

## Features

- Portable
- Compact
- One button operation
- 9V Battery or PSU
- Comprehensive device support
- Can power target
- Field use
- Production use
- Supports all fuses
- Supports Lock bits
- Supports 0-5V Vcc
- 256KB memory
- Program EEPROM only option
- Program Flash only option
- Program both Flash and EEPROM
- Automatic verify

## Device Support:

AT90S, ATtiny and ATmega AVR microcontrollers including all L, P, A, PA, C, V and other types

# AVR Hand Held Programmer

# AVR<sup>®</sup>

## A battery powered portable ISP in a hand held case, with PSU option

### Introduction

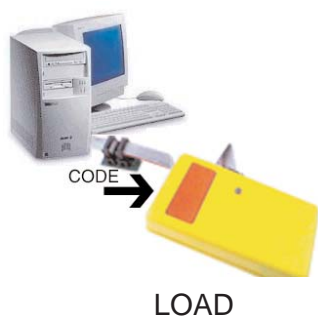
The ultimate programming tool for AVR microcontrollers, in the field or on the production line - so easy a child can use it! Just load it once and then program target devices again and again and again.

### One Starter Kit = Many Programmers

You need one starter kit to load your Hand Held Programmer with settings and code from a PC or laptop, using the simple Wizard software and the printer port connector supplied in the starter kit. Once your programmer is

loaded, you can program as many target devices as you want. It is ideal for field or production use and it is impossible for inexperienced operators to make errors. The single button operation and clear Red/Green LED error indicator prevents mistakes.

Just connect the starter kit to your USB port and run the wizard software. Select your program and/or EEPROM files, device type, fuse settings and device voltage in the simple Wizard screens and load your program or test code in seconds. As the programmer is battery powered during load, you don't need any power supplies or cabling, just plug a program-



mer into the simple USB adapter supplied with the starter kit.

Once a programmer is loaded, it is completely portable and can be used where you need it, not where your PC is located. The programmer will retain your code even if you remove the battery as it is stored in non-volatile memory.

### Programming your targets

To use your programmer on the production line or in the field is so easy! Plug the programmer lead into the 10-way header on the target and press the big red button. During the program and verify operations, the LED flashes green. Once it is finished, a steady green light shows programming and verify was successful. If there were errors, the LED flashes red with a sequence that shows what error occurred: 1 flash = No response from device, 2 = Erase failed, 3 = Program failed, 4 = Fuse write failed. These codes will repeat if the stay on time is set in the software wizard timing screen.

The programmer can supply power to a target board, provided it doesn't draw more than 150mA, which is great for field use or adding QA or configuration data in the AVR EEPROM at different work stations. Alternatively, the programmer can draw power from the target.



MOVE

For field use, you can use the 9V PP3 battery included. It will even power your target circuit with up to 150mA. Alternatively plug in a 9V power supply and save on battery life.



PROGRAM

## Device Support:

- ATtiny12
- ATtiny13
- ATtiny15
- ATtiny22
- ATtiny26
- ATtiny2313
- ATtiny24
- ATtiny44
- ATtiny84
- ATtiny25
- ATtiny45
- ATtiny85
- AT90S1200
- AT90S2313
- AT90S2323
- AT90S2343
- AT90S2333
- AT90S4414
- AT90S4433
- AT90S8515
- AT90S8535

- ATmega48
- ATmega8
- ATmega88
- ATmega8515
- ATmega8535
- ATmega16
- ATmega161
- ATmega162
- ATmega163
- ATmega168
- ATmega169
- ATmega32
- ATmega323
- ATmega64
- ATmega103
- ATmega128
- ATmega2561

Plus all versions (L, P, PA, A, V etc.)  
New Devices supported with free updates

## Operating Systems

- WIN 2000/XP
- WIN Vista/7
- 32 and 64-bit

### Starter Kit Contents

- Hand Held Programmer
- PC Interface (USB port)
- Ribbon cables- 10-way connectors
- Adapter for loading programmer
- Software CD
- Supplied in video case



### Software Features

- Supports Windows 2000/XP/VISTA/7
- Simple Wizard software
- Drop-down device selection list
- Easy file selection for Flash and EEPROM
- Most file formats can be loaded
- Program Flash only to preserve EEPROM data
- Or EEPROM only for configuration or QA data
- Or program both Flash and EEPROM
- Clear Fuse and lockbit setting screen
- New extended Fuse options supported
- Select target Voltage, from 0-5V- 0.02V steps
- Click finish to load your programmer

### Power Options

There are three power options with the hand held programmer.

#### 1 Programmer powers target.

Select Vcc needed in software (0-5V) and plug into un-powered target. Connector pin 2 (Vcc) must be connected to Vcc on your board. Use battery or external PSU

#### 2 Target Powers Programmer.

Target circuit Vcc line must be connected to Vcc pin on header (Pin 2). Power target.

#### 3. Target and Programmer both powered.

Set Programmer voltage in software to match target voltage. Do NOT connect target Vcc line to Pin 2

**Always connect all 4 GND pins to target ground, 0V**

### Connector

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

### Programmer Features

- Programmer Size 106 x 58 x 25mm
- Programmer Size 4.5 x 2.5 x 1 inch
- 9V PP3 battery included
- 9V 2.5mm barrel connector for PSU
- Flexible Vcc range - 0 to 5V

- 256KB memory capacity
- Preserve EEPROM
- Non-volatile storage keeps your data
- Supports AT90S, ATtiny, ATmega devices
- Single button operation
- Red/Green error LED

Product	Order Number
USB Hand Held Programmer Starter kit	HH0110
USB Hand Held Programmer	HH0120
LPT Hand Held Programmer Starter Kit	HH0110-P
LPT Hand Held Programmer	HH0120-P

**YOU MUST HAVE A STARTER KIT TO LOAD THE INDIVIDUAL PROGRAMMERS**

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