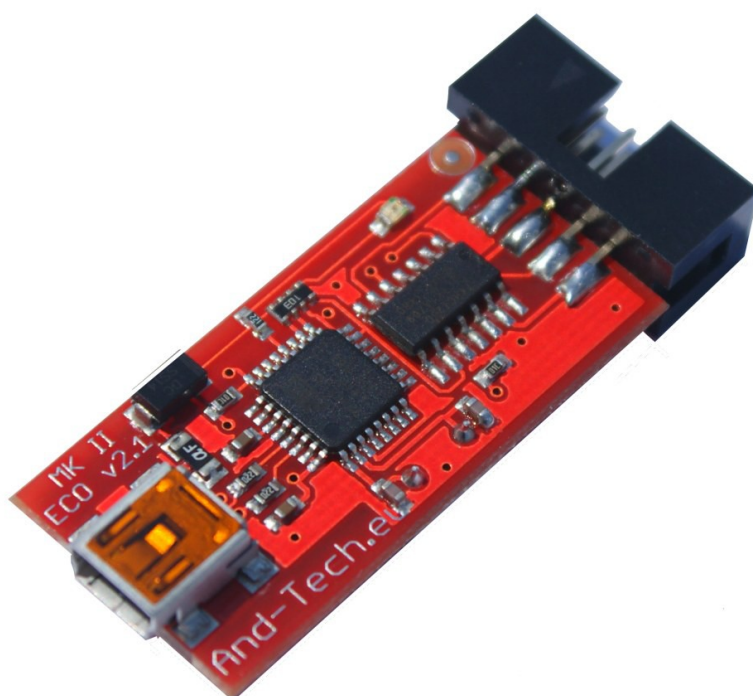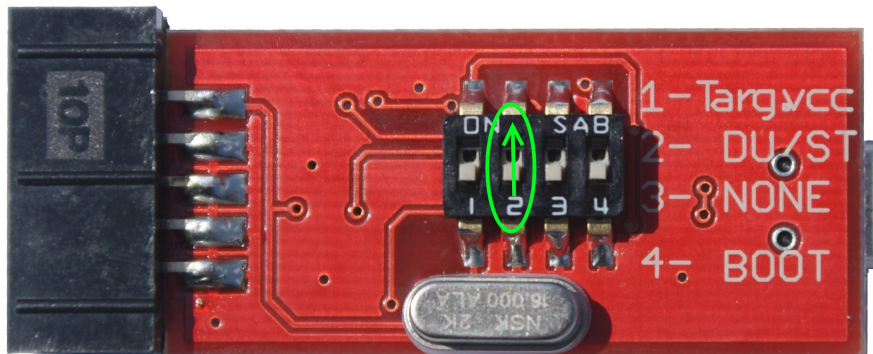# AVR Prog USB v3
MK II Eco
Manual

ATTENTION!!
AVRISP mkII programmer is compatible with BASCOM and AVR DUDE environment. If you want to use this programmer with AVR Studio, you need to switch jumper number 2.

1. Programming in BASCOM

a) Driver installation

ATTENTION!!
Before you connect programmer to computer , install AVRJungoUSB drivers first.
link: http://www.and-tech.pl/MKII/AVRJungoUSB.exe

To connect programmer to computer, mini USB cable is needed (widely used with mobile devices and cameras). It is recommended to use 1.8m long cable or shorter.
To connect programmed circuit with programmer, IDC-10 cable is needed (pins order on programmer).
After you connect programmer, system should find and install appropriate drivers. If Installations is successful, device Jungo (with AVRISP mkII and WinDriver) should be available in device manager.


ATTENTION!!
When programmer is installed successfully, green LED diode should turn on. If not, connect programmer directly to PC or laptop without HUBs or dock stations. In some cases, programmer doesn't work properly with these devices.
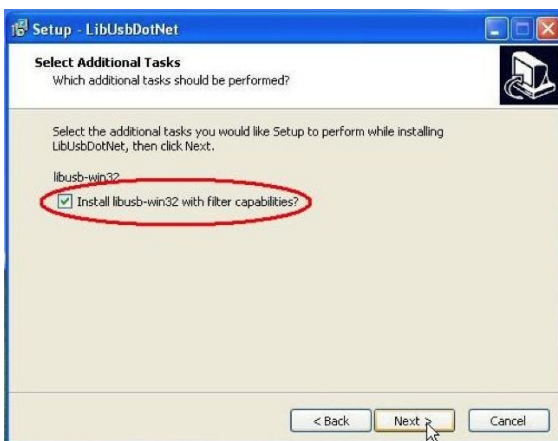
Please download **LibUsbDotNet_Setup.2.2.8**.
link: http://www.and-tech.pl/MKII/LibUsbDotNet_Setup.2.2.8.exe

After you accept licence agreement and chose installation path, you should see window presented in Picture 2. Check only first position – Runtime Files and click Next.
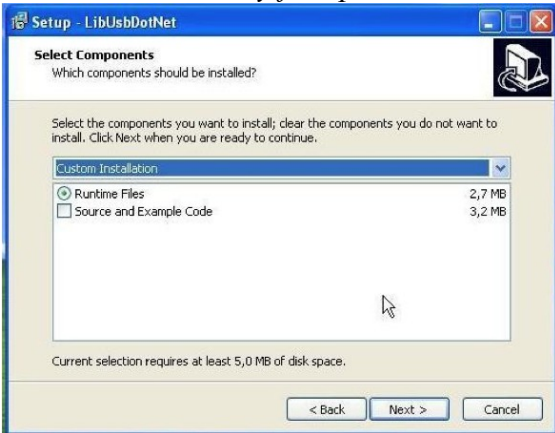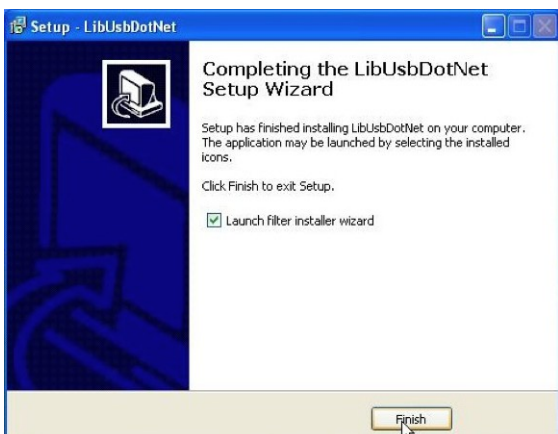

Picture 2

Check *Instalall libusb-win32 with filter capabilitied?* as in Picture 3 and click *Next.*
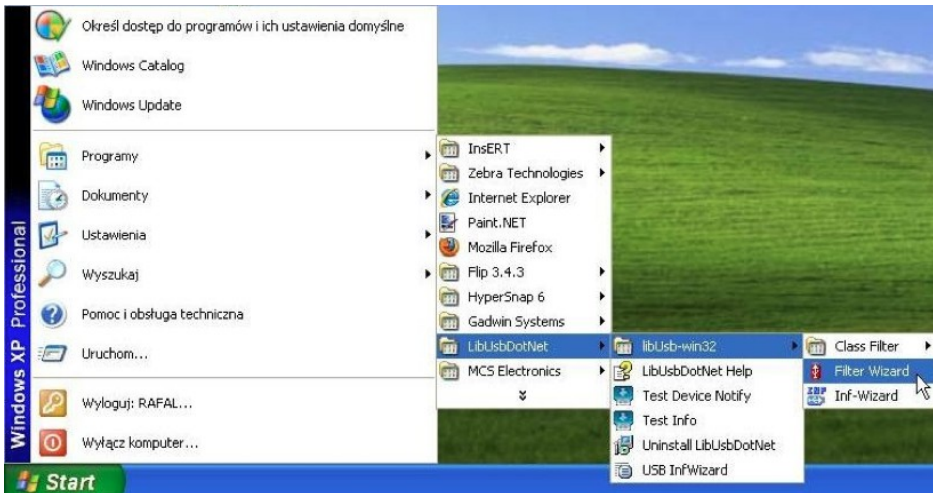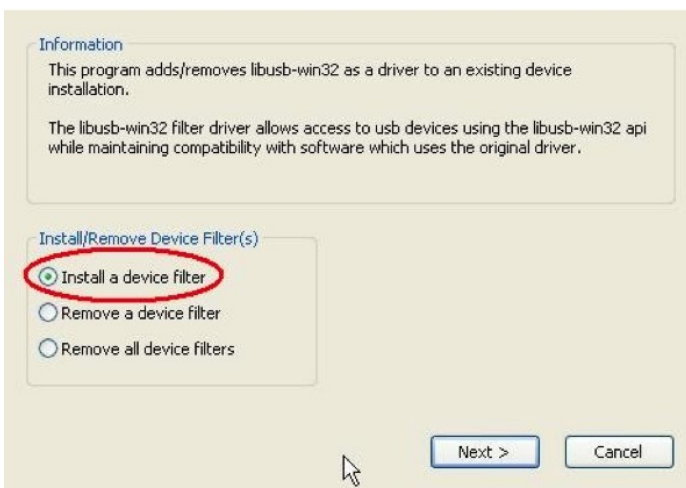

Picture 3

Picture 4

Start Filter Wizard. It is available in the following path: Start >Programy >LibUsbDotNet >libUsb-win32 >Filter Wizard.
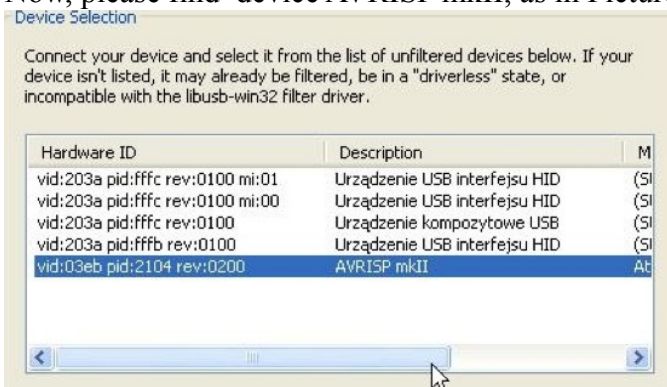

Ilustracja 5

In window Install/Remove Device Filter(s) choose first option: I*nstall a device filter*- Picture 6.
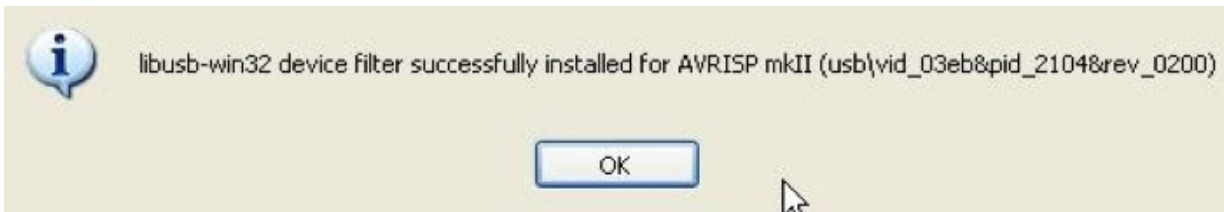

Picture6

Now, please find device AVRISP mkII, as in Picture 7.

Picture 7

If installation is successful, the following window appears:

libusb-win32 device filter successfully installed for AVRISP mkII (usb\vid_03eb&pid_2104&rev_0200)

OK

Picture 8

Programmer is installed correctly.

   **b)**   **Configuration:**
   **1. BASCOM**

ATTENTION!!

AVR Prog MKII is supported by BASCOM 2.0 and higher. If you work with older version please use additional program AVRDUDE.

We need to configure programmer to make it work with BASCOM environment. Please, start BASCOM and find programmer settings (Options >Programmer). Now find *USBprog Programmer / AVRISP mkII* in the following list (Picture 9).
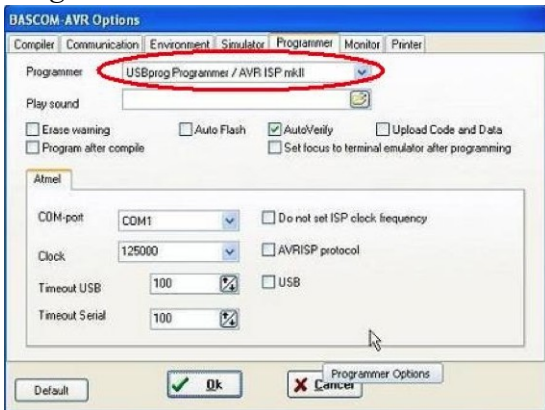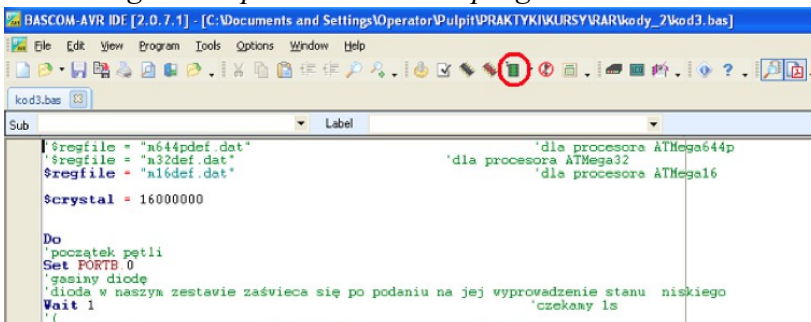

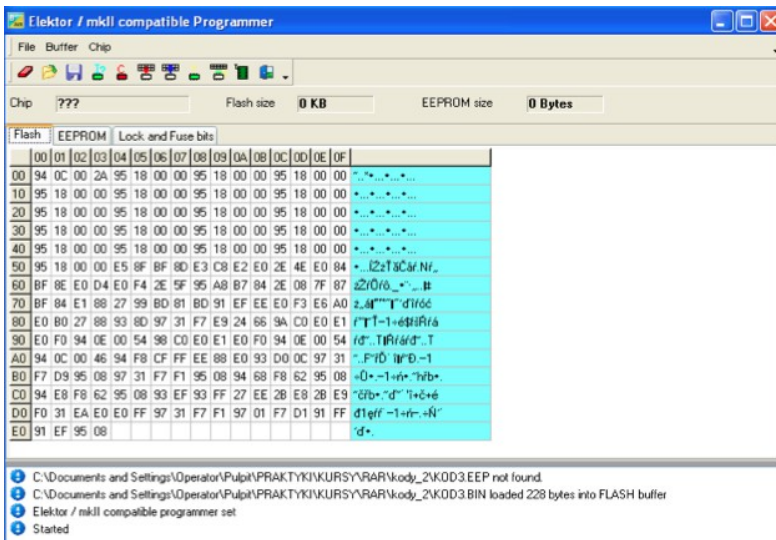
Picture 9

Check USB and click OK.
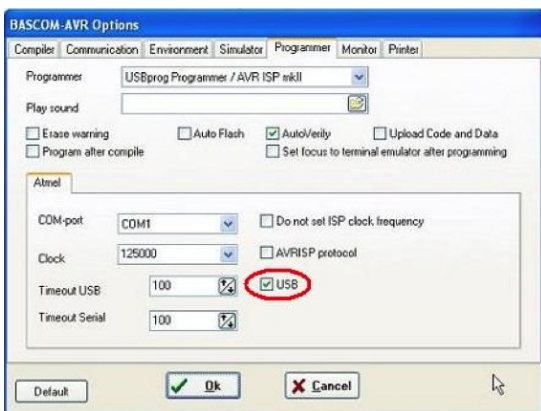
Picture 10

Click *Program chip icon in order to program circuit.*

Picture 11

Picture 12

Flash, EEPROM, Lock and Fuse bookmarks show state of FLASH, EEPROM memory and fuse bits after sending current program to processor.

2. AVR DUDE

In order to use AVRDUDE environment, please download avrdude-5.8-w32_avrdude-   GUI_1.0.5

link: http://www.and-tech.pl/MKII/avrdude-5.8.zip

After you extract it, turn on graphical user interface: *avrdude-GUI.exe* and then choose from   list *Programmer*: *Atmel AVR ISP mkII (avrispmkII)*, from list *Port:* - *usb* and from   *Device* –   choose model of processor, you want to program. As shown in picture 13.
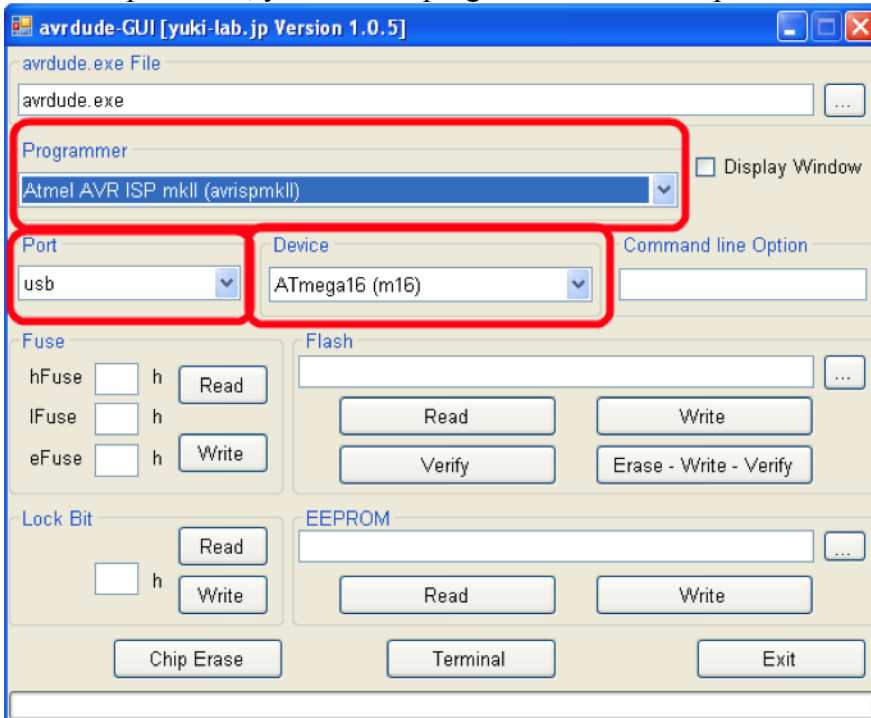
Picture 13

2. Programming in AVR Studio

a) Driver selection

ATTENTION!!

Before you connect programmer to computer , install AVRJungoUSB drivers first.

link: http://www.and-tech.pl/MKII/AVRJungoUSB.exe

To connect programmer to computer, mini USB cable is needed (widely used with mobile devices and cameras). It is recommended to use 1.8m long cable or shorter.

To connect programmed circuit with programmer, IDC-10 cable is needed (pins order on programmer).

After you connect programmer, system should find and install appropriate drivers. If installations is successful, device Jungo (with AVRISP mkII and WinDriver) should be available in device manager.
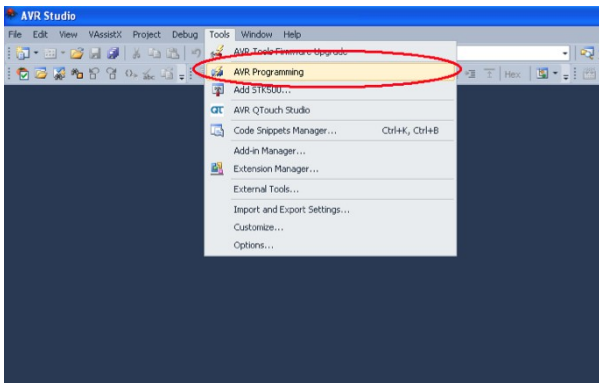

Picture 14

ATTENTION!!

When programmer is installed successfully, green LED diode should turn on. If not, connect programmer directly to PC or laptop wihout HUBs or dock stations. In some cases, programmer doesn't work properly with these devices.
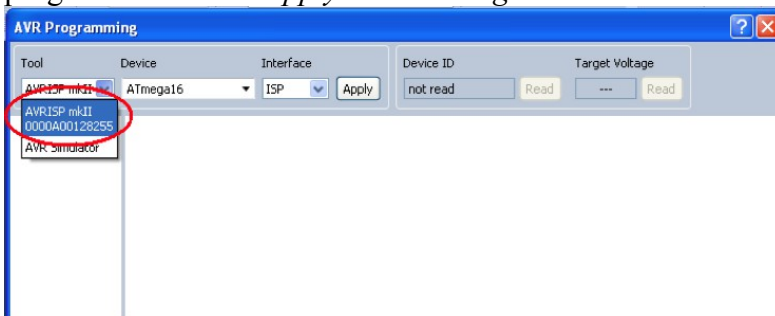
b) Configuration

To configure AVR Prog MKII, please start AVR Studio. Programmer's options are available in Tools->AVR Programming. (Picture 15).
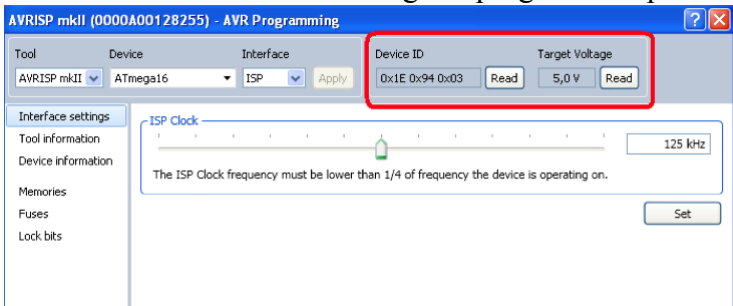

Picture 15

From *Tool list choose AVRISP mkII*. List *Device* specifies model of processor , which you want to program and button *Apply saves settings*.
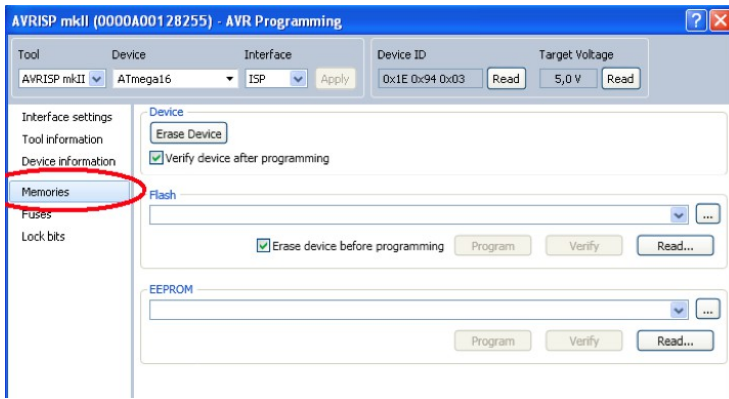

Picture 16.

Read buttons read ID and voltage of programmed processor.

Picture 17.

Ilustracja 18.

To program processor, find Memory bookmark – Picture 18.

3. Firmware update

*AVRISP mkII* is originally compatible with **BASCOM, AVR DUDE oraz AVR Studio**.

There is a possiblity to upgrade firmware by using USB connector.

To update the firmware you will need a copy of program FLIP:

link: http://www.and-tech.pl/MKII/FlipInstaller-3.4.5.106.exe

Please follow step by step to get the new firmware uploaded to your target programmer using FLIP.
Install FLIP program, next switch jumper number 4 to ON position. After that switch it to OFF position to make AVRPROG MKII go into bootloader mode – green LED goes out.
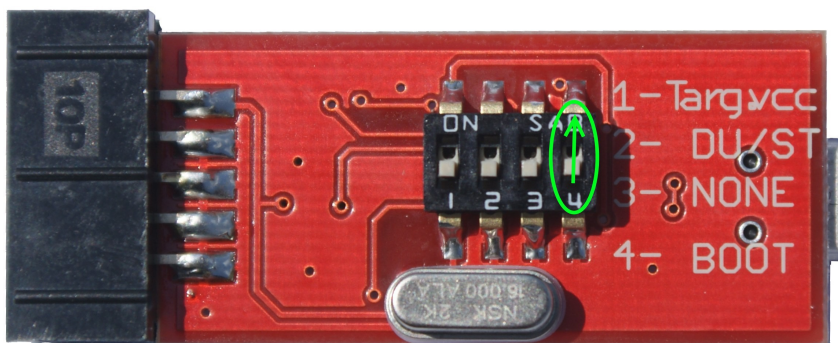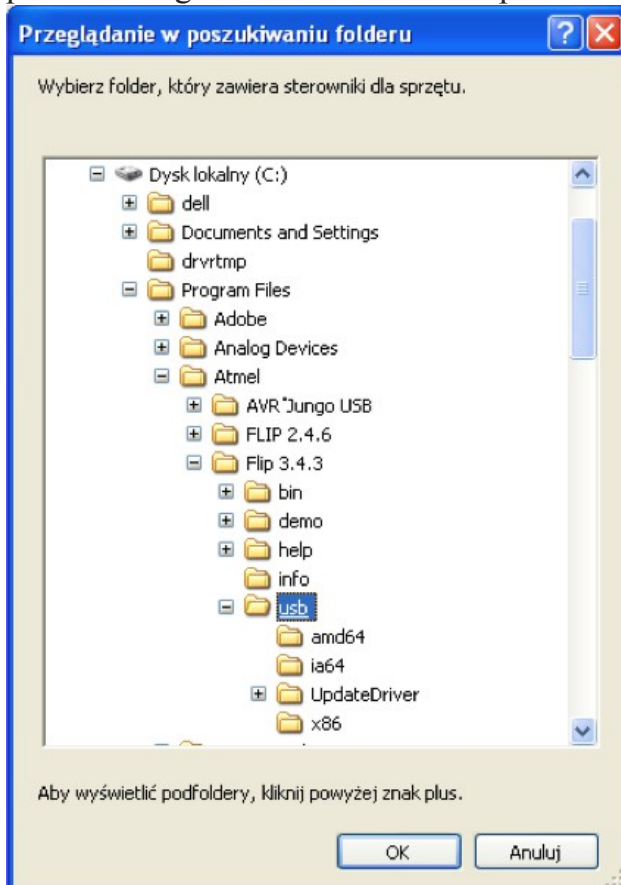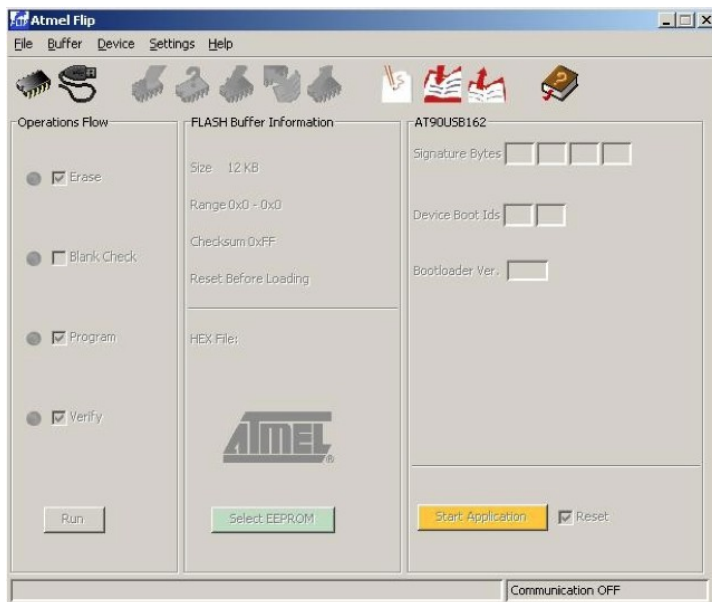

New hardware should be found.
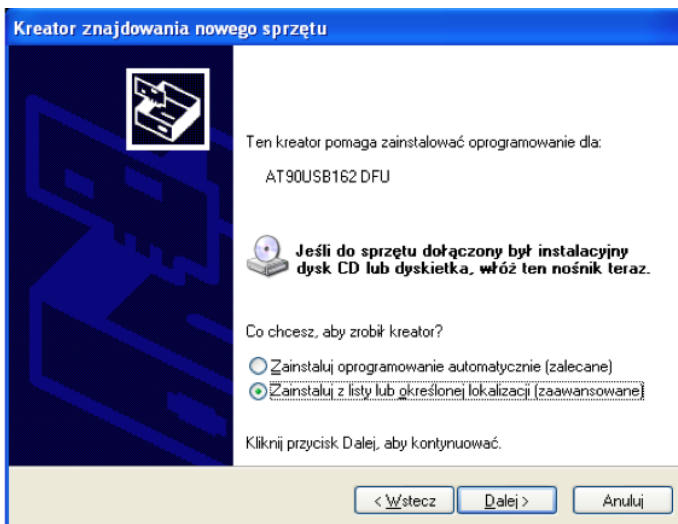
Picture 19

Please choose: _Install from a list or specific location (Advanced)_ and find the following path: C:/Program Files / Atmel / Flip 3.4.3 / usb. - Picture 20

Picture 20

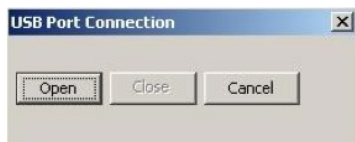Press _OK_ and start FLIP program.

Picture 21

Click on the 'chip' icon or 'Device-->Select' menu option and select the device from the menu (at90usb162) – Picture 22.
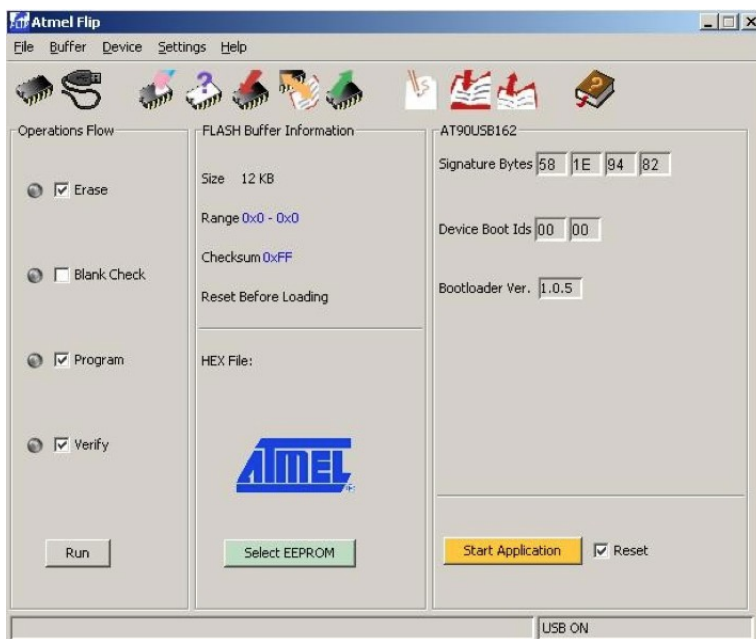

Picture 22

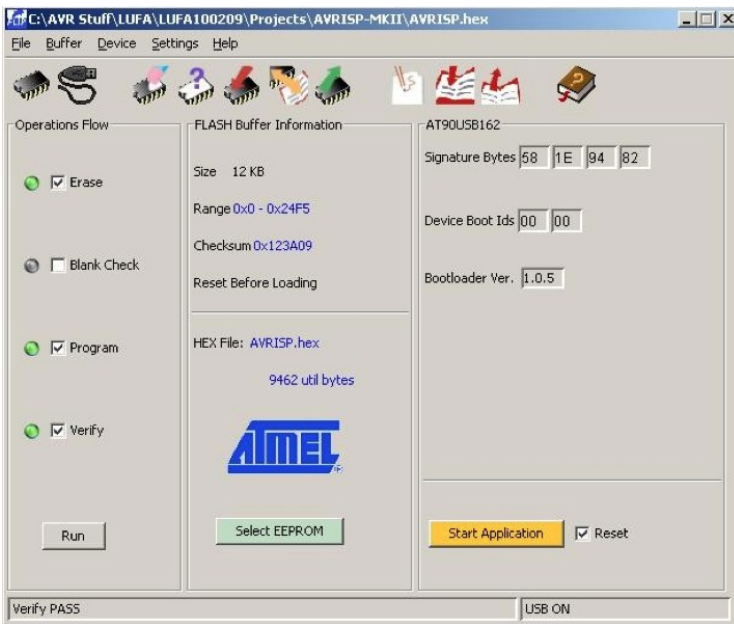Click on the 'USB cable' icon and select 'USB' from the menu and connect to the device.

Press Open.

Picture 23

Picutre 24

Load the new hex file from the 'LOAD hex file' icon or from the 'File-->LOAD HEX file' menu. Click on the 'RUN' button in the lower left corner.

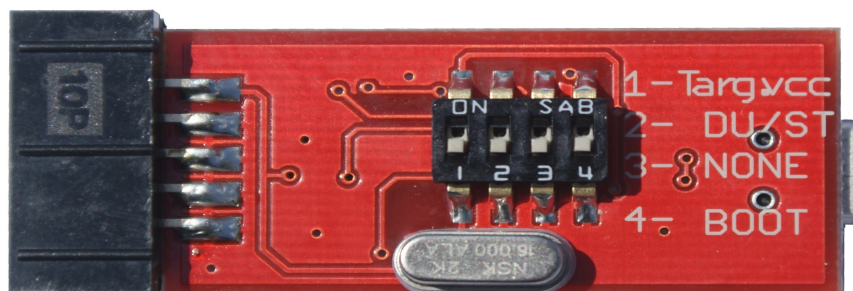*DONE! Your programmer should be up to date now.*

Click *Start Application* to restart programmer.

4. Programmer interface

Programmer is equipped with 10-pin ISP connector (standard KANDA).

Jumpers functions:

Jumper 1 – Targ. VCC

When ON on VCC pin and buffer there is power supply +5V from USB port.

If programmed device works with 3.3V jumper 1-Targ VCC must be in OFF position.

Jumper 2 – DU/ST

When ON programmer works with AVR Studio, otherwise it works with BASCOM and AVR Dude.

Jumper 3 – NONE

Not used.

Jumper 4 – BOOT

Jumper is used to go into bootloader mode – switch to ON and after 1 sec change to OFF.

In normal mode jumper number 4 – BOOT must be in OFF position.

5. Environment protection

The crossed-out wheeled bin means that within the European Union the product must be taken to separate collection at the product end-of-life. This applies to your device but also to any enhancements marked with this symbol. Do not dispose of these products as unsorted municipal waste.

NOTE

AVRPROG MKII is powered by **LUFA library**, which is currently released under the MIT licence (http://www.fourwalledcubicle.com/LUFA.php).