

FLASH focus

The Embedded Systems Newsletter from Equinox Technologies

Issue Number 4

**From...
Stage Lighting To...
Mobile Phones**
*Equinox can
In System
Program them
all!*



**PRODUCTION
ISP**
In-System Programming

**Ever dreamt of
just-in-time
programming?**

Equinox have made
it a reality! Now you
can In-System Program
(ISP) the very latest
firmware just before the
product leaves the factory.

**Need to In-System Program (ISP)
more than one target system at
once?**

Equinox now offer a Production ISP
system expandable from one up to
eight independent programming
channels.

**Need to program unique data into
each target system?**

Equinox Production ISP systems
interface to most
popular databases
allowing serial
numbers and
calibration
data to be
programmed
and logged.



FS2000A
HAND HELD ISP PROGRAMMER

**Do you need to
update your
product firmware
in the field?**

*Try this portable
In-System Programmer
for size.*



**Newsletter
highlights...**

AVR[®] ICE200

The ICE200 is a true Real-Time
In-Circuit Emulator for the Atmel AVR
Microcontroller Family.



**Micro-ISP
Series IV**

The In-System Programming Solution
(ISP) for Atmel 89S and AVR
Microcontrollers

Pro101

High-Speed In-System Programmer for
the Production Programming
Environment

PRODUCTION
ISP
In-System Programming

GEMINI-1

In-System Programming for Philips 8051
FLASH Microcontrollers

all writer
48-pin Universal Programmer



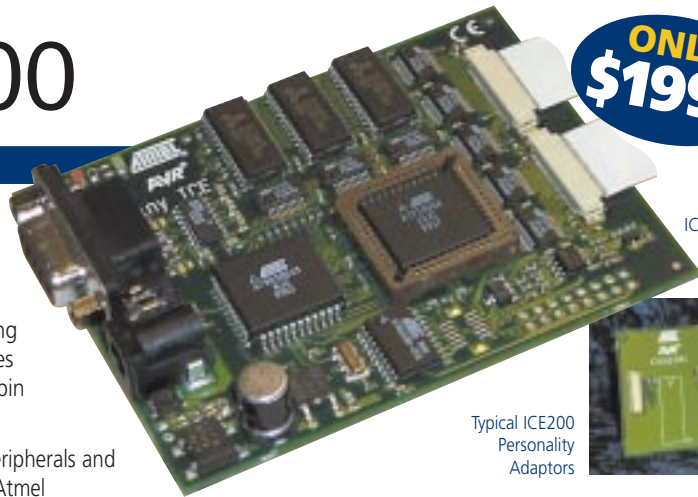
The Embedded Solutions Company

AVR[®] ICE200

In-Circuit Emulator

The ICE200 is a true Real-Time In-Circuit Emulator for the Atmel AVR Microcontroller Family. The system offers full speed emulation of most AT90S and ATtiny AVR derivatives including emulation of memory, I/O and on-chip peripherals. Full symbolic debugging in 'C' or assembler is supported using the powerful 'AVR Studio' IDE from Atmel. The ICE200 comes complete with target pods for 8-pin, 20-pin, 28-pin and 40-pin (standard and A/D) derivatives.

- Non-intrusive single-chip emulation of processor core, I/O, peripherals and EEPROM memory using dedicated AVR emulator chip from Atmel
- Supports most AT90S derivatives plus ATtiny11/ATtiny12 derivatives (ATmega not supported)
- Full support for devices featuring A/D converters
- Emulation pods for 8-pin, 20-pin, 28-pin and 40-pin DIL devices included as standard
- Wide target voltage range (+2.7V to +5.5V) with automatic voltage sensing
- Comes complete with AVR Studio - Integrated Development Environment:
 - Integrated assembler
 - Full Run Time Control from the PC
 - Commands include: Run, Break, Trace Into, Step Over, Step Out, Run-to-cursor, Reset, Auto-step and Multi-step
 - Full visibility of and access to the target AVR Register File, SP, PC and Memory contents
 - Graphical support for I/O and on-chip peripherals
 - Supports an unlimited number of breakpoints
 - Symbolic debugging support for assembler and popular C compilers
 - Auto Log Points - Non real-time logging/watches (no trace facility)



ONLY \$199.95

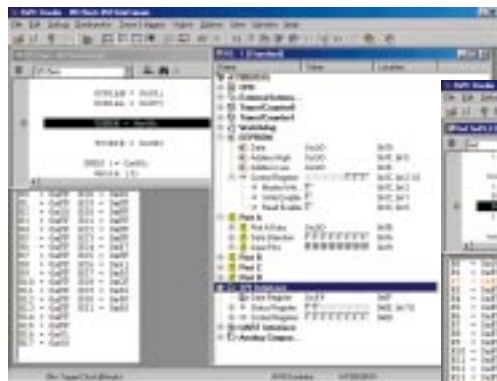
ICE200 Emulator



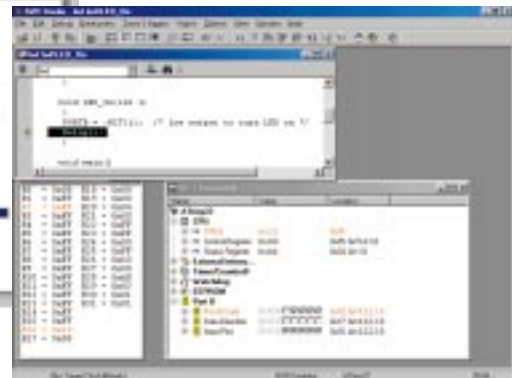
Typical ICE200 Personality Adaptors



ICE200 Emulator System Contents



AVR Studio Software showing a simple C program created using ICCAVR V6



Order Code: EQ-ICE200

Professional AVR Development SYSTEM



ANSI-C Embedded Development Tools for Atmel AVR Microcontrollers.

FROM \$199.95



System includes parallel/ISP programmer plus personality, evaluation and prototyping modules. Compatible with 'AVR Studio' and ICE200 emulator.

ONLY \$249.95

Order Code: AVR-DV1

ICCAVR V6 Standard / Professional Versions

IDE: Powerful IDE including Editor, Project Manager, C Compiler and assembler

ANSI C Compiler

- Modern fast C Compiler with full support for the ANSI C language*
 - Optimised 'switch' handling, algebraic simplifications, advanced register allocation, peephole optimization
 - Supports 32-bit longs & 32-bit IEEE single precision floating point
 - Full support for interrupt handlers in C
 - Supports in-line assembly
 - Supports automatic generation of bit I/O instructions
 - Strings can be placed in either RAM or FLASH
 - Subset of ANSI C library is provided which includes printf, memory allocation, strings and maths functions
- *NOT a micro-C or extended K&R C

Assembler / Linker

- Relocatable assembler and linker
- Assembler directives include conditional processing, include files, macros and textual defines.

NEW
ICCTINY AVR Compiler
Coming Soon!

Order Code: See table opposite

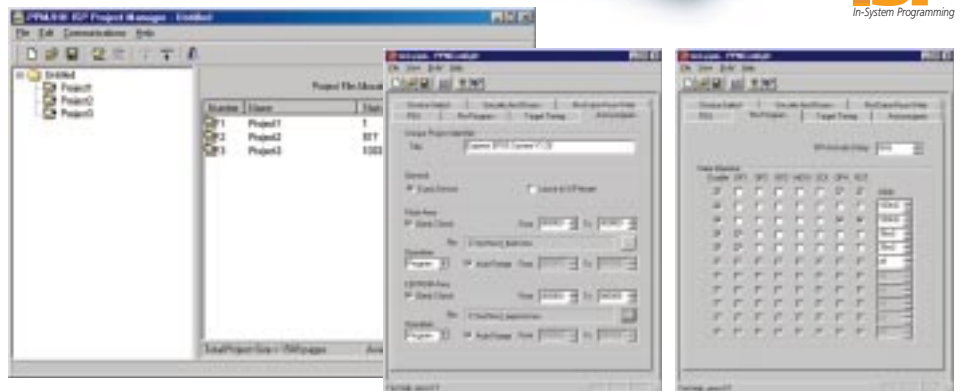
Pro101

High-Speed In-System Programmer for the Production Programming Environment

- ▶ Designed for high-volume In-System Programming (ISP) Atmel microcontrollers (i.e. Device is pre-soldered into the target system)
- ▶ Supports high-speed ISP of most Atmel ISP AVR microcontrollers (AT90S, ATmega and ATtiny) and AT89S/AT89LS derivatives
- ▶ Automatic target connect/disconnect detection - no operator intervention required
- ▶ Wide target voltage range: 3.0V to 5.8V (Programmer capable of supplying power to the target)
- ▶ Rigorous target data integrity validation including CODE, EEPROM and all Fuse/Security bits
- ▶ Personalised Data Utility caters for batch programming of devices
 - Automated serial number utility - allows a unique serial number to be programmed into each target system
 - Pass/Fail statistics, programming times and diagnostic information are logged to a database
 - Interfaces to most database engines
 - Interfaces to a barcode scanner (not supplied)



Expandable from 1 up to 8 channels



Order Code: EQ-PRO101

Micro-ISP Series IV

The In-System Programming Solution (ISP) for Atmel 89S and AVR Microcontrollers



Development In-System Programmer supporting the following microcontroller families:

- Atmel AT89S/89LS (8051 + ISP)
- Atmel 'Classic AVR' (AT90S)
- Atmel ATmega (AVR)
- Atmel ATtiny (AVR)
- Supports ISP down to 3.3V (LV version only)

Order Codes:
UIISP-S4 (4.8-6.0V)
UIISP-LV4 (3.3-6.0V)

\$129.95
 UIISP-S4

\$199.99
 UIISP-LV4

FS2000A

HAND HELD ISP PROGRAMMER

- Portable programmer capable of working both standalone or connected to a PC
- Very fast programming times
- Supports target voltages of 3.3 to 5.0 V
- Target ISP cable connects between the programmer and target ISP port (supports both Atmel & Equinox headers)
- Supports local storage of up to 64 different 'Programming Projects' in internal FLASH memory
- Project selection and programming status displayed on LCD
- Ideal tool for development, field service and production ISP requirements

Standalone ISP Mode - NO PC required!

- Ideal for field service and end-of-line production ISP environments

Development ISP Mode - PC controlled

- Programmer connects to PC via serial cable supplied
- Powerful IDE - allows interactive reading/writing of code, data & fuses



Order Code:
FS2000A(xx)

Order code	Product Description	1200	ATtiny	AT90S	ATmega	USD \$	GBP £
EQ-ICE200	ICE200 - AVR In-Circuit Emulator	Y	11/12	Y	N	199.95	124.95
ICCTINYAVR	ICCTINYAVR - ATtiny only version	Y	Y	N	N	129.95	79.95
ICCAVRV6STD	ICCAVR Toolset - Standard Version	N	N	Y	Y	199.95	124.95
ICCAVRV6PRO	ICCAVR Toolset - Professional Version	N	N	Y	Y	499.95	299.95
UIISP-S4	Development ISP Programmer (+5V)	Y	LV ISP only	Y	Y	124.95	79.95
UIISP-LV4	Development ISP Programmer (3.3-6.0V)	Y	LV ISP only	Y	Y	199.95	124.95
AVR-DV1(xx)	AVR Professional Development System	Y	11	Y	Y	249.95	149.95
PRO101(xx)	Single Channel Production ISP Programmer	Y	LV ISP only	Y	Y	1,199.95	749.95
FS2000A(xx)	Hand Held ISP Programmer for Atmel Microcontrollers	Y	LV ISP only	Y	Y	499.95	299.95

xx = Mains Power Supply type (UK / EU / US)

all writer

48-pin Universal Programmer

The AllWriter is a 48-pin universal programmer which is ideally suited to R&D or low volume production environments.

AllWriter Features: . . .

- Supports a wide range of programmable devices including EPROM's, FLASH Memory, Serial/Parallel EEPROM, CEPAL, GAL's, CPLD's, PEEL FPGA's and many microcontroller derivatives.
- Quality 48-pin Zero Insertion Force (ZIF) socket
- Supports many low voltage devices down to 1.8V
- Ultimate PC connectivity - both parallel (IEEE 1284) and serial (COM) connections are supported (all cables supplied)
- Built-in mains power supply featuring auto-voltage select (100-240 V AC 50/60Hz)
- Compatible with Windows 95, 98 (Windows 3.11 and NT are NOT supported)
- Device commands include: Insertion-check, Check signature, Blank Check, Erase, Read, Write, Security



FAST support for new devices available via **FREE** software updates downloadable from the Web.

UK Pounds £429.95

ONLY \$649.95

Order Code: SG-ALLWRITER-1

GEMINI-1

The In-System Programming Solution (ISP) for Philips FLASH 8051 Microcontrollers

- Supports In-System Programming (ISP) of the following microcontroller families:
 - Philips P89C51Rx+ (+12V Vpp)
 - Philips P89C51Rx2 (No Vpp req)
 - Philips P89C66x (No Vpp req)
- Powerful 'GEMINI' programmer interface software:
- Field upgradable firmware via Internet downloadable utility - caters for new programmer algorithms in the future
- On-board Vpp generator (+12V)
- Programmer 'Active' signal - used to drive an LED on the target system
- Connects to spare PC COM (serial) port
- Robust 'EMC-friendly' design plus I/O pin protection



UK Pounds £59.95

\$99.95

Order Code: EQ-GEM1P

MICRO-PRO Plus

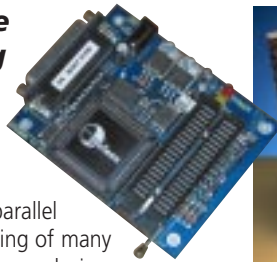
The Complete Programming Solution...

Supports parallel programming of many FLASH/OTP/EPROM microcontroller derivatives:

- Atmel 8051 - 89C, 89LV, 89S/89LS FLASH families
- Atmel 8051 - 87F OTP family
- Atmel Classic AVR family (limited support)
- Dallas 8051 - 87C520, 87C530, 87C550 OTP/EPROM devices
- Intel 8051 - 87C51/52/251 OTP/EPROM devices
- NEW** Philips 8051 - 89C51Rx+, 89C51Rx2 FLASH families
- Philips 8051 - 87C51/51Fx/52 OTP/EPROM devices
- Temic 8051 - 87C51/52/52X2/251 OTP/EPROM devices

Supports parallel programming of many Atmel memory devices:

- Serial EEPROM - AT17C, AT24C, AT250xxx, AT93C
- Parallel EEPROM - AT28C
- Parallel FLASH - AT29C, AT49F
- Powerful 'Micro-Pro' programmer interface software
- Field upgradable hardware - caters for new programmer algorithms in the future
- Connects to spare PC LPT (parallel) port
- Programming adaptors available for many other device package types
- Device Manufacturer Certification for many device types



CE

UK Pounds £124.95

\$199.95

Order Code: MPW-PLUS

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