

**Mini ATMEL AVR ATMEGA
STK500 USB
Programmer ISP
User's Guide**

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3W LED Driver Dimmer for Luxeon White Green Blue

NOTES:

Product Version : Ver 1.0

Document Version : Ver 1.1

Chapter1.Before Installation

“AVR Studio 4” is a new yet professional Integrated Development Environment (IDE) provided free of charge by ATMEL. It is designed for editing, compiling and debugging AVR applications in Windows 9x/NT/2000/XP environments. In its recent release version “Ver 4.14 Build 589”, an assembler, known as “WinAVR20060421” and a simulator are comprised for supporting development tools like ICE50, ICE40, JTAGICE mkII, JTAGICE, ICE200, STK500/501/502/503/504/505/520/600. So this guide details the installation process of “AVR Studio 4” and “WinAVR20060421”, as well as the test process of “AVR Studio 4”. For requirements of the software usage, please refer to the instructions provided by the manufacturer.

Sure Electronics has provided a complete set of software applications along with STK 500 and they are available at the following link:

<http://www.sure-electronics.net/download/DB-AD001.zip>

Sure Electronics doesn't recommend any attempts of firmware upgrade or similar and assumes no responsibility for the failure of any such attempts since it believes the above-mentioned applications can sufficiently fulfill the needs of users.

The installation process is recommended as follows:

- 1 WinAVR20060421 installation**
- 2 AVR Studio4 installation**
- 3 STK 500 driver installation**

Chapter 2. How to install WinAVR20060421 and AVR Studio 4?

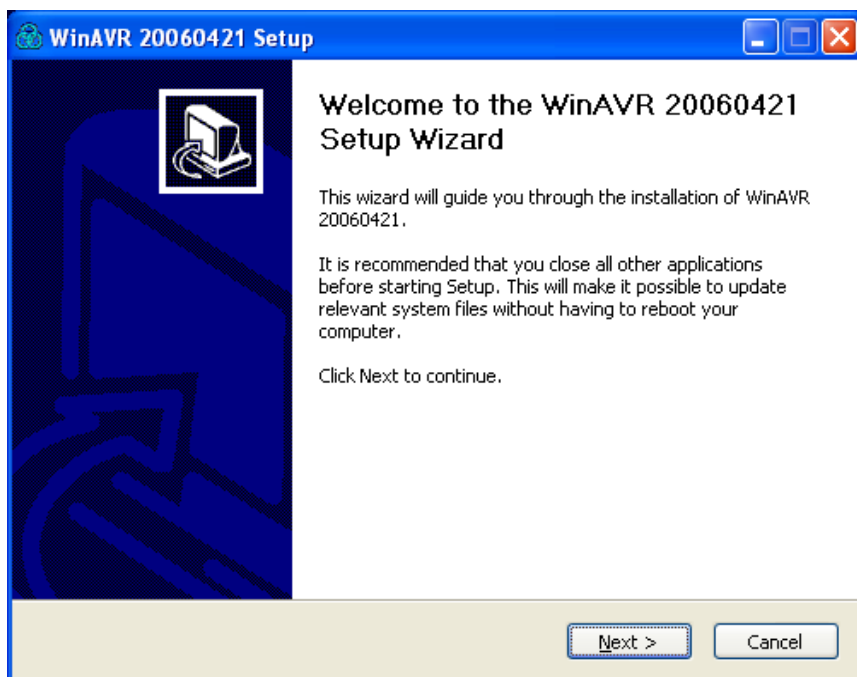
Note:

“WinAVR20060421” MUST BE INSTALLED FIRST!!!

Run “WinAVR-20060421-install.exe” and a prompt for choosing the installer language will be popped up like shown below:

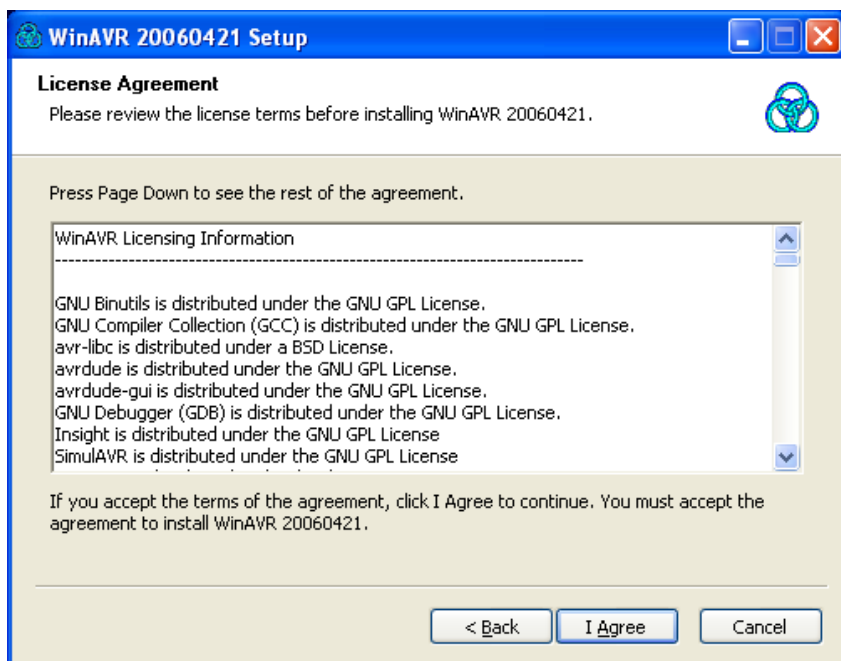


Select a language at your own discretion and click “OK”. The installer will lead you to the setup wizard like shown below:

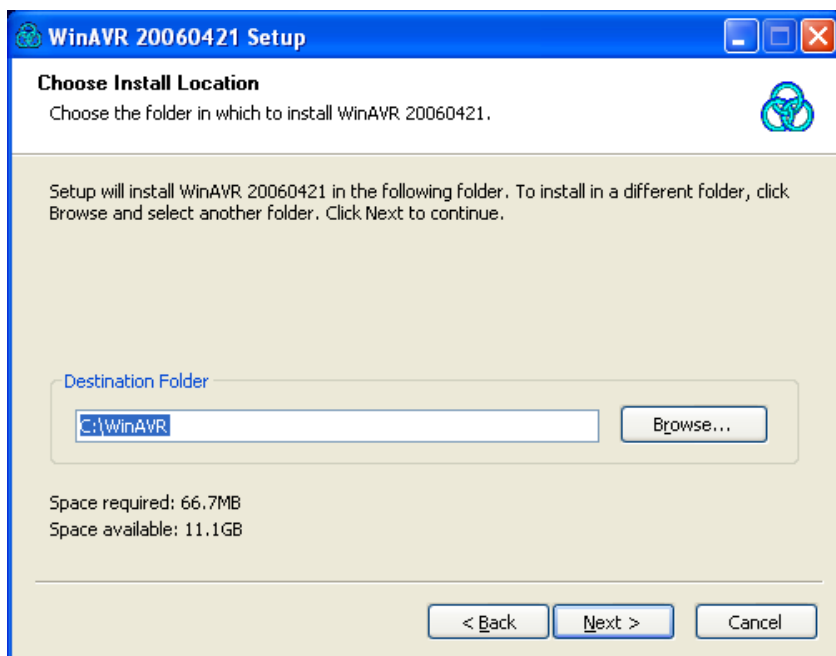


How to install WinAVR20060421 and AVR Studio4?

Click “Next >” to continue.

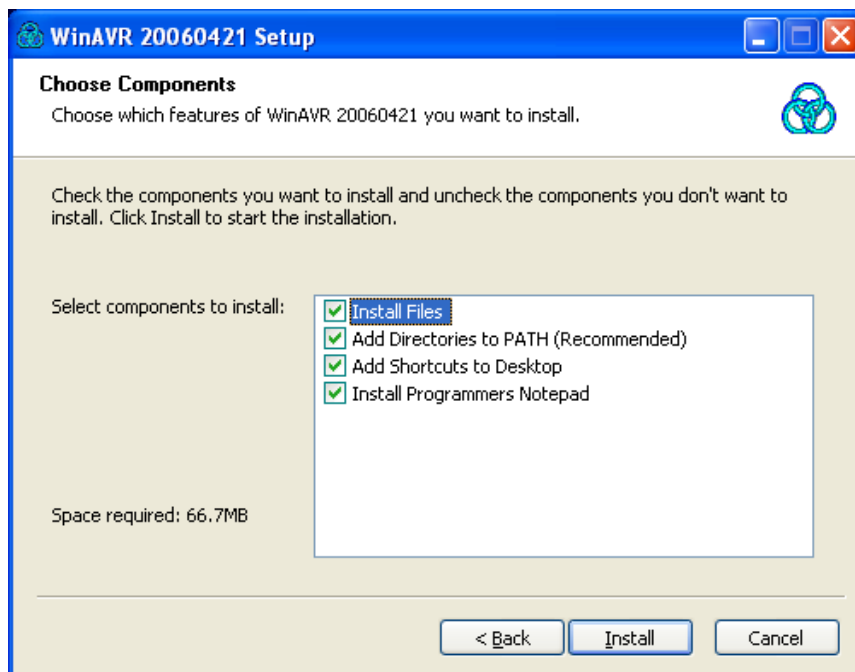


Read this “License Agreement” carefully before proceeding with the installation. If you accept the terms of agreement, click “I Agree” to continue. You must accept the agreement to install “WinAVR20060421”.

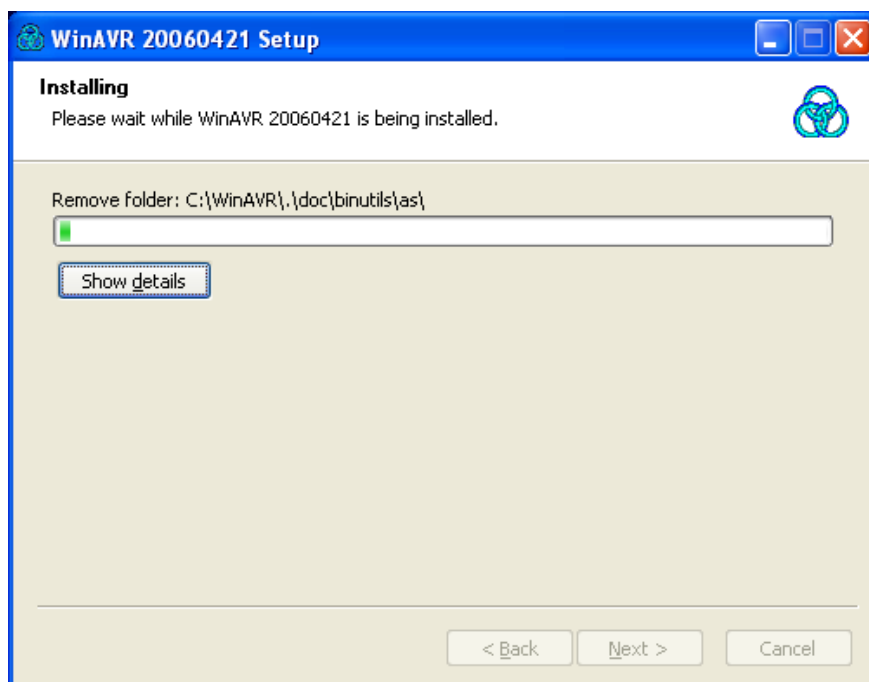


How to install WinAVR20060421 and AVR Studio4?

Click “Browse...” to select the destination folder of “WinAVR20060421” if you don’t accept the default one. Otherwise, click “Next >” to continue.



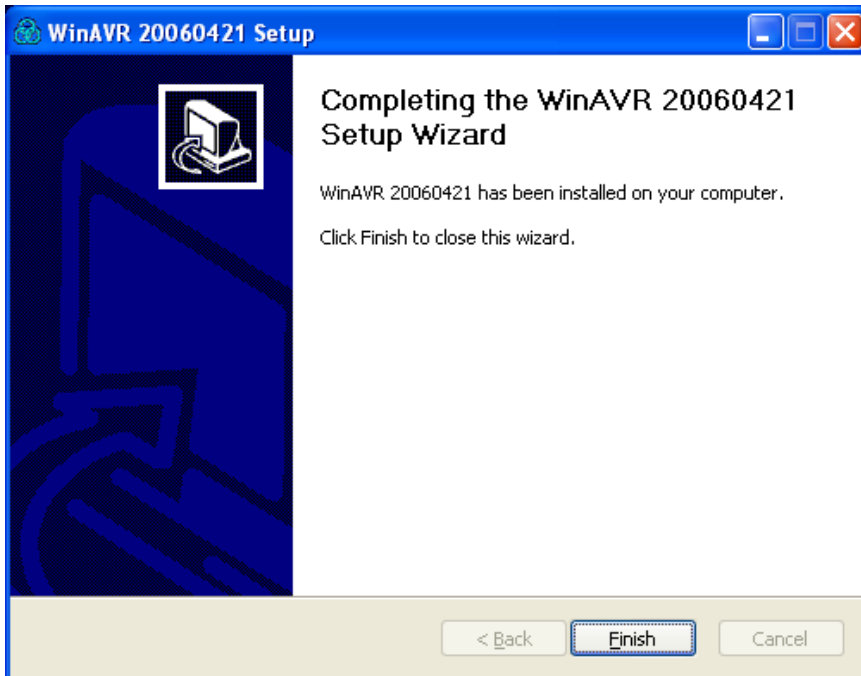
Select components for the installation. After that, click “Install” to start the installation.



The installation may take a while and users will have to wait.

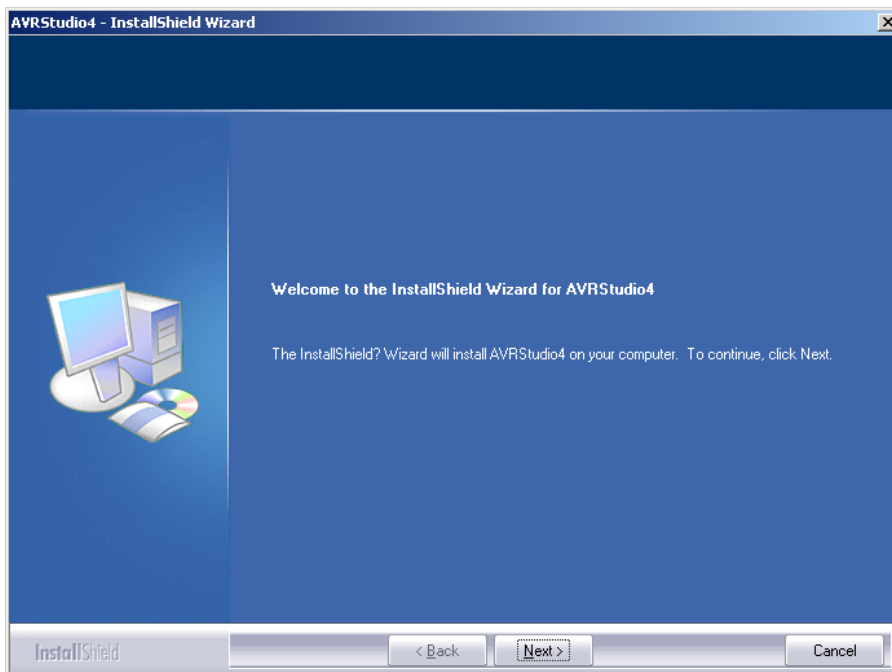
How to install WinAVR20060421 and AVR Studio4?

Click “Next >” when the installation is finished.



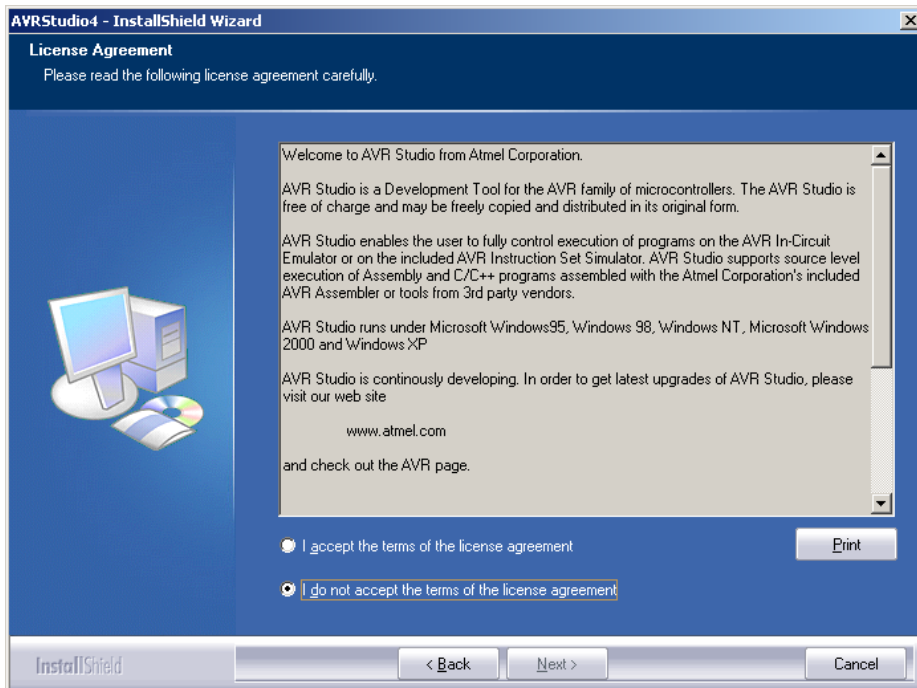
Click “Finish” to close this wizard.

For the installation of “**AVRStudio4**” of the first time, the following prompt will be displayed:

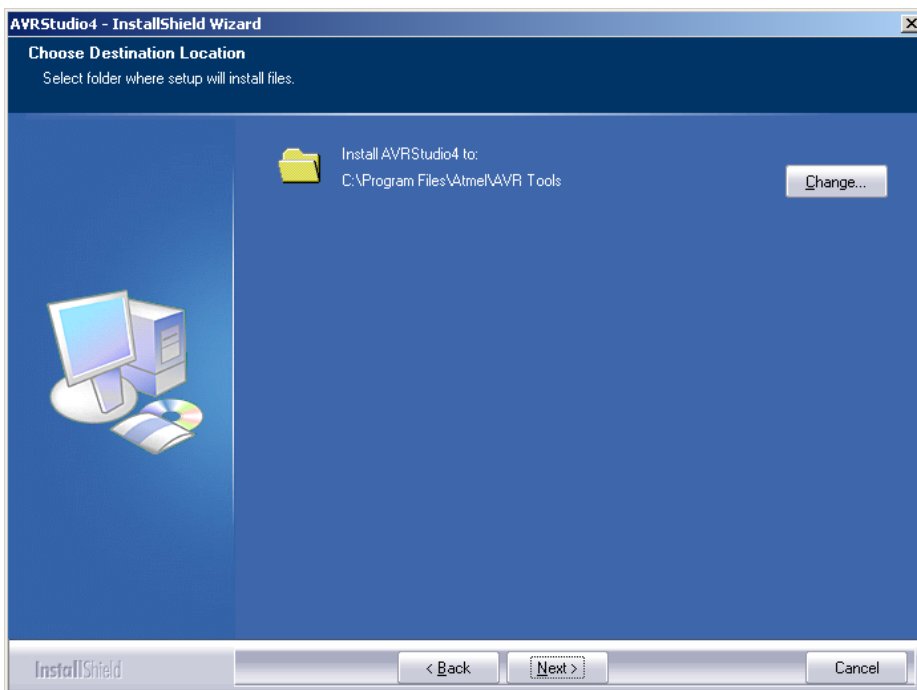


How to install WinAVR20060421and AVR Studio4?

Click “Next >” to proceed with the installation.



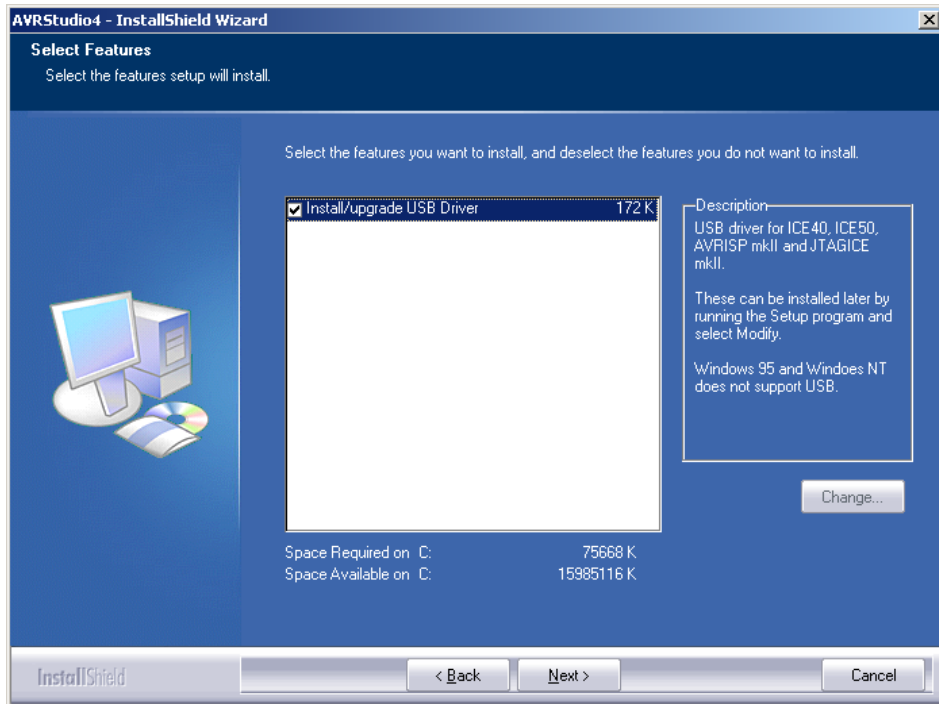
Read this license agreement carefully before proceeding with the installation. Select “I accept the terms of the license agreement” and click “Next >” to continue.



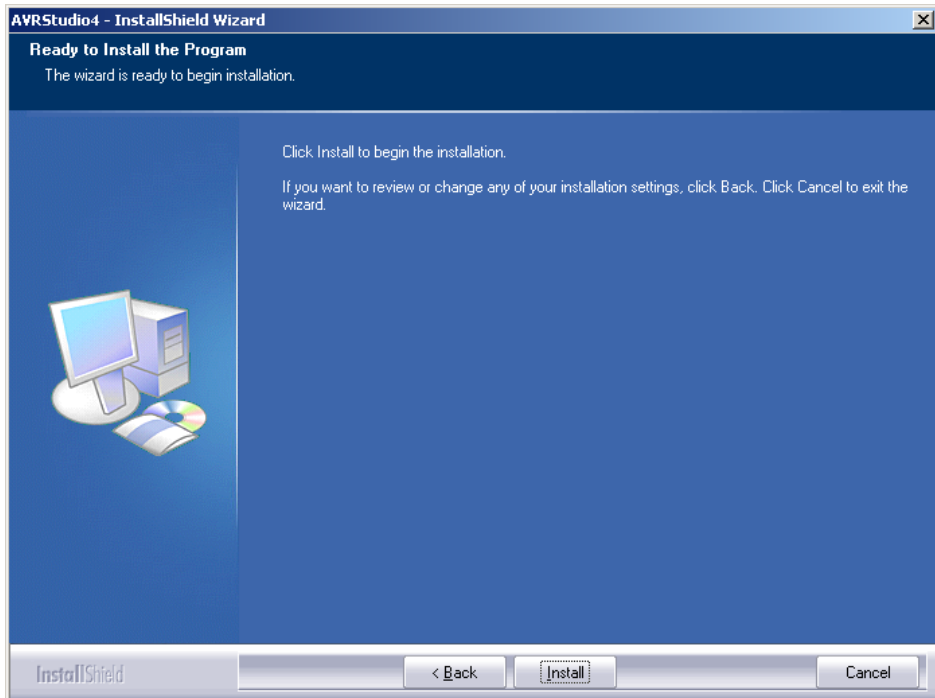
Click “Change...” to select the destination location of “AVRStudio4” if you don’t accept the

How to install WinAVR20060421 and AVR Studio4?

default one. Otherwise, click “Next >”.



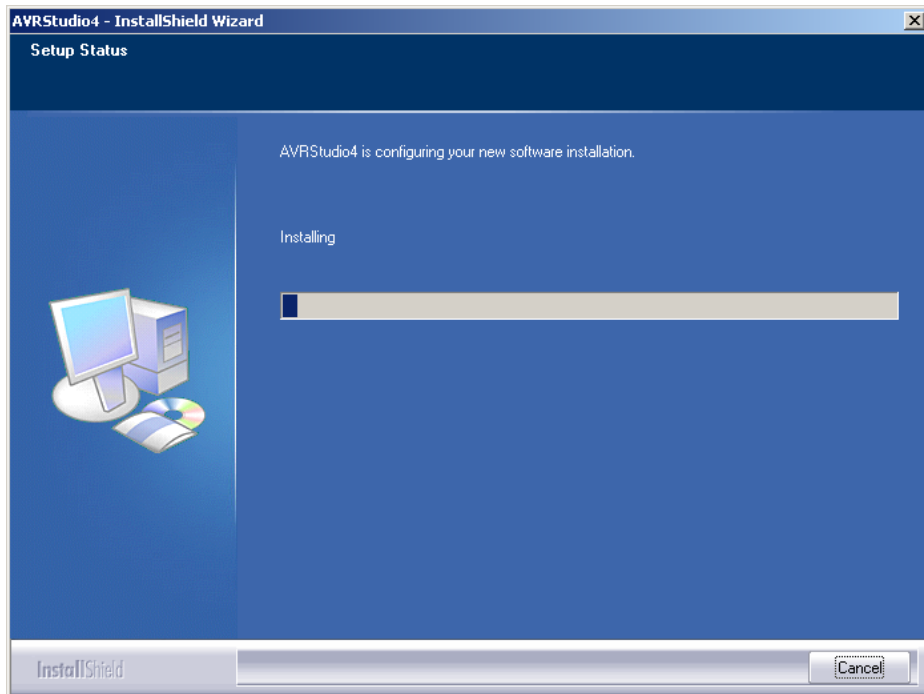
You may select/deselect the features at your own discretion. To proceed, click “Next >”.



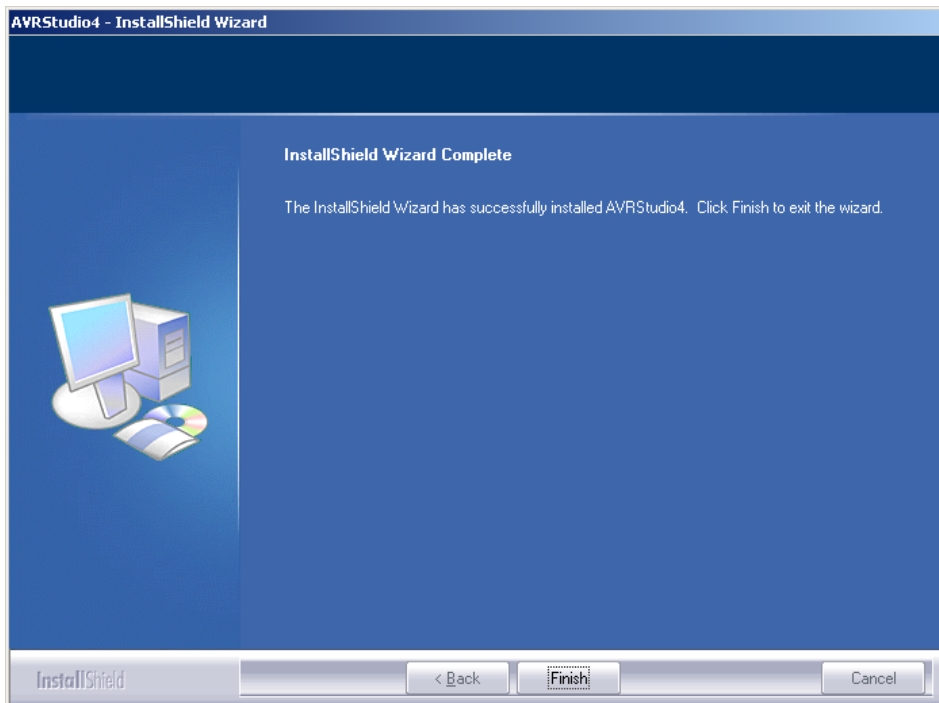
Click “Install” to start the installation or click “< Back” if you want to review or change any of

How to install WinAVR20060421and AVR Studio4?

your installation settings.



The installation may take a while and users need to wait.



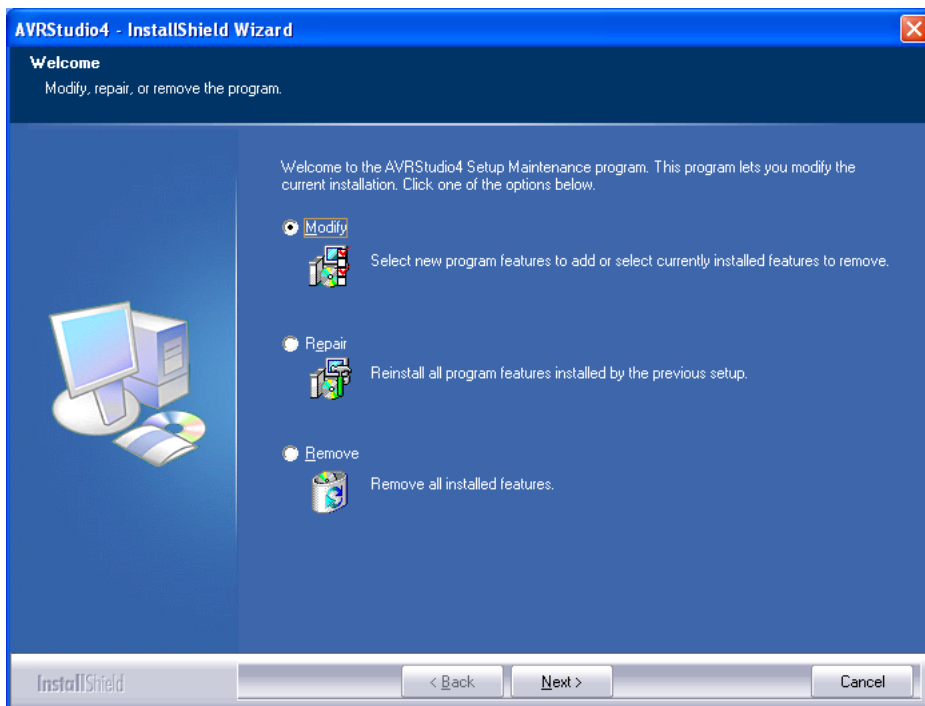
Click "Finish" upon the completion of the installation.

How to install WinAVR20060421 and AVR Studio4?

Version info after successful installation of AVR Studio4: Ver 4.14 Build 589



For non first-time installation, the following prompt will be displayed:



Users may select Modify/Repair/Remove at their own discretion and follow the instructions thereafter.

Chapter3.How to install the driver of STK 500?

The driver files after unzip of RAR file downloaded from our website are saved in folder "PL-2303 Software and Drivers", which include:

- 1 Id_pl2303_v0728.rar
- 2 md_pl2303_Mac8_9_v136b1.rar
- 3 md_pl2303H_HX_X_dmg_v1.2.1r2.rar
- 4 wd_pl2303_v20019v2028.rar
- 5 wd_pl2303h-hx-x_64-bit_v2018.rar

In which,

Driver 1 is used for Linux OS

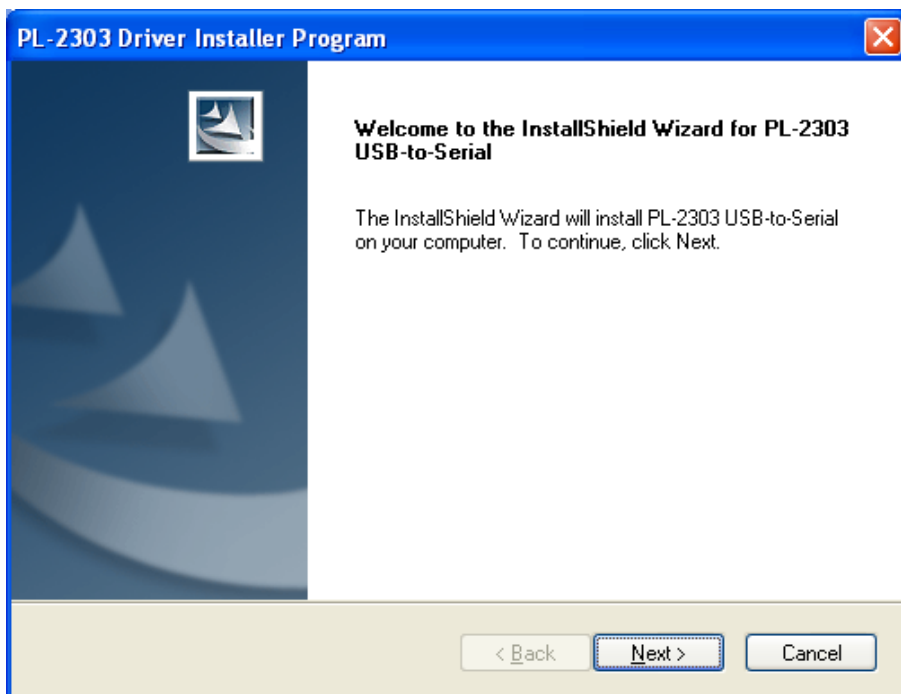
Driver 2 and 3 are used for Macintosh OS

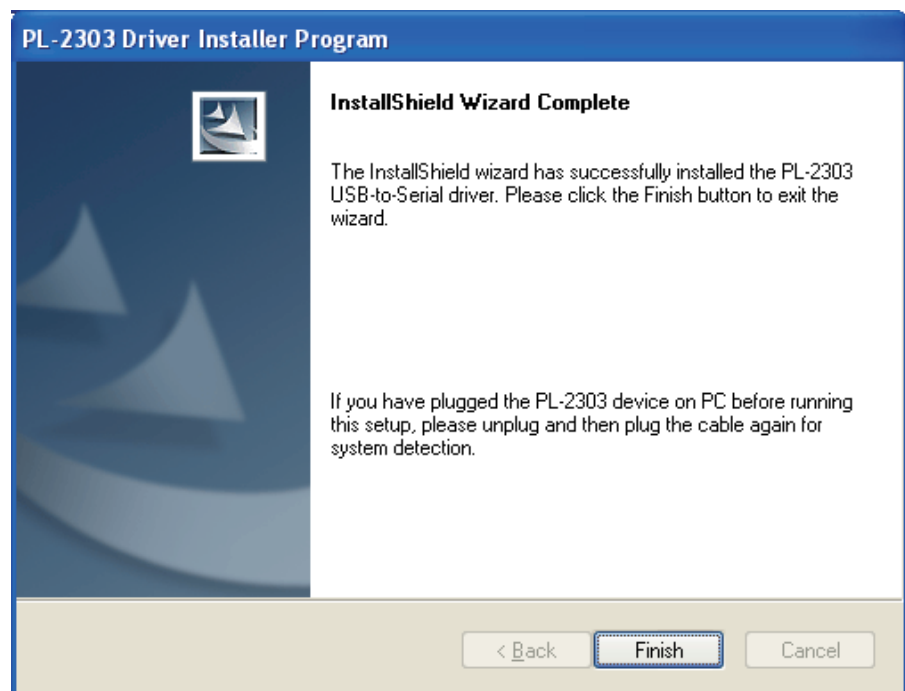
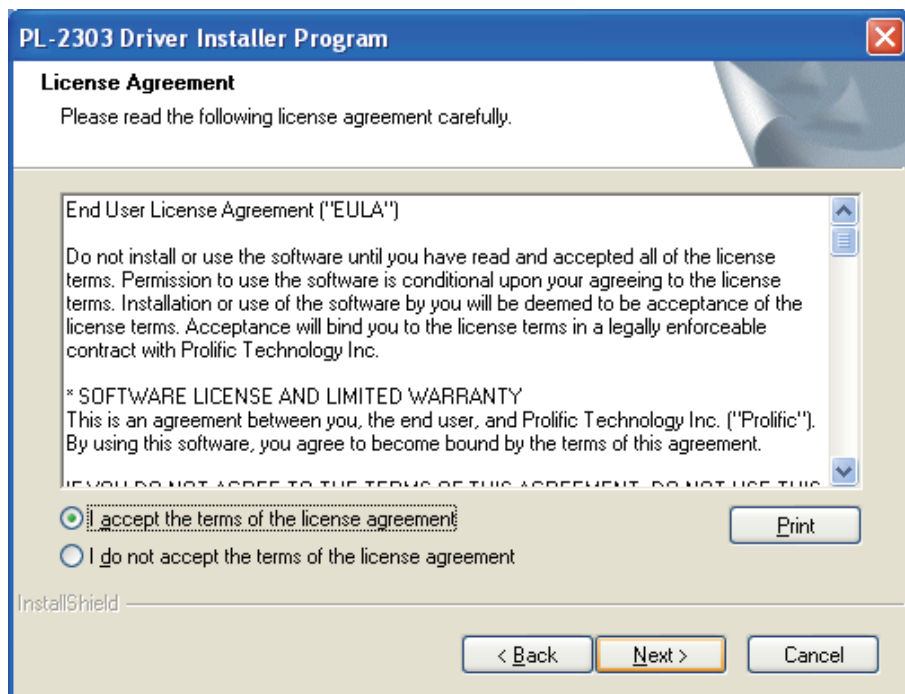
Driver 4 is used for Windows 32bit OS

Driver 5 is used for Windows 64bit OS

Therefore, users need to pay more attention when choosing the driver of STK 500 on different OS platform.

Take Windows XP-professional-based PC for instance, the driver that suits this platform is "**wd_pl2303_v20019v2028.rar**"

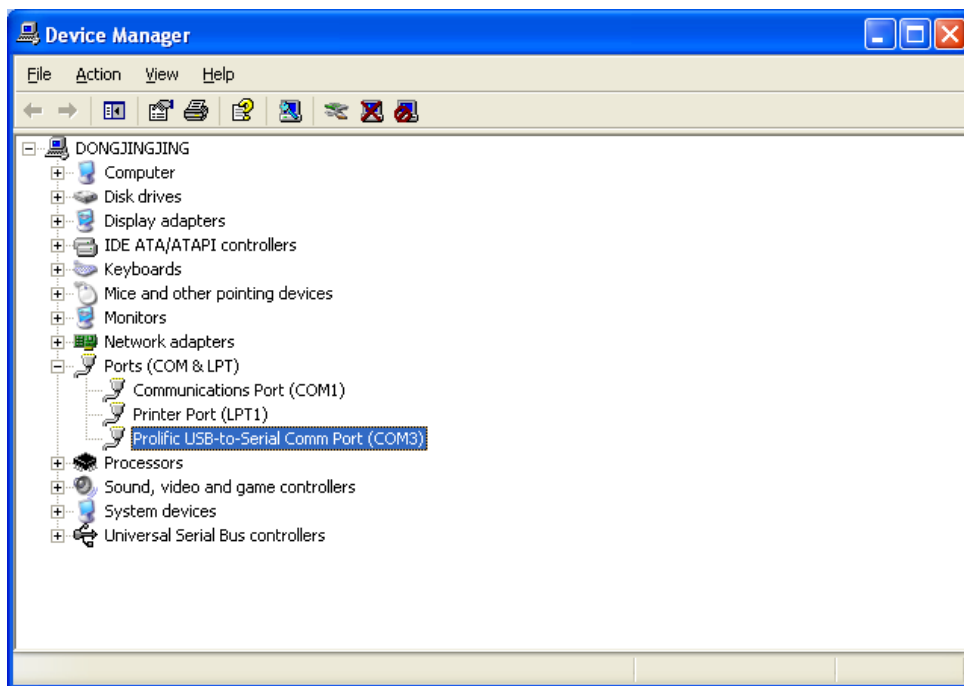




To indicate the success of connection, the red indicator of STK 500 will be illuminated first, followed by the green one, and then both of these two LED indicators will start go out from the red one. At last, the green LED will be illuminated to indicate the success of connection

How to install the driver of STK 500?

with STK 500.



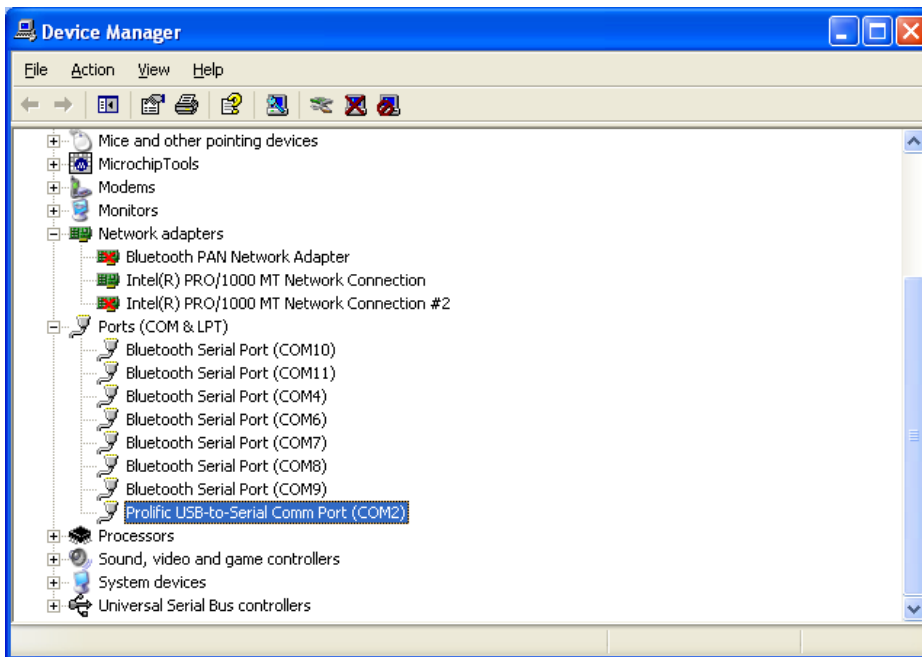
Chapter4.Change the COM port number and make connection

If the driver of STK 500 were installed successfully, a COM port number will be assigned to it. However, the automatically-assigned COM port number may not be a number among 1 to 9, which is required for the connection with AVR Studio. So in situation like this, users will have to modify the COM port number of STK 500 manually to a number among 1 to 9. Users may refer to the following guide on how to modify a COM port number of STK 500.

Right-click “My Computer” on the desktop and click “properties” -> “Hardware” -> “Device Manager” successively and finally locate “Prolific USB-to-Serial Comm Port (COMX)” like shown below.

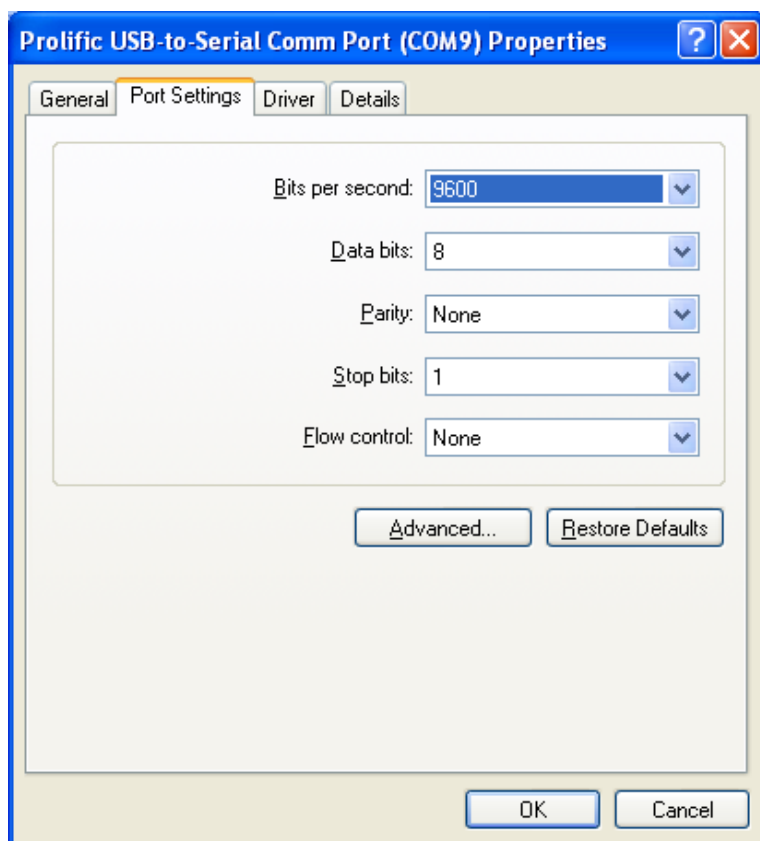
To change the COM port number, you need to:

1 Right-click “Prolific USB-to-Serial Comm Port (COMX)” and select “properties” like shown below:

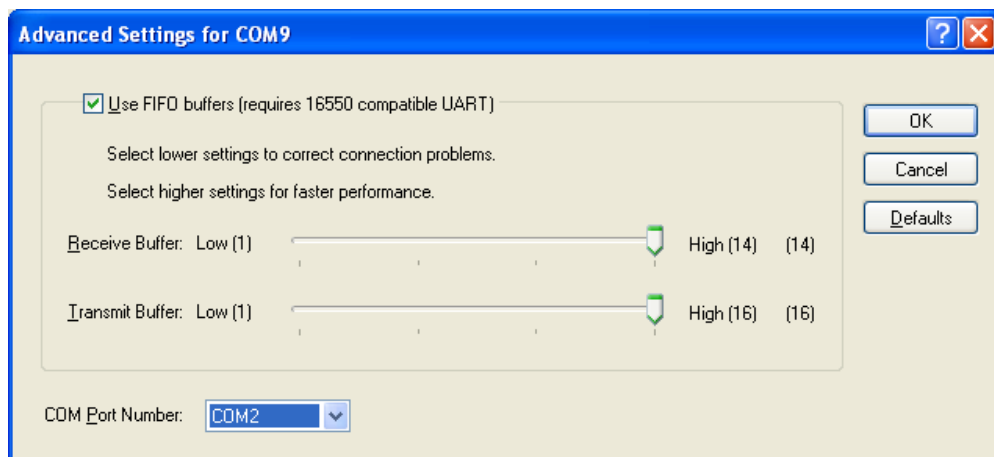


2 In the next popup window click “Port Settings” tab and the following will be displayed:

Change the COM port number and make connection



3 Click "Advanced..."



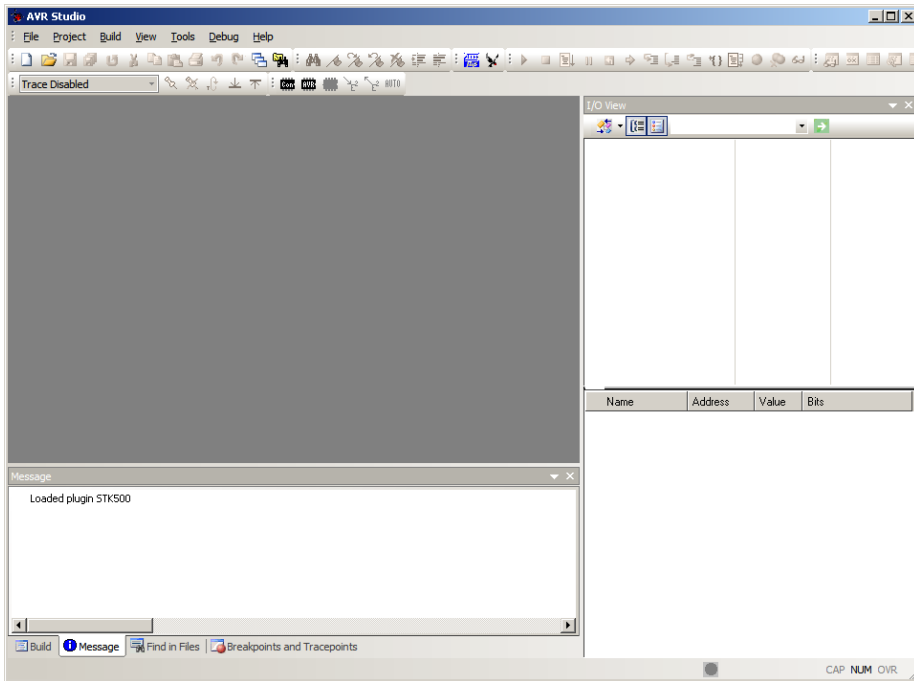
4 From the "COM Port Number" drop-down list, select a number among 1 to 9 for STK 500. Remember **DO NOT** select the numbers which have been used.

Make Connections

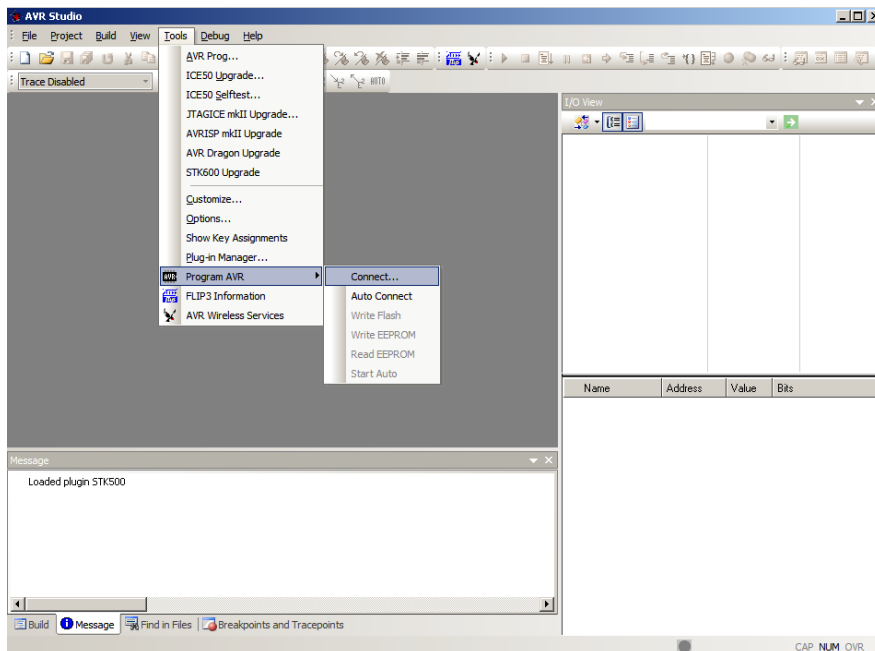
Run "AVR Studio 4" from "Start" -> "Programs" -> "Atmel AVR Tools" -> "AVR Studio 4" and

Change the COM port number and make connection

the following will be displayed:

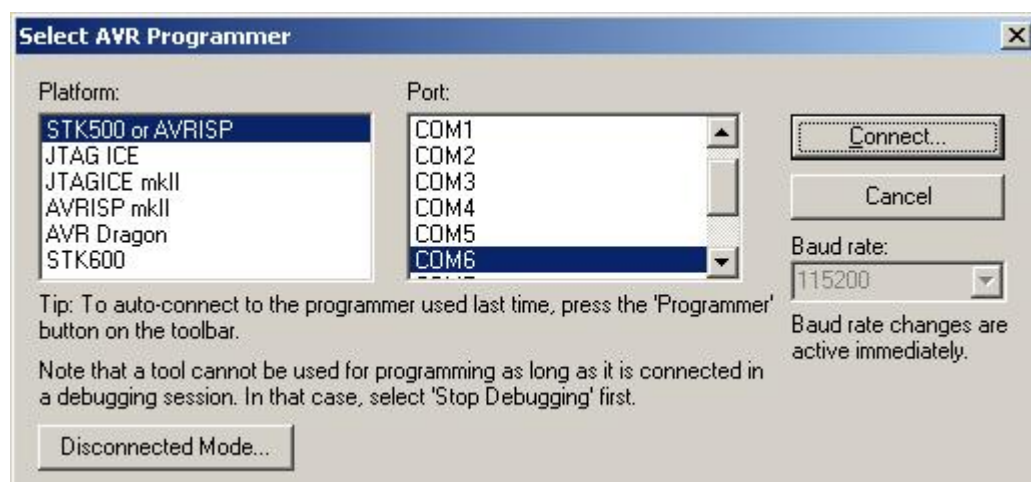


Click "Tools" from the menu bar and select "Program AVR" -> "Connect..." like shown below:



In the following popup window, select "STK500 or AVRISP" as the platform and "COMX" that you have assigned to STK 500 previously.

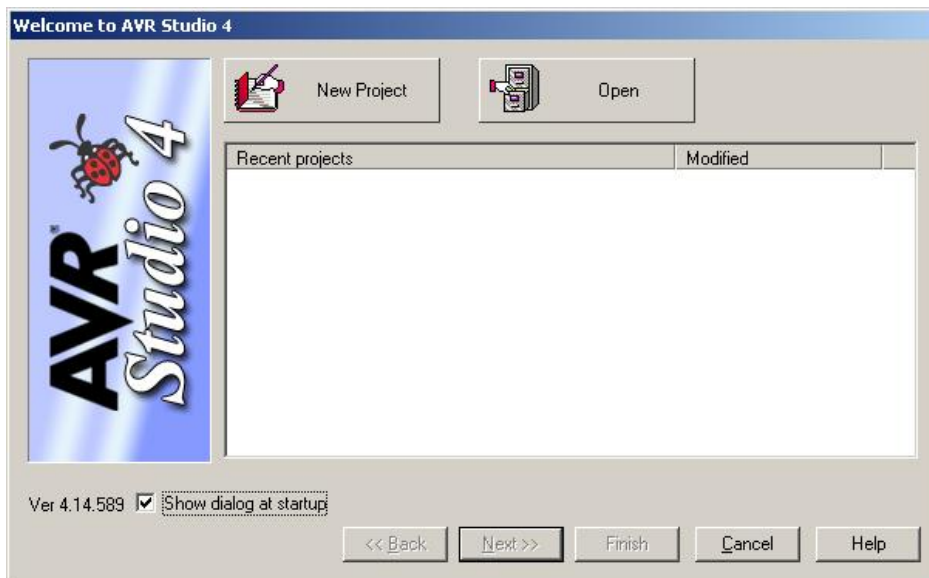
Change the COM port number and make connection



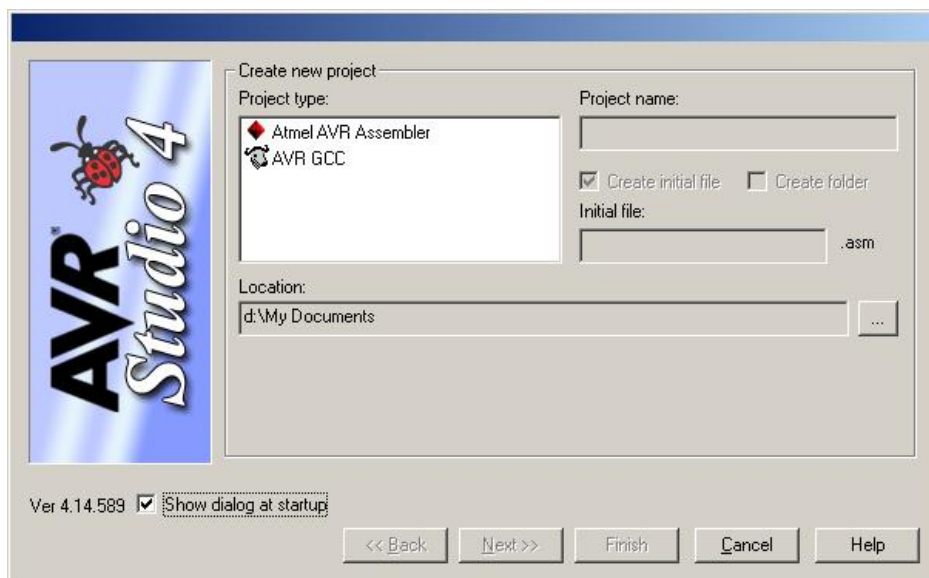
Click “Connect...” to establish the connection of STK 500 and computer.

Chapter 5. How to create a new project in AVR Studio 4?

Run "AVR Studio 4" from "Start" -> "Programs" -> "Atmel AVR Tools" -> "AVR Studio 4" and the following will be displayed:



Click "New Project" to create a new project.



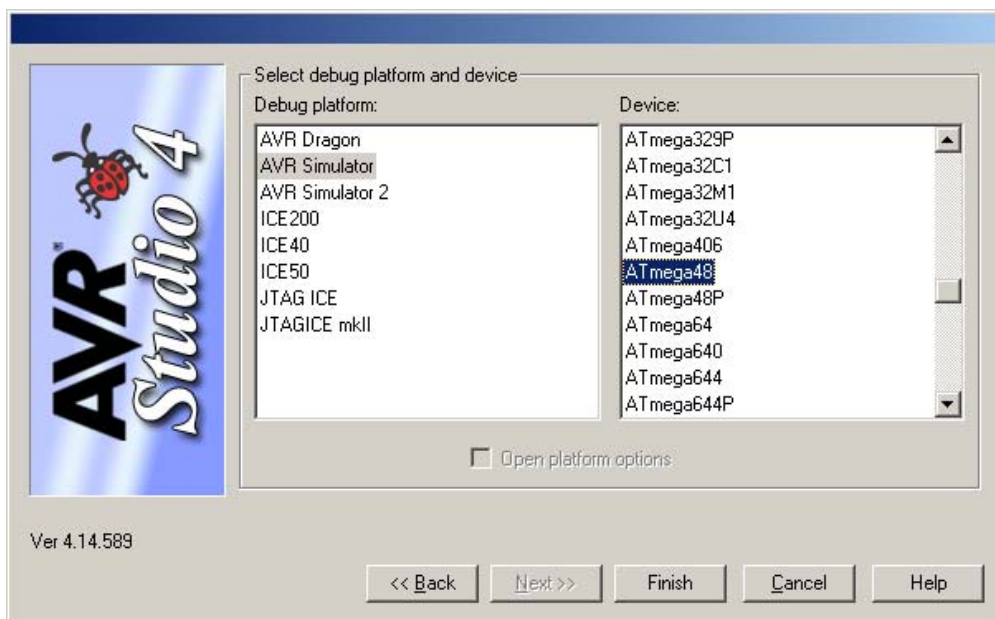
How to create a new project in AVR Studio 4?

In the popup dialogue box, click “AVR GCC” first.

Then name this newly-created project in “Project name”, such as “text 5” like shown below:

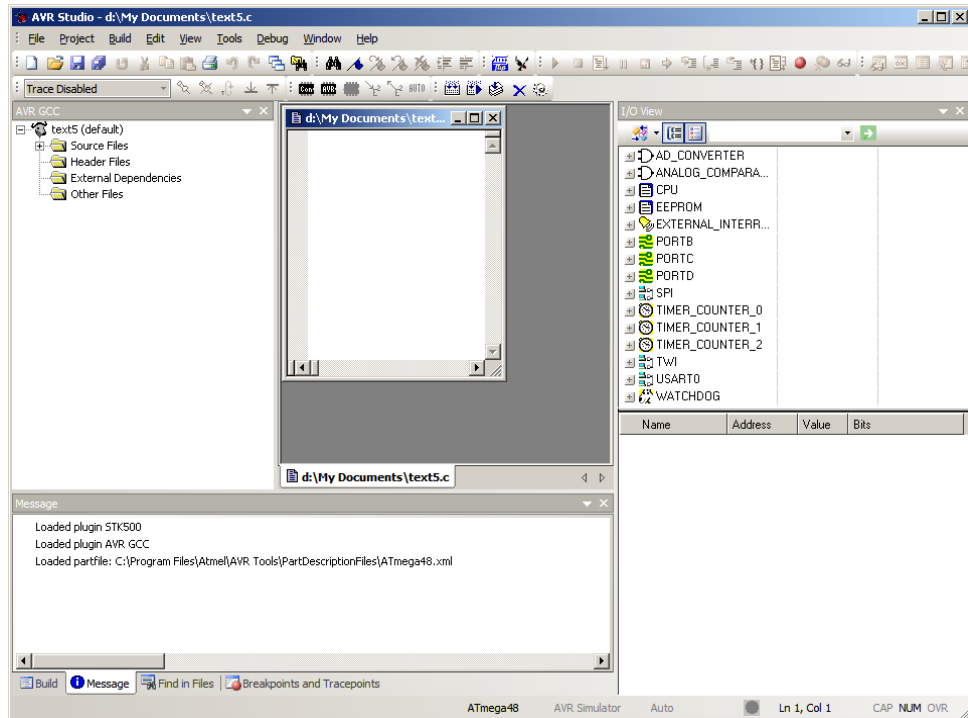


After that, select location for this new project and click “Next >>” to continue.



On the next popup window, select “AVR Simulator”-> “ATmega48” -> “Finish” successively.

How to create a new project in AVR Studio 4?

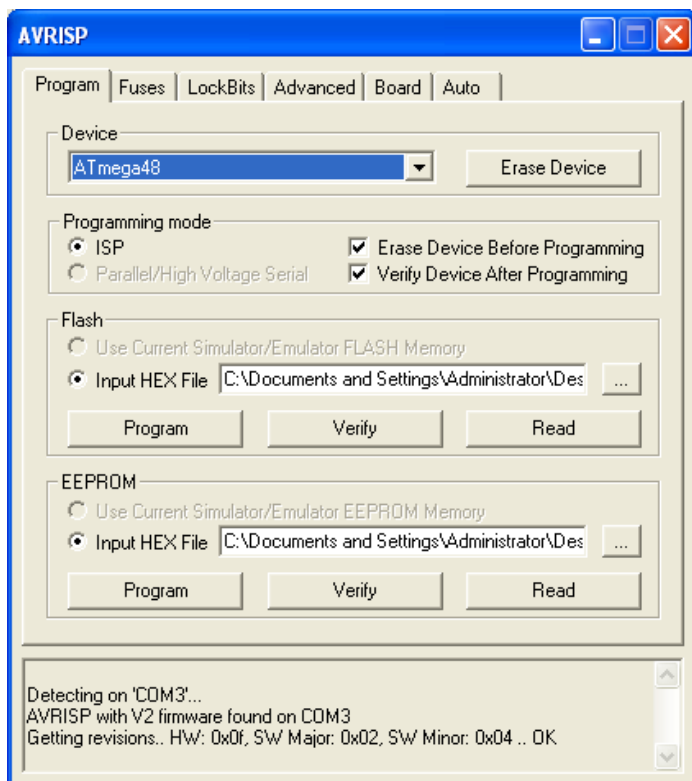


Now, users may start program “text5” like shown above.

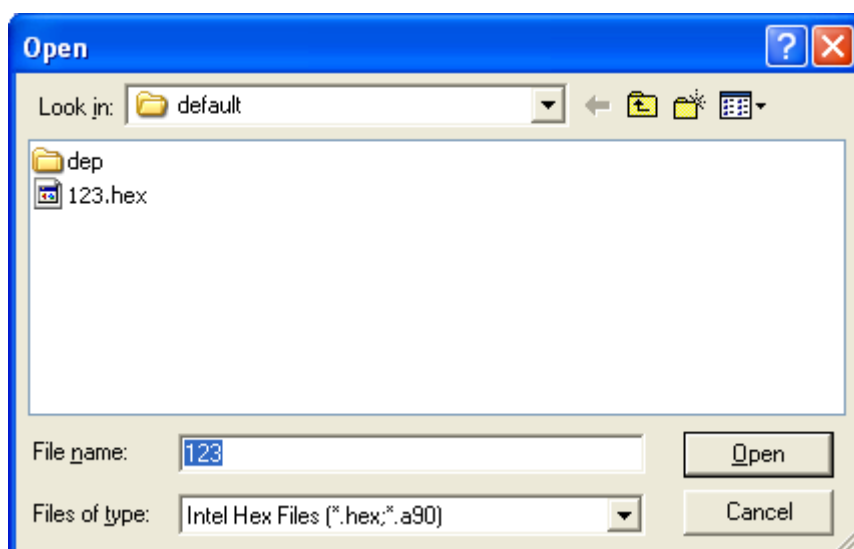
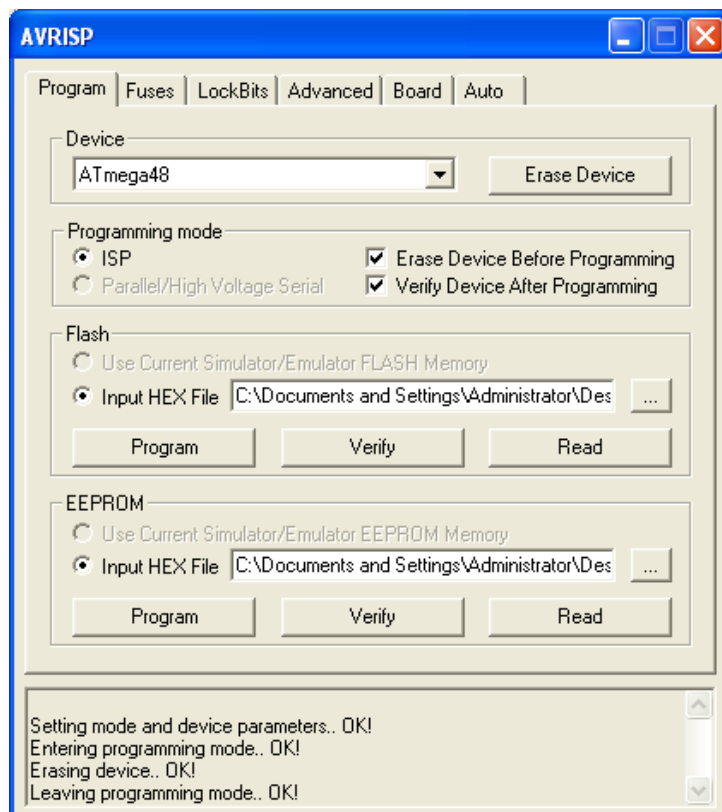
Remember to click “Build Active Configuration” button in the toolbar when you’re done with programming.

Chapter 6. Programming Example

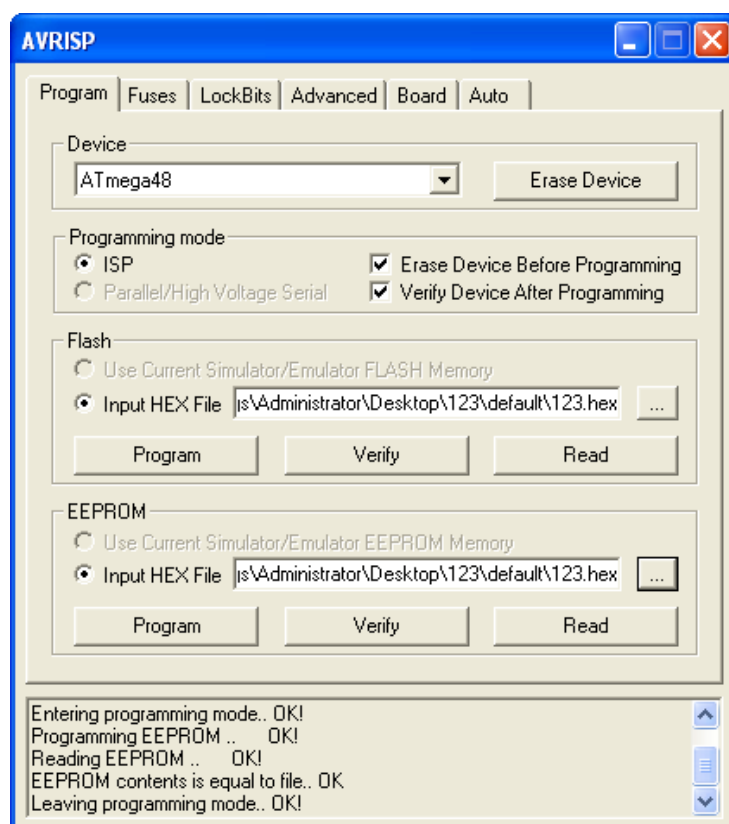
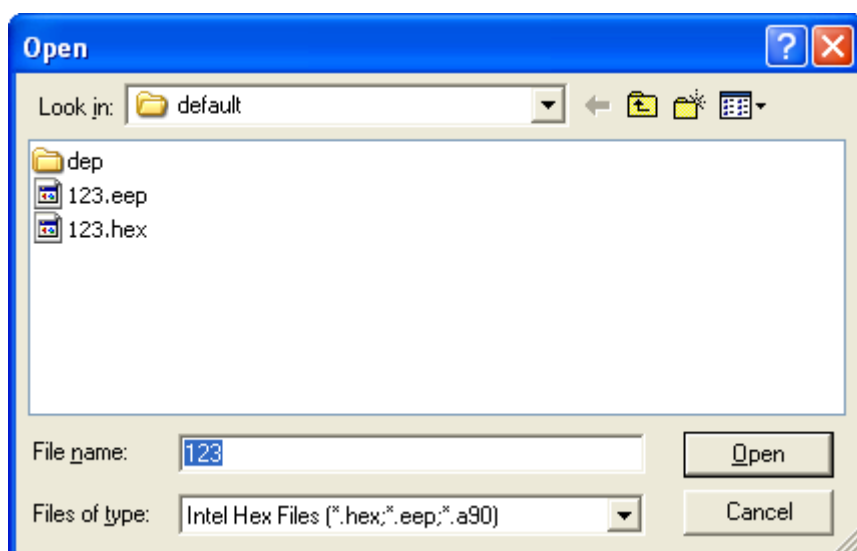
Select appropriate device type from the drop-down list for the device to be programmed, which is "ATmega48" in this case. Then click "Erase Device" button.



Select correct HEX file to be programmed into the device in either "Flash" or "EEPROM". Click "Program" when you are done with the preparation.

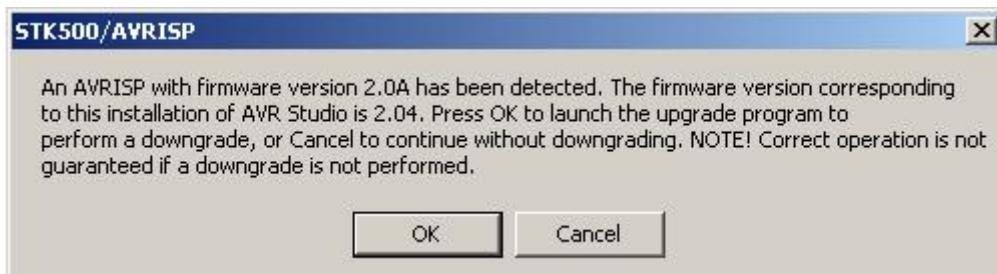


Programming Example



Chapter7.About Firmware upgrade

For those who use a non-AVR Studio 4.14 build 589 release(previously released version), the following prompt might be popped up, reminding you to upgrade the firmware of STK 500, like shown in the following:



Please DO NOT click "OK", just click "Cancel", otherwise, failure will occur.

To resolve this issue, please re-download STK 500 application from the following link and reinstall AVR Studio 4:

Link address: <http://www.sure-electronics.net/download/DB-AD001.zip>

Chapter8.Contact Us

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