

- Industry Proven
- Classic Hardware
- ISP-USB Port
- Application Builder
- AVR Studio4
- AVR C Compiler
- AVR Book on CD
- Embedded C Book on CD
- USB Emulator



AVR TRAINER

A complete Training Kit for AVR microcontrollers



Complete Training Kit

The AVR Trainer is the most comprehensive training kit available for microcontrollers, especially at such a low price. As well as a book to get you started, you get a complete development environment including application builder, editor, assembler and simulator to write and try out your code. If you prefer to use C language an unlimited C Compiler is also included. Once your code is written, there is a board to try it on, an emulator to debug it in real time or by single step, plus a programmer

Contents:

- AVR Book on CD
- Target board
- Board Schematics
- AVR device sample
- AVR ISP USB
- Full manual on CD
- Application Builder
- AVRStudio 4
- WinAVR C
- Code examples
- AVR datasheets
- AVR JTAG ICE
- Embedded C Book on CD

The AVR TRAINER includes all the following items:

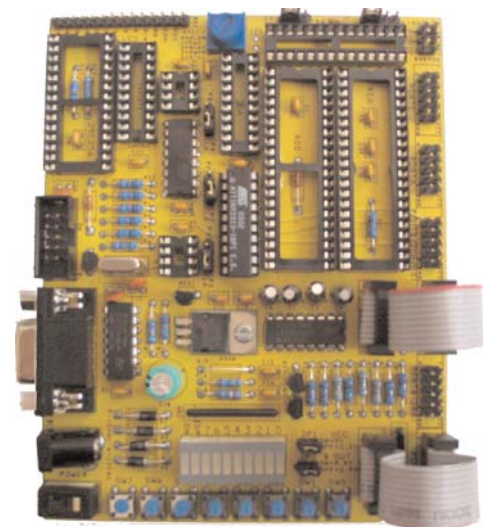
- Get Going with AVR and Embedded C book on CD
- AVRStudio 4 Full development Environment with Editor, Assembler and Simulator
- Application Builder for swift code development
- WinAVR C Compiler that is integrated into AVRStudio
- Code examples
- USB AVR JTAG ICE or emulator for efficient code debugging in real time
- Target board
- Board Schematics
- AVR device sample
- USB AVRISP In System Programmer
- Full manual on CD
- AVR datasheets

STK200 board

You need hardware that supports all your needs but does not take weeks to understand. The classic target board is effectively laid out to give you access to all the peripherals of the different AVR devices.

Unlike other AVR boards, the STK200 is simple to use and does not require a box full of leads and jumpers. Nor do you have to spend hours studying the manual before you can do anything.

But you still get all the features you need.



Compatible with:

- Win 2000/XP
- Win VISTA

Order Code:

AVR-TRAIN

- Port Headers. 0.1" (2.54mm) DIL headers for all ports, including a Vcc and Ground pin for external circuitry. Features multiple Port B headers to correctly route signals on smaller devices and retain compatibility with original STK200 boards

- Sockets for different devices. 1 x 8, 2 x 20, 1 x 28 and 2 x 40 pin sockets to support all device pin-outs
- 8-way bar LED and 8 Switches. Can be connected to any available port using short 10-way leads (supplied)
- RS232 circuit. Full specification RS232 port with DB9 connector
- Clock/Port Pin select on smaller devices to free extra I/O pin if not programming
- LCD Interface connector. 14-way connector for Hitachi LCD units, complete with contrast resistors and pulse stretching circuitry
- 3.3V or 5V operation. Voltage selection using a single jumper
- Brownout. Built in brownout circuit, with single jumper to set 2.9V or 4.5V level
- ADC circuit. Flexible ADC interface with reference pot or user supplied or internal reference. Supports new ADC features of ATmega devices including differential inputs.
- External Memory. 74HC573 address latch and Flash RAM sockets (Devices available separately)
- EEPROM socket. 24C (2 wire) memory socket
- Clock circuit. External clock circuit for reliable operation on all sockets. Default crystal is 8MHz for Low Voltage devices but board supports crystals up to 16MHz.

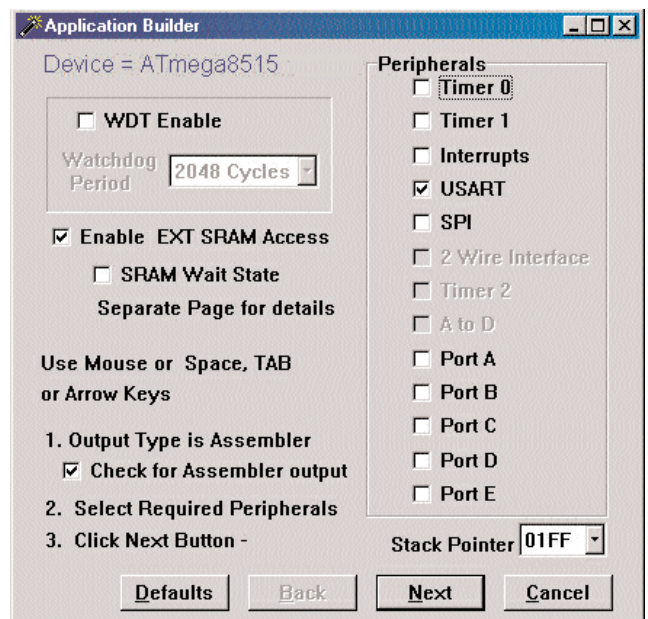
AVR ISP-U

The system uses a USB port programmer with 10-way ribbon cable using Kanda standard connection as adopted by Atmel and the ISP software is now an industry standard. This is a full featured programmer with all programming operations - Erase, Read, Program, Verify, including all Fuse and Lockbit settings. For a full description of the programmer, see AVRISP-U

Application Builder

The Application Builder uses simple wizards to create all your setup code including ports, timers, UART, ADC, SPI, watchdog and interrupts. Stack pointer, External SRAM access and Boot Block setup (Reset and Interrupt Vector locations) can also be set.

This powerful feature gives you instant source code templates and code examples. It also reduces the need to read all the datasheets before you start your development, saving you time and money.



- Supported devices include ATmega8515 and ATmega8535
- Support for all new Timers, ADC features, External RAM access configuration etc.
- Bootloader support, including placing of Reset and Interrupt Vectors
- Output type can be Assembler or C code
- Runs under all Windows operating systems

Atmel AVR Studio

Atmel's superb development environment, AVR Studio 4, is included on the CD so you do not have to download it. It includes full editor, assembler and simulator for all the AVR devices. It is project based so that you can keep all your files together without any hassle. This is the best microcontroller development environment available from any manufacturer.

Order Code:

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WinAVR C Compiler

The WinAVR GNU C Compiler supplied is unlimited and full of features. It can be run from the command line but most users will probably prefer to integrate it into AVRStudio. This is done by the installer so you can debug C code with the AVR JTAG ICE in the source code window in AVRStudio.

JTAG Emulator



The JTAG emulator uses the on-chip debug features of the AVR microcontroller so that the debugging is done in circuit on the AVR device. It includes features such as Run to Breakpoint, Single Step and Branch on Condition. This makes it much easier to debug your code. Connects to USB port on PC.

As well as the connectors for the STK200 board, the kit includes connectors for Atmel's JTAG interface, serial leads and the firmware update board to add support for new devices.

AVR and Embedded C Books on CD

The Get Going With AVR Book covers topics such as Assembly Language, programming planning, logic, numbering systems and the AVR structure. It touches on C language writing and debug tools and includes lots of different code examples to try out on the hardware.

The Embedded C book introduces C programming and methods, and is based on IAR free Kickstart compiler.



Technical

- Power Supply requirements. The board needs 9-15VDC or 7-12VAC. Connector type is a 2.1mm barrel connector, centre positive. See PSU9V-UNI for suitable PSU (wall transformer)
- Clock. Default is 8MHz but can be replaced by crystals up to 16MHz as crystal is in socket
- Programming Interface (ISP).

MISO	SCK	RESET	LED	MOSI
9	7	5	3	1
10	8	6	4	2
GND	GND	GND	GND	Vcc

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