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Equinox Technologies
FS2009(AVR-JTAG)

For any questions, you can email us directly:
sales@integrated-circuit.com

Distributor of Equinox Technologies: Excellent Integrated System Limited
Datasheet of FS2009(AVR-JTAG) - ISP MULTI PROJECT AVR JTAG USB

Equinox Products Page - FS2009 - Portable multi-project USB ISP Programmer for Atmel ATmega Microcontr...   Page 1 of 5

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Order Information | **Device Support** | **Features** | **Software** | **System Contents** | **Upgrades** | **Associated Products** | **Downloads** | **News**

FS2009 - Portable multi-project USB ISP Programmer for Atmel ATmega Microcontrollers

The FS2009 is a portable 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(AVR-JTAG) supports high-speed In System Programming (ISP) of Atmel AVR microcontrollers via the JTAG interface.

Key features:

- Portable In-System (ISP) Programmer
- Ideal for Development, Production or Field use
- 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
▸ Target Interface Capabilities
▸ Standalone Programming Mode
▸ Development Mode
▸ Project Upload Mode
▸ Programmer / Target System - Power Supply Options
▸ JTAG ISP Support for Atmel ATmega AVR Microcontrollers
▸ CE / FCC / RoHS Approved Product
▸ Spare Programmer I/O pins
▸ Fast Programming Times
▸ Standalone Mode - Program -> Test -> Re-Program
▸ Device Support

▸ 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(AVR-JTAG) supports the following Target Interfaces / Algorithms:

- **Atmel ATmega JTAG** In-System Programming (ISP)

▸ Standalone Programming Mode

Product Information

Product: FS2009 - Portable multi-project USB ISP Programmer for Atmel ATmega Microcontrollers
Manufacturer: **Equinox Technologies**
Order Code:
Equinox: FS2009(AVR-JTAG)
Digi-Key 483-1018-ND
Availability: 189 in stock
Price: 299.95 (GBP)
[Excl. VAT]

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Overview Product

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

Device Support
Device Support List

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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.
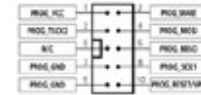
In Standalone Mode...

- 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 - Overview >>

 EQTools Version 2 >>

Product News   View All

13 January 2009:
Cost-effective programmer 'Bundles' available - Epsilon5 & FS2009 >>

Product Upgrades   View All

 ASCII Text Communications (ATC) - Serial Control Protocol for Equinox Programmers >>

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

Atmel AVR On-Chip Oscillator Calibration - Overview >>
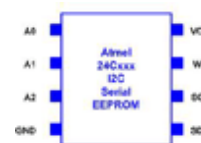
 EQTools Script Builder License Upgrades >>

 JTAG In-System Programming (ISP) Support for Atmel ATmega AVR Microcontrollers >>
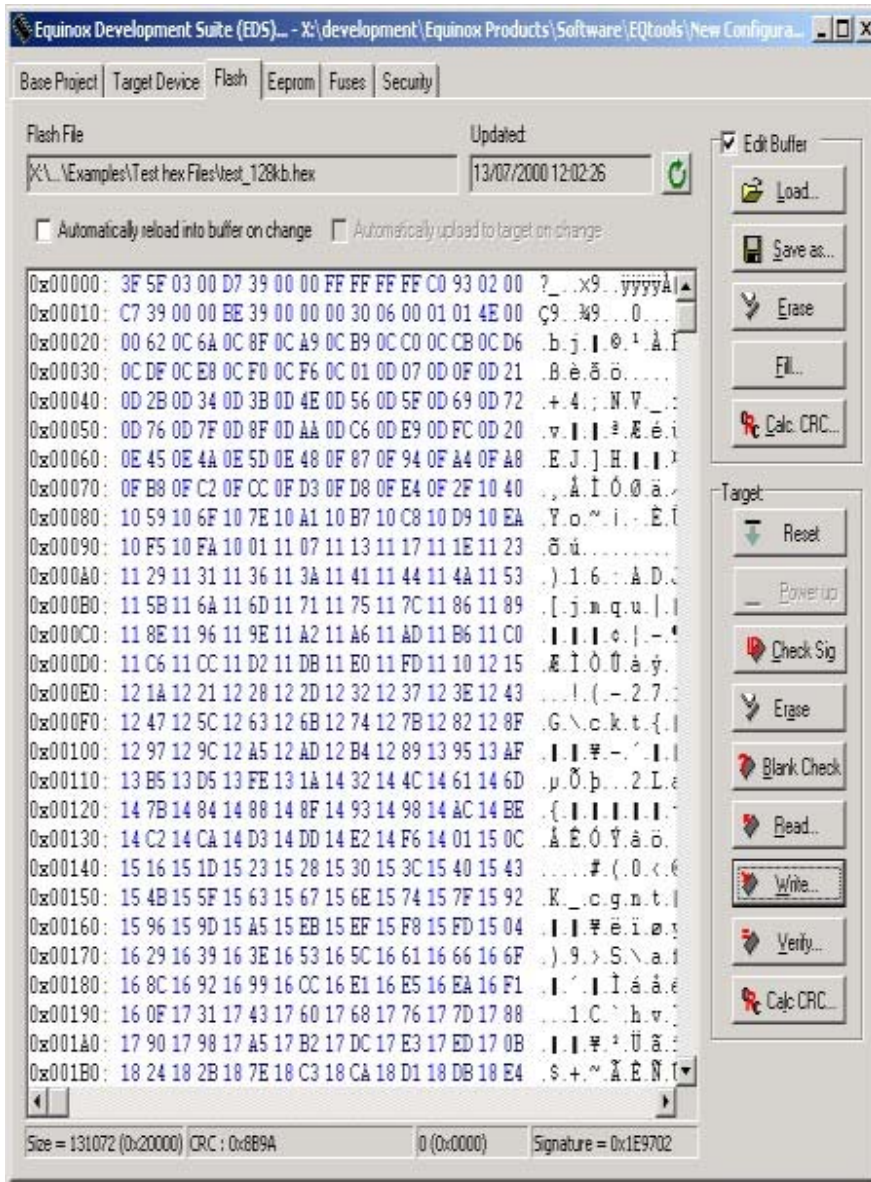
 Remote Application Control of Equinox Programmers - Overview >>

 24xxx - Serial I2C EEPROM Memory - Device Library - Overview >>

Associated Products   View All

Cables

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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 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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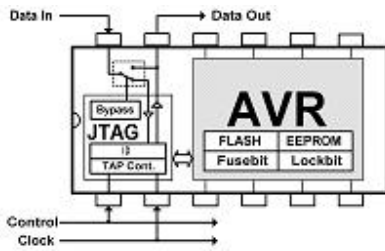
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▸ Programmer / Target System - Power Supply Options

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.

▸ JTAG ISP Support for Atmel ATmega AVR Microcontrollers

The FS2009(AVR-JTAG) supports programming of the Atmel ATmega AVR Microcontroller Family using the JTAG algorithm. This allows the FS2009 to program the ATmega devices at high speed via the JTAG port of the Target Device.

The advantages of JTAG In-System Programming are:

- Much faster programming times (up to x4 times faster than SPI)
- JTAG port can also be used as a 'Debug Port' during product development

▸ 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 (AVR-JTAG) 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)

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This product supports devices from the families listed below:

Atmel Corporation:
- AT90CAN - AVR with on-chip CAN : AVR microcontroller with on-chip CAN
- AT90USB - AVR FLASH Microcontroller Family
- ATmega AVR - FLASH Microcontroller Family
- ATmegaxxxP 'PICO Power' AVR Microcontroller Family

The following are available as chargeable upgrades: 24Cxxx - Serial I2C EEPROM Memory Device Library and Atmel AT91SAM7 Upgrade Pack. 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 USB ISP Programmer for Atmel ATmega Microcontrollers
FS2009 (AVR-JTAG) - Portable high-speed In-System (ISP) Programmer for JTAG programming of Atmel AVR microcontroller family. Standalone capability using LCD / keypad (64 projects) and USB / RS232 connectivity.
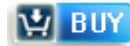**Manufacturer: Equinox Technologies**
 Order Code:
  Equinox: FS2009(AVR-JTAG)
  Digi-Key 483-1018-ND

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

BUY

Availability:
189 in stock

For further information about related products, please see the Overview Product.