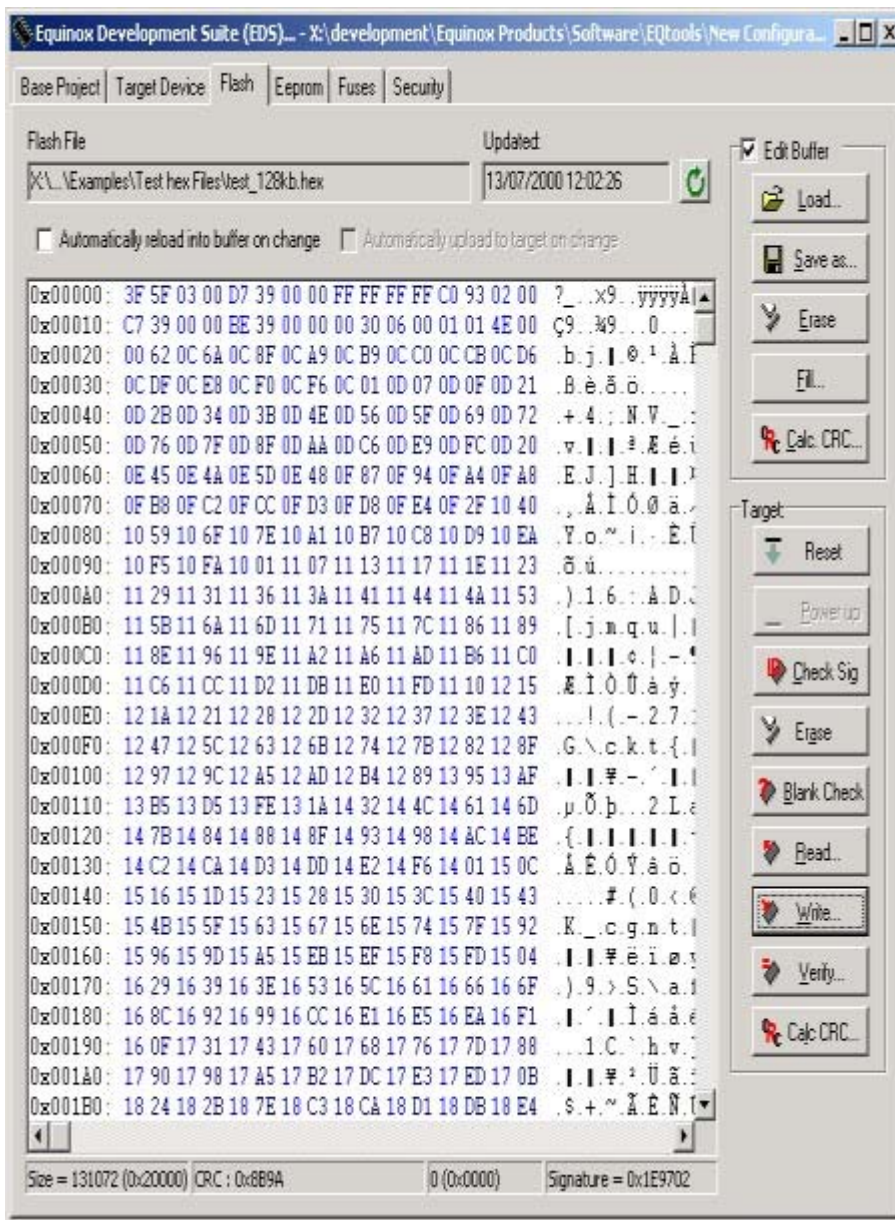


**14 March 2008:**

**Equinox announce ISP support for Atmel ATmegaxxxP 'PICO Power' AVR Family >>**

### Product Upgrades

[View All](#)



- Programmer is controlled from the PC via EQTools - Equinox Development Suite (EDS) Software
- Ideal for use in a Development Environment
- Supports manual writing / reading of FLASH / EEPROM memory areas
- Supports manual writing / reading of Fuses and Security Fuses
- All projects can be developed and tested on a real device before uploading a Programming Project to the programmer
- Tested Programming Projects can then be uploaded to the Programmer for use in Standalone Mode

#### ► Project Upload Mode

This mode allows a pre-compile Project Collection to be uploaded to the on-board 'FLASH Memory Store'. The programmer can store up to 32 Mbits of Project Information which is held indefinitely in non-volatile FLASH Memory. It is possible to upload up to 64 Programming Projects to the programmer, each of which can be for a different target device. A simple 'Upload Wizard' allows field personnel to upload single or multiple Programming Projects as part of Project Collections.

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- A simple 'Upload Wizard' allows field personnel to upload single or multiple Programming Projects as part of Project Collections.



Atmel AT91SAM7 -  
ARM7 JTAG Device  
Library Licence -  
Overview >>

#### Associated Products

[View All](#)

#### Cables



USB to RS232 Serial  
Convertor Cable >>

#### Evaluation Modules (Microcontroller)



Olimex - SAM7-H256  
HEADER  
DEVELOPMENT BOARD  
FOR AT91SAM7S256  
ARM7TDMI-S MC >>

#### Starter Systems (Microcontroller)



Olimex - SAM7-EX256  
DEVELOPMENT BOARD  
FOR AT91SAM7S256  
ARM7TDMI-S MC >>



Olimex - SAM7-H64  
HEADER  
DEVELOPMENT BOARD  
FOR AT91SAM7S64  
ARM7TDMI-S MC >>



Olimex - SAM7-LA2  
DEVELOPMENT BOARD  
FOR AT91SAM7EA2  
ARM7TDMI-S MC >>



Olimex - SAM7-MT-256  
DEVELOPMENT BOARD  
FOR AT91SAM7S256  
ARM7TDMI-S MC >>



Olimex - SAM7-P256  
DEVELOPMENT BOARD  
FOR AT91SAM7S256  
ARM7TDMI-S MC >>



Olimex - SAM7-P64  
DEVELOPMENT BOARD  
FOR AT91SAM7S64  
ARM7TDMI-S MC >>

► Programmer / Target System - Power Supply Options

The Programmer supports the following powering options:

- Target System can supply power to the programmer: 3.0 - 5.0V @ 50mA
- Programmer can supply power to the Target System: 5.0V @ 300mA
- Programmer and Target System can be Independently Powered

The Programmer comes with a 9V DC Power Supply which is regulated down to +5.0V inside the programmer.

► CE / FCC / RoHS Approved Product

- The FS2009 is a CE / FCC and RoHS approved product

► Spare Programmer I/O pins

- In SPI mode, there are 2 x Spare I/O pins for custom use
- In UART mode, there is 1 x Spare I/O pins for custom use
- The spare I/O pin(s) can be used for controlling circuitry on the user Target System including Chip Selects, additional RESET control lines, Watchdog Timers etc.

► Fast Programming Times



The FS2009(SAM7) supports fast programming of Target Devices via the JTAG algorithm.

► Standalone Mode - Program -> Test -> Re-Program

The programmer is capable of performing a multi-project Programming Sequence in Standalone Mode as follows:

- Program Test Firmware
- Execute Target Firmware
- Wait for Target Firmware to finish
- Program Production Firmware

This powerful functionality allows the programmer to be used as part of an In-Circuit Test procedure where the Target Firmware must be allowed to execute in order to eg. calculate some calibration values. The programmer initially programs some 'Test Firmware' into the Target Device and then allows the Target to run this firmware and waits for this firmware to finish executing. The real 'Production Firmware' is then programmed into the Target Device.

### Device Support (by family)

This product supports devices from the families listed below:

#### Atmel Corporation:

- AT91SAM7A - ARM7 FLASH Microcontroller
- AT91SAM7L (Low Power) Series - ARM7 FLASH Microcontroller
- AT91SAM7S - ARM7 FLASH Microcontroller
- AT91SAM7SE - ARM7 FLASH Microcontroller

*The following are available as chargeable upgrades: JTAG In-System Programming support for the Atmel ATmega AVR Family and 24Cxxx - Serial I2C EEPROM Memory Device Library. See [Upgrades] tab.*

#### Please note:

Not all devices may be supported within a family.

Please see the [Detailed Device Support List](#) for a list of all devices which the product supports.

### Ordering Information...

**FS2009 - Portable multi-project ISP Programmer for Atmel AT91SAM7 Microcontrollers**



FS2009 (SAM7) - Portable high-speed In-System (ISP) Programmer for JTAG programming of Atmel AT91SAM7 ARM7 microcontroller family with standalone capability using LCD / keypad (64 projects) and USB / RS232 connectivity.

**Manufacturer:** [Equinox Technologies](#)

**Order Code:**

**Equinox: FS2009(SAM7)**  
**Big-Key 483-1019-ND**

Quantity	Price (GBP) [Excl. VAT]
1 - 4	299.95
5 - 9	284.95
10 - 24	269.96
25 and above	254.96



**Availability:**  
4 in stock

For further information about related products, please see the [Overview Product](#).

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