KAMAMI

KamPROG for AVR

ISP programmer for AVR microcontrollers

Thank you for buying KamPROG for AVR. We hope that the power and quality of our tool allow you to appreciate the advantages of AVR microcontrollers.

ver. 1.0

btc

Introdcution

KamPROG for AVR is development/production programmer for Atmel AVR microcontrollers. It can be controlled by KamProg application, Bascom AVR and AVR Studio. Programmer is connected to PC USB port. KamPROG works with AVR microcontrollers that can be connected through 10-pins IDC header (Atmel standard).

Features

- Programmer for ISP-enabled AVR microcontrollers
- 10-pins IDC output header, Atmel standard pinout (Fig. 1)
- Power supply from USB port
- Operates with KamPROG application, Atmel AVR Studio and Bascom AVR
- Windows XP, Windows Vista compatible

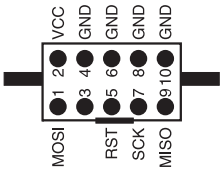

Fig. 1. Output connector pin layout

Standard equipment

Code	Description
KamPROG	▶ Cable USB A/mini B ▶ KamPROG for AVR programmer ▶ IDC cable (1m)

Technical assistance

For technical assistance, please contact support@kamami.com.
Please provide the following data:

- Version of the operating system
- Microcontroller type used in your system and its oscillator frequency
- Detailed description of the problem

BTC Korporacja
05-120 Legionowo, Poland
ul. Lwowska 5
e-mail: office@kamami.com
http://www.kamami.com

Installation

KamPROG for AVR does not require drivers, you only need to download and install KamPROG software (*http://www.kamami.com/?content=kamprogavr*). During installation you have to decide, whether you want to install AVR Studio Plug-in (Fig. 2).

Bascom AVR (v. 1.11.9.3 and newer) supports KamPROG for AVR.

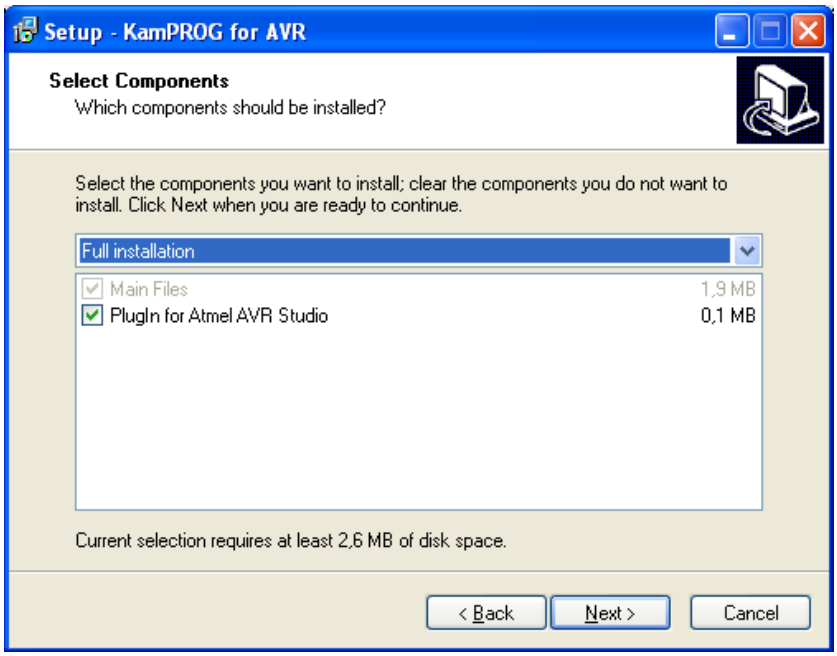

Fig. 2. KamPROG for AVR installation

Software

On the figure 3 you can see programmer's application window.

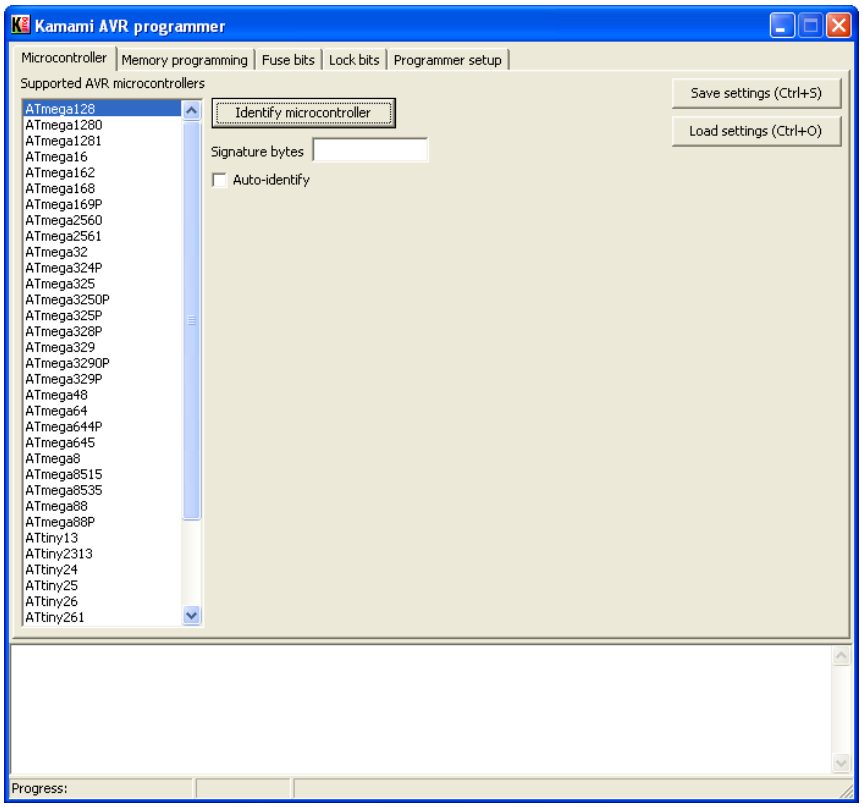

Fig. 3. Microcontroller tab of KamPROG for AVR application

Microcontroller tab

On this tab you can find list of supported microcontrollers. You can choose programmed device on the list or identify it using its signature bytes (*Identify microcontroller* button). If you check *Auto-identify* checkbox then device will be identified everytime you open this tab.

Memory programming tab

To erase microcontroller's Flash memory, EEPROM memory (if EESAVE is not set), lock bits (LB, BLB0, BLB1) press *Chip erase*.

To write Flash memory enter hex file name, press *Write button* in Flash section. You can also use two additional options: *Erase chip before Flash programming* and *Verify written data.*

You can also verify written data by pressing *Verify* button and read microcontroller's Flash memory conent into hex file (*Read* button).

EEPROM section works similar (*Erase chip before Flash programming* and *Verify written data* options are not available for EEPROM).

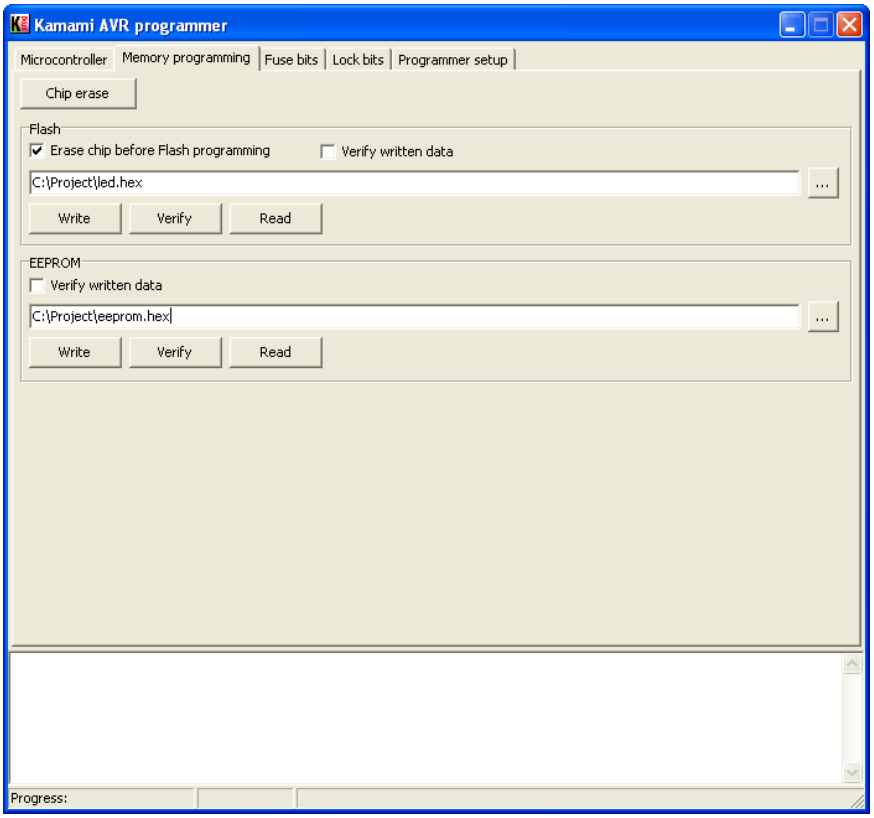

Fig. 4. Memory programming tab of KamPROG for AVR application

Fuse bits and *Lock bits* tabs

Here you can set fuse bits and lock bits values.

NOTICE Be careful while changing fuse bits values. Some combinations can make microcontroller not accessible using SPI! For more informations see microcontroller's documentation.

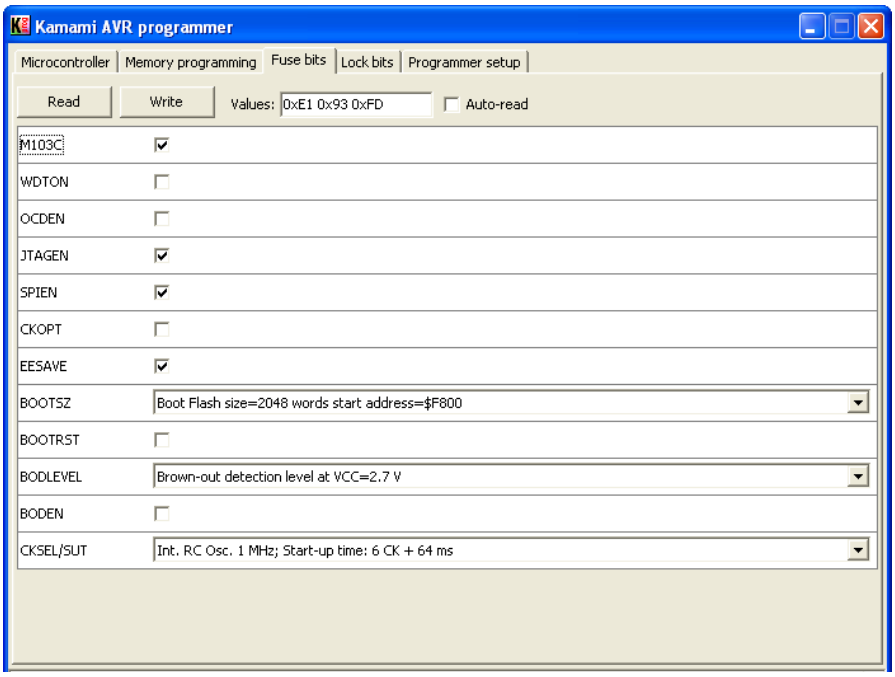

Fig. 5. fuse bits tab of KamPROG for AVR application

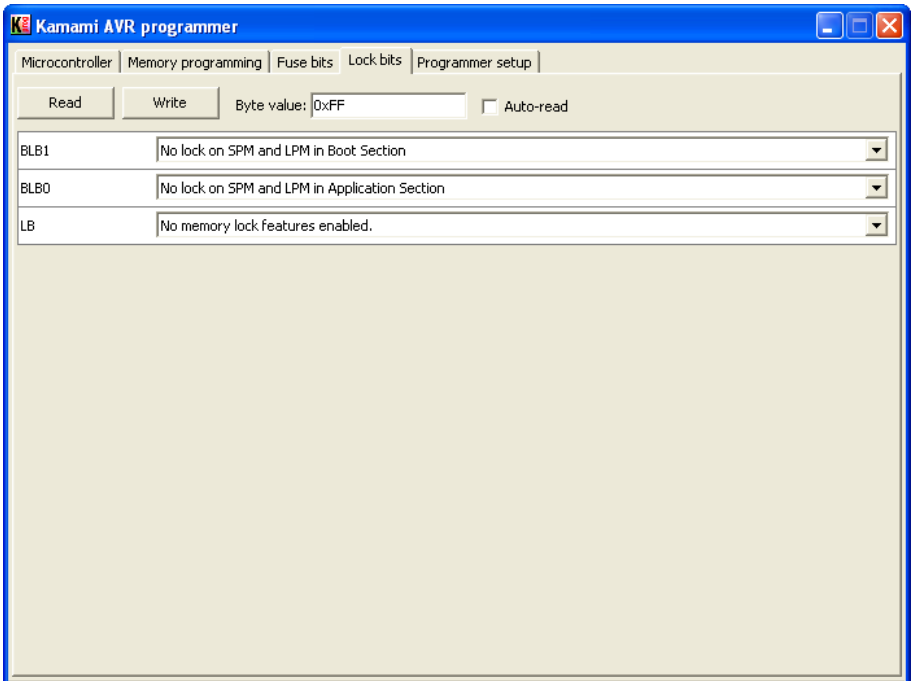

Fig. 6. Lock bits tab of KamPROG for AVR application

Programmer setup tab

Here you can set ISP frequency and read programmers firmware version. Make sure that ISP frequency is less than microcontroller frequency divided by 4.

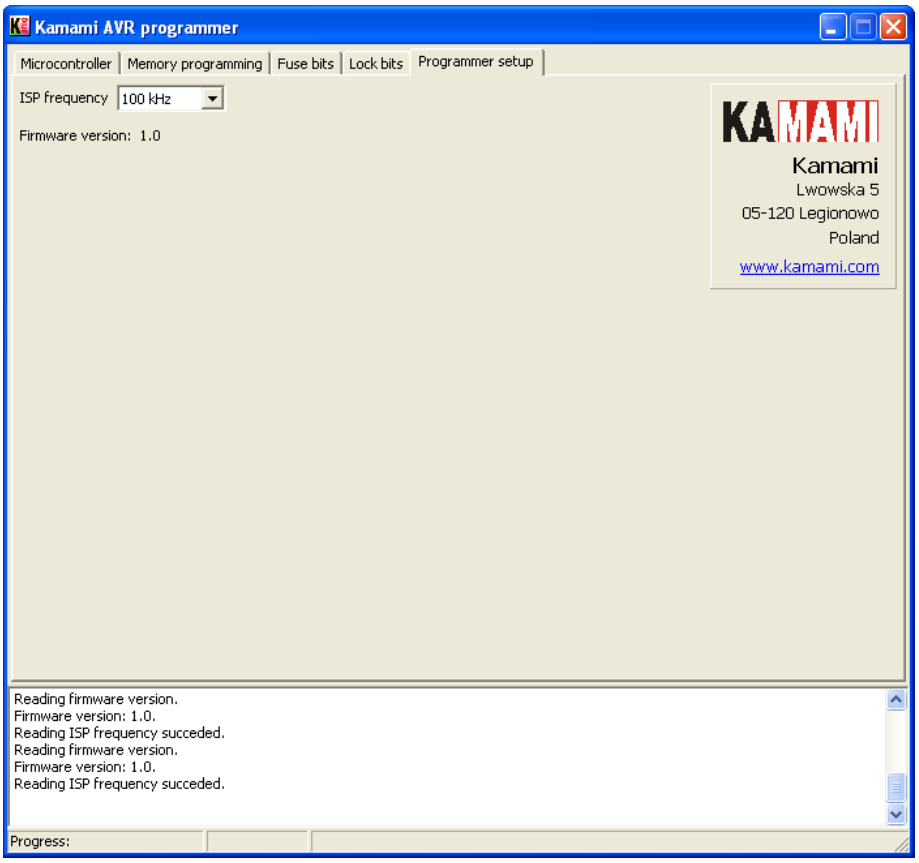

Fig. 7. Programmer setup tab of KamPROG for AVR application

AVR Studio 4

If you selected KamPROG for Atmel AVR Studio plug-in option during installation, then you can use KamPROG in Atmel AVR Studio 4. If there is no Kamami AVR programmer item in *Tools* menu and there is no Kamami toolbar, then open *Plug-in Manager* (*Tools>Plug-in Manager*) and check *Kamami_AVR_programmer* in the list, restart AVR Studio. Now you can open programmer's application (*Tools>Kamami AVR programmer>Connect*) and write Flash memory (*Tools>Kamami AVR programmer>Write Flash*), both operations can be done using toolbar.

NOTICE *Write Flash* works only when project's output hex file has the same name as project file!

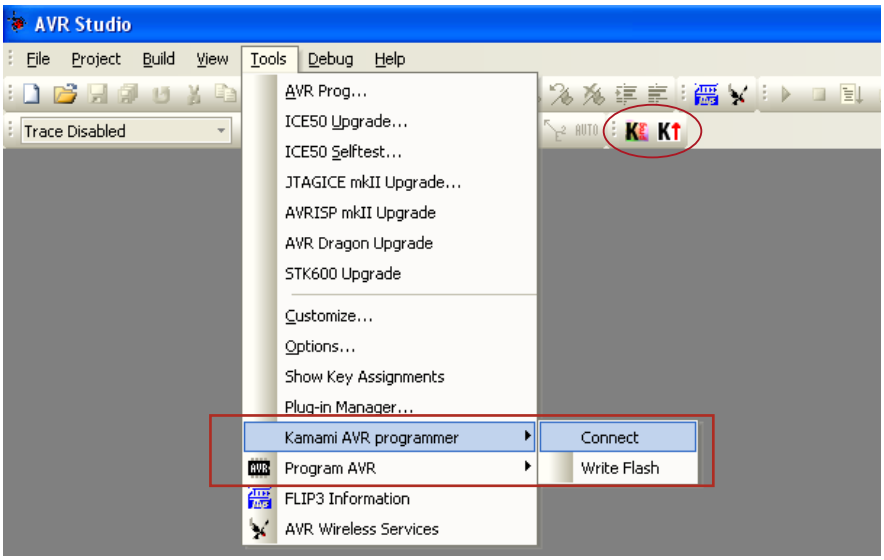

Fig. 8. KamPROG for AVR controls in Atmel AVR Studio 4

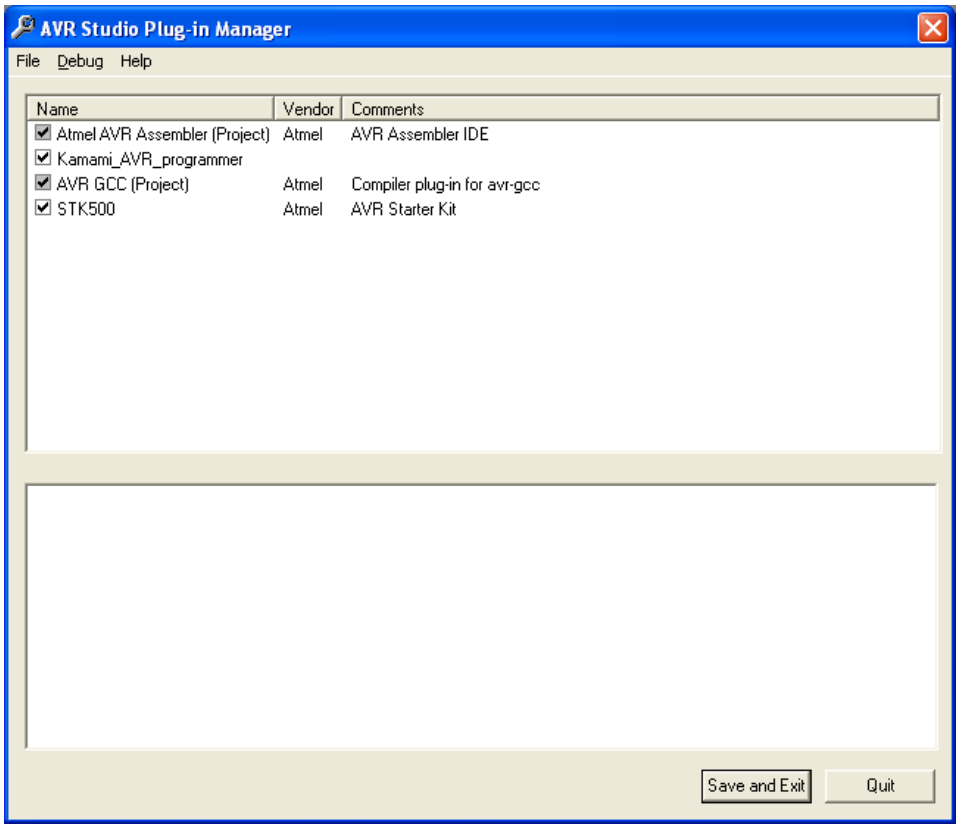

Fig. 9. Atmel AVR Studio Plug-in window

Command line

You can also use command line tool – KamPROGAVRc.exe – to work with KamPROG AVR. First you have to go to KamPROG AVR folder (default path is *C:\Program Files\KamPROGAVR*), then type in *KamPROGAVRc* and press *Enter* to display help.

Examples

- Performing chip erase of autodetected device:

  `KamPROGAVRc -d -r -s 2`

  `-d` – chip autodetection

  `-r` – chip erase

  `-s 2` – set SPI frequency to 50kHz (omitting this parameter sets frequency to 100kHz)

- Reading ATmega8 fuse bits

  `KamPROGAVRc -c ATmega8 -B`

  `-c ATmega8` – connected device is ATmega8

  `-B` – read fuse bits

- Writing led.hex into autodetected device's Flash memory:

  `KamPROGAVRc -d -f led.hex`

  `-f led.hex` – write led.hex into device's Flash memory