

# AVR<sup>®</sup> JTAG ICE

## On-chip Debug System

### DEBUG AVR APPLICATIONS USING JTAG INTERFACE

The AVR<sup>®</sup> JTAG ICE from Atmel<sup>®</sup> is a powerful development tool for On-chip Debugging of all AVR 8-bit RISC microcontrollers with IEEE 1149.1 compliant JTAG interface. The JTAG ICE and the AVR Studio<sup>®</sup> user interface give the user complete control of the internal resources of the microcontroller, helping to reduce development time by making debugging easier. The JTAG ICE performs Real Time emulation of the microcontroller while it is running in a target system. The JTAG ICE provides emulation capability at a fraction of the cost of traditional emulators.



- AVR Studio Operated
- Full Emulation of All Analog and Digital Functions
- Full JTAG Programming Support
- Supports Multiple Devices in a JTAG Scan Chain
- RS-232 Interface to PC
- Full Support for Assembly and High Level Languages
- Program and Data Breakpoints
- All Operations and Breakpoints are Real Time
- Adapter for Direct Connection to STK500
- Upgrades are done from AVR Studio
- Target Voltage 2.0 – 5.5V
- Supply Voltage 9V – 12V, or Powered from Target

## JTAG ICE AVR ON-CHIP DEBUG SYSTEM

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The JTAG ICE allows access to all the powerful features of the AVR microcontroller. All AVR resources can be monitored: Flash memory, EEPROM memory, SRAM memory, Register File, Program Counter, Fuse and Lock Bits, and all I/O modules. The JTAG ICE also offers extensive On-chip Debug support for break conditions, including break on change of Program memory flow, Program memory Break Points on single address or address range, and Data memory Break Points on single address or address range.

The JTAG ICE will automatically be upgraded by future AVR Studio releases to support future devices with JTAG support as they are released.



The JTAG ICE interface is integrated in AVR Studio, Atmel's front-end tool for development on the AVR architecture. All phases of the AVR development can be done in this Integrated Development Environment.

### Supported Devices

ATmega323	ATmega128	ATmega162
ATmega16	ATmega32	ATmega169

*Note: Low voltage devices are also supported.*

### Ordering Information

The JTAG ICE is available from Atmel franchised distributors.

The ordering code is **ATJTAGIC**

The latest version of AVR Studio is available free of charge from Atmel web site: [www.atmel.com](http://www.atmel.com)