



# How to use AD-USBISP V03

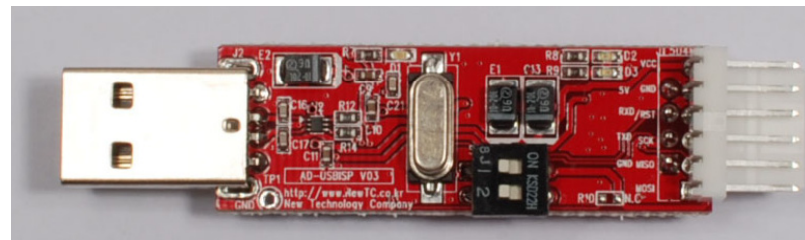
New Technology Company

C.E.O.

DAEWOO RYU

# AD-USBISP V03

- You can find it on <http://www.NewTC.co.kr>
- ISP(In System Programming) of AVR
  - In AVR flash memory, user can make, download and test the program (Supports Flash Read/Write)
  - All AVR MCU like ATMEGA2561, ATmega128, ATmega32, ATmega16, ATmega8 ISP can do download to MAX flash memory size of AVR (Compatible to 3.3V/5V )
  - Supports for S series of ATMEL 8051 like AT89S52,AT89S51 (Compatible to 3.3V/5V)
  - Faster and many downloading speed.
  - Supports for control of Fuse bit and Lock bit in AVR
  - Supports for Internal EEPROM Read/Write



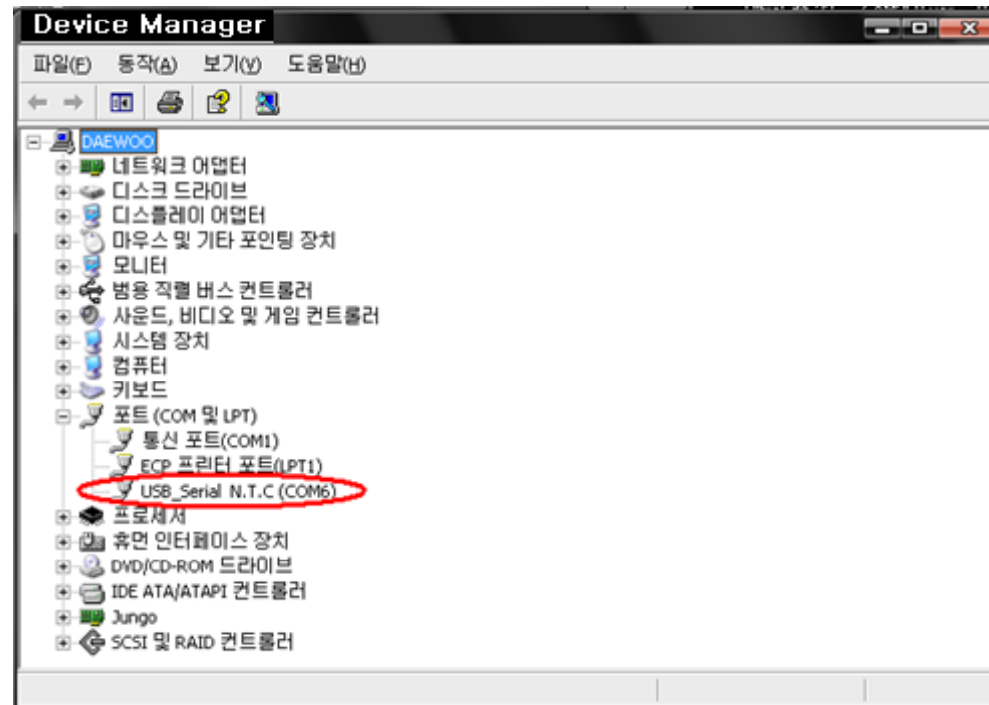
AD-USBISP V03(-L)

# Driver Install 1/3

- Most of all, install USB-ISP driver from NewTC website as the following.
  - The following-
- [http://www.newtc.co.kr/download/AD-USBISP/AD-USBISP\\_V03\\_XP2K.zip](http://www.newtc.co.kr/download/AD-USBISP/AD-USBISP_V03_XP2K.zip)
- Connect USBISP to USB port of computer. If you extract the file, then you could see
- DriverInstaller.exe, install this, then it will install USBISP driver. If USB-ISP is connected
- You could see N.T.C USB Serial Port from Windows-Start>Control panel->System →hardware→device manager

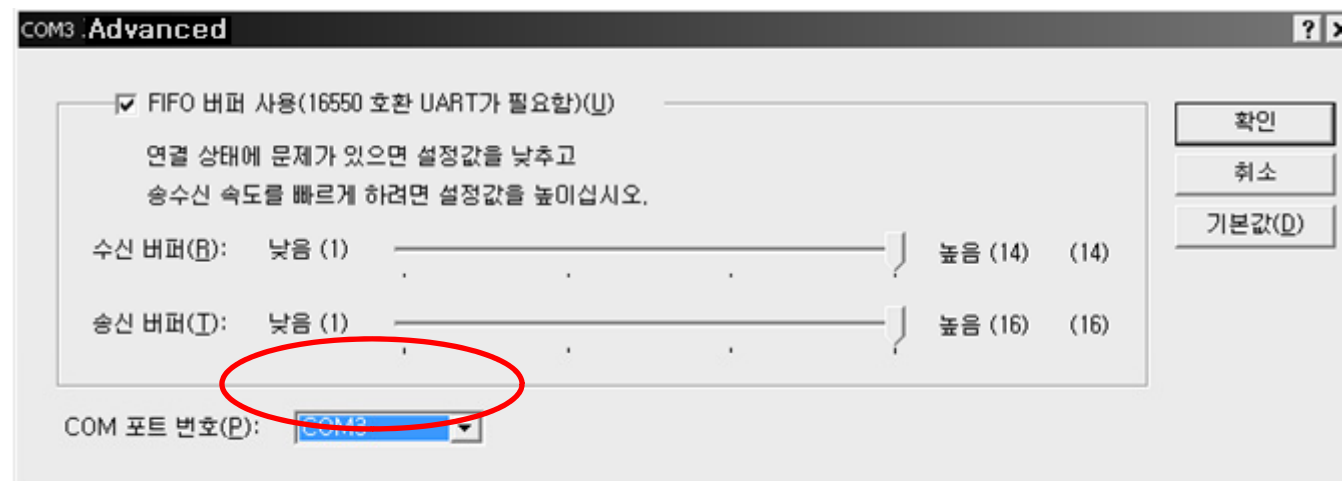
# Driver Install 2/3

- Over here, you could see COM6, but each computer or usb port can have different virtual COM port, so you should check the port number.



# Driver Install 3/3

- If you want to change COM port, then click left in USB\_Serial N.T.C, and click right of mouse, and properties→port setting→advanced->you can change com port number
- In some computer system can need booting after changing port number by force.



# Compiler Setting (ICCAVR V7) 1/2

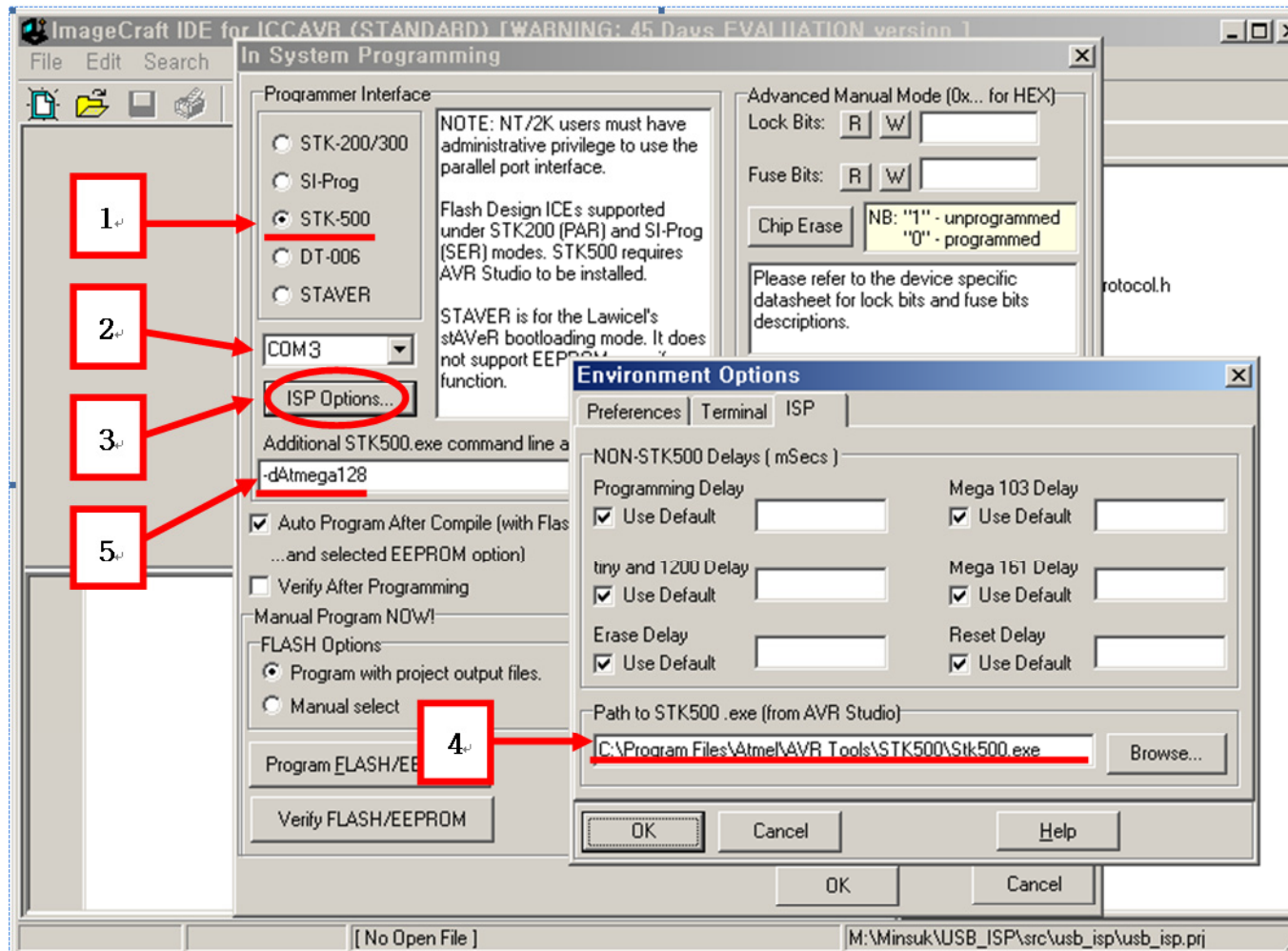
Most of all, download and install AVR Studio from NewTC or ATMEL website, and find the location of Stk500.exe

(In general, C:\Program Files\Atmel\AVR Tools\STK500)

After executing ICC-AVR, click Tool > In System Programmer.

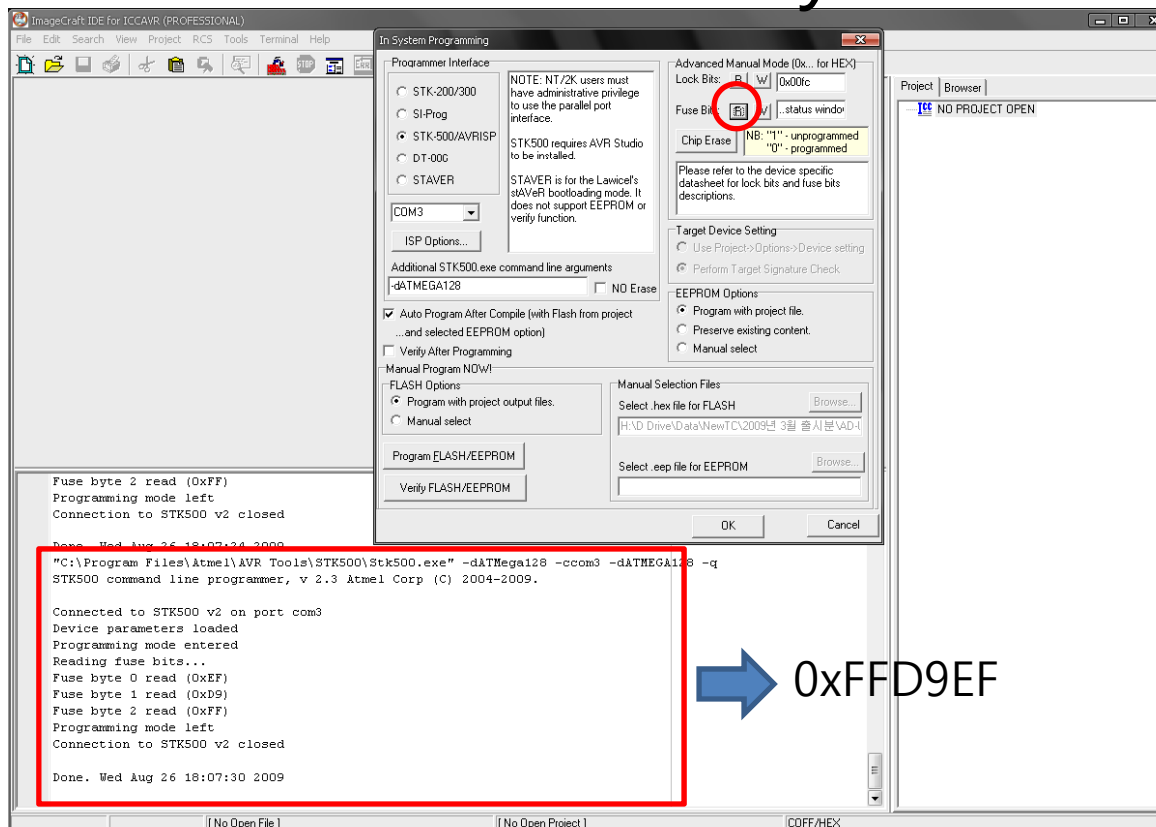
- 1) Select STK-500 (This USB-ISP works as STK-500 mode)
  - 2) Select COM port number.
  - 3) Click ISP Options, and
  - 4) You will see Environment Options, and find Stk500.exe or write the location of STK500.exe over there.
  - 5) If you use ATmega128, write -dATmega128. If you use other AVR, you can leave it as blank.
- \* If you set like above, you can use USB ISP in ICCAVR
  - \* If you want to write fusebit in ICCAVR, In 5 (Additional STK500.exe command line.....), write -dATmega128 -fD9EF -FD9EF -EFF -GFF, then it will write 0xFFD9EF to Flash program when programming.-

# Compiler Setting (ICCAVR V7) 2/2



# Fusebit Read using USBISP on ICCAVR V7

- Press R button for reading fusebit
- ATMEGA128 normally use 0xFFD9EF.



The screenshot shows the ImageCraft IDE for ICCAVR (PROFESSIONAL) with the In System Programming dialog box open. The 'Fuse Bit' button is circled in red. The terminal window shows the command line and the output of the STK500 programmer, including the fuse bit read results: Fuse byte 0 read (0xEF), Fuse byte 1 read (0xD9), and Fuse byte 2 read (0xFF). A blue arrow points from the terminal output to the value 0xFFD9EF.

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"C:\Program Files\Atmel\AVR Tools\STK500\Stk500.exe" -dAtMega128 -ccom3 -dATMEGA128 -q
STK500 command line programmer, v 2.3 Atmel Corp (C) 2004-2009.

Connected to STK500 v2 on port com3
Device parameters loaded
Programming mode entered
Reading fuse bits...
Fuse byte 0 read (0xEF)
Fuse byte 1 read (0xD9)
Fuse byte 2 read (0xFF)
Programming mode left
Connection to STK500 v2 closed

Done. Wed Aug 26 18:07:30 2009
  
```

0xFFD9EF



# Flash Downloading using USBISP on ICCAVR V7 (1/2)

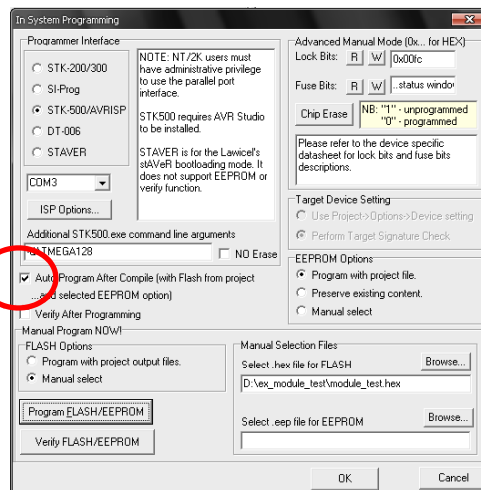
- There are two methods
  - First : Program with project output files.
  - Second : Manual Select

- First : Program with ~

– Check "Auto Program After Compile)

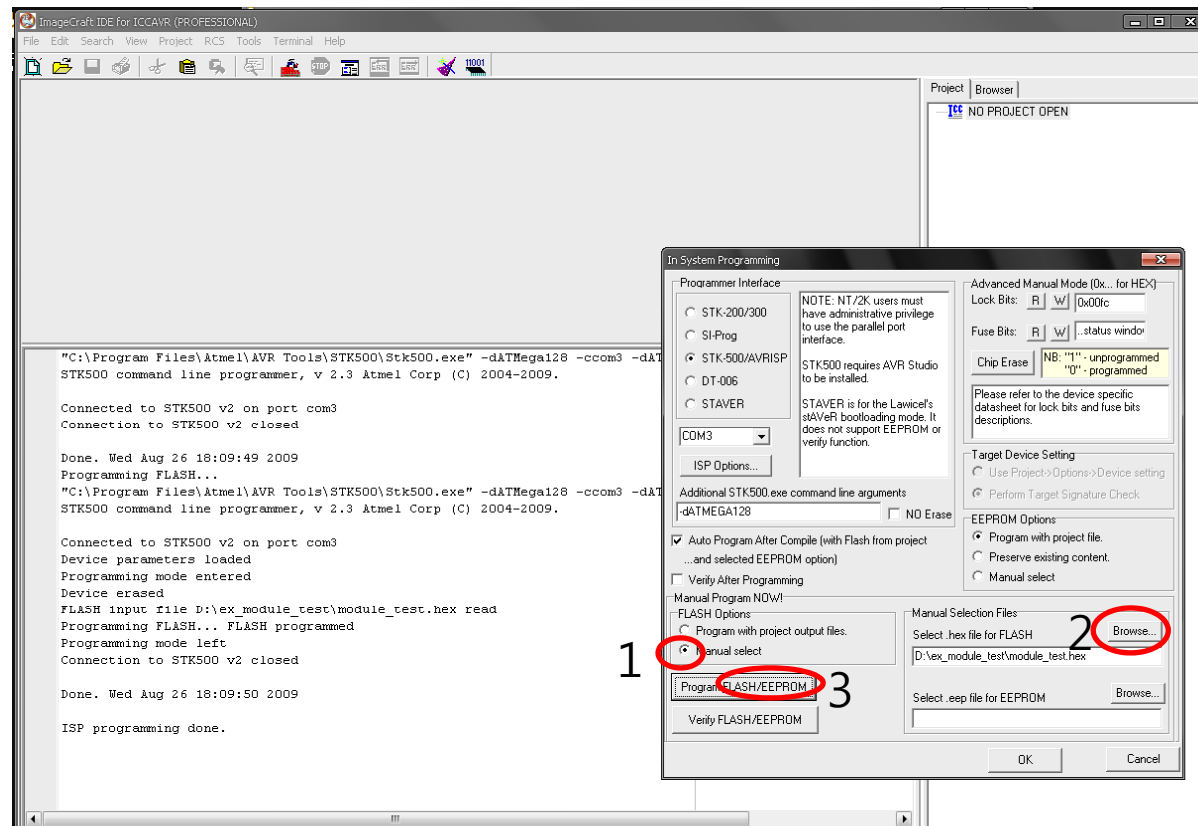
– after making project,  
Just Press F9, then

it will compile and download



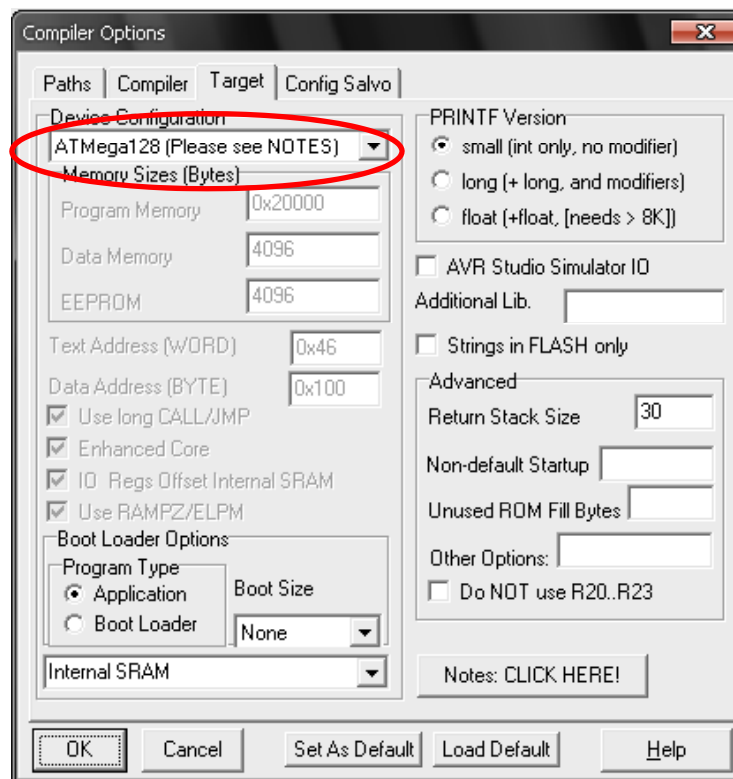
# Flash Downloading using USBISP on ICCAVR V7 (2/2)

- Second : Manual Select



# Before Flash downloading

- Project → Options → Target → Device Configuration → Select ATmega128

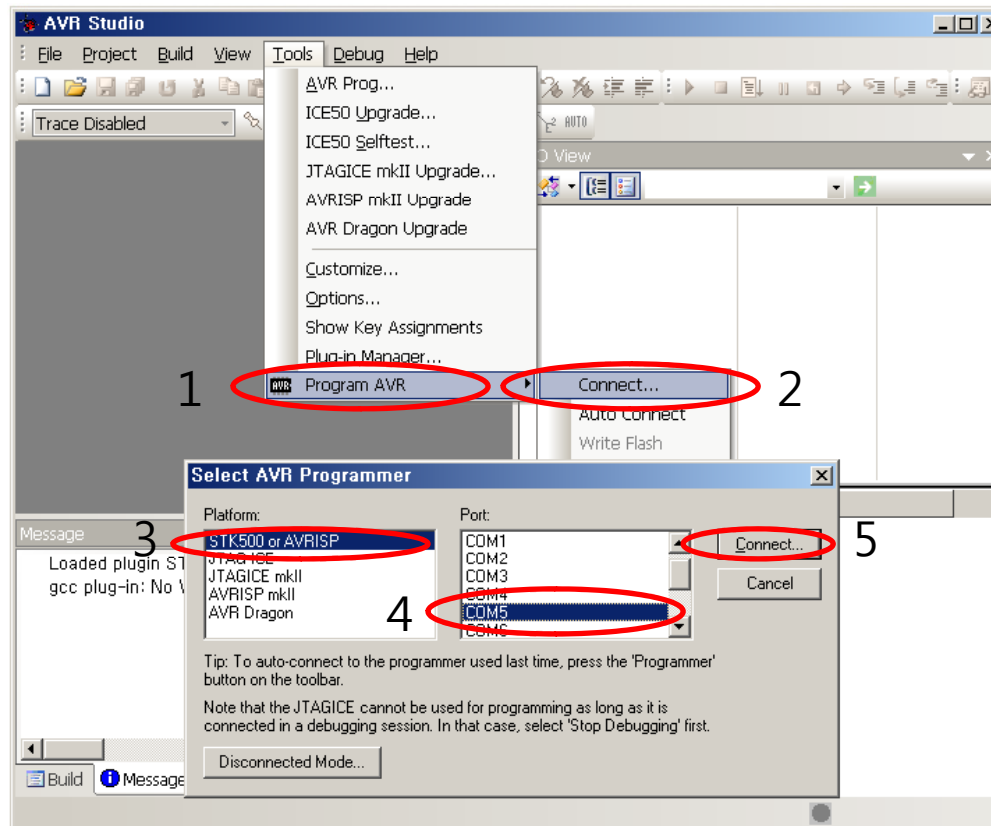


# Flash Downloading using USBISP on AVR Studio(1/4)

- Download AVR Studio from ATMEL.com
- You can also download from NEWTC
- [http://www.newtc.co.kr/download/SW/AVR Studio 4 16.zip](http://www.newtc.co.kr/download/SW/AVR_Studio_4_16.zip)

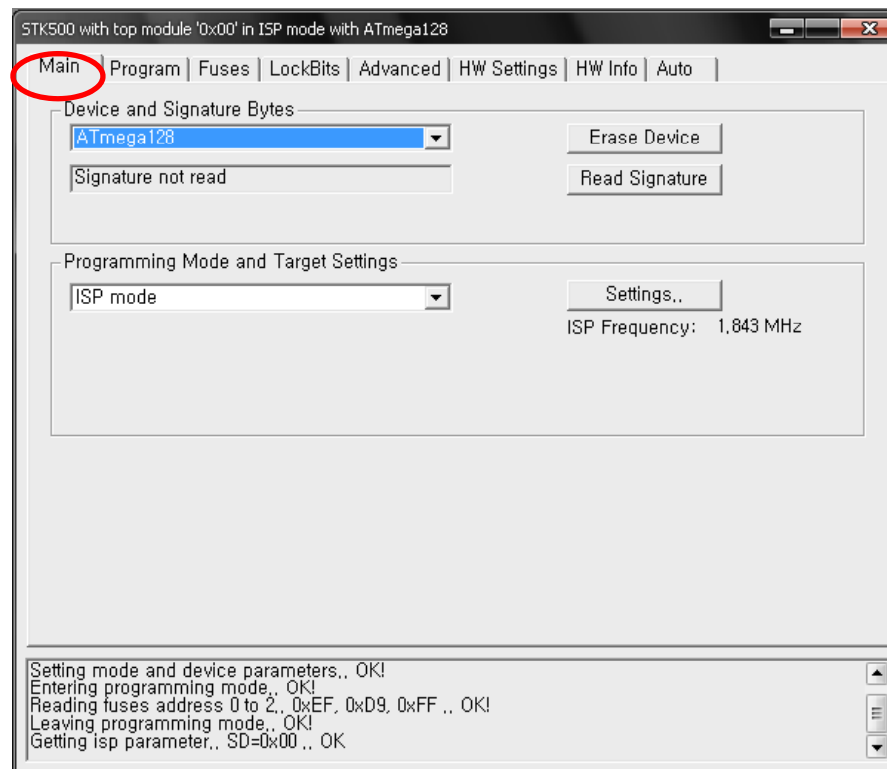
# Flash Downloading using USBISP on AVR Studio(2/4)

- Tools → Program → AVR Connect → STK500/COMx → Connect
- If your COMx is bigger than COM8 then, change it under COM8.



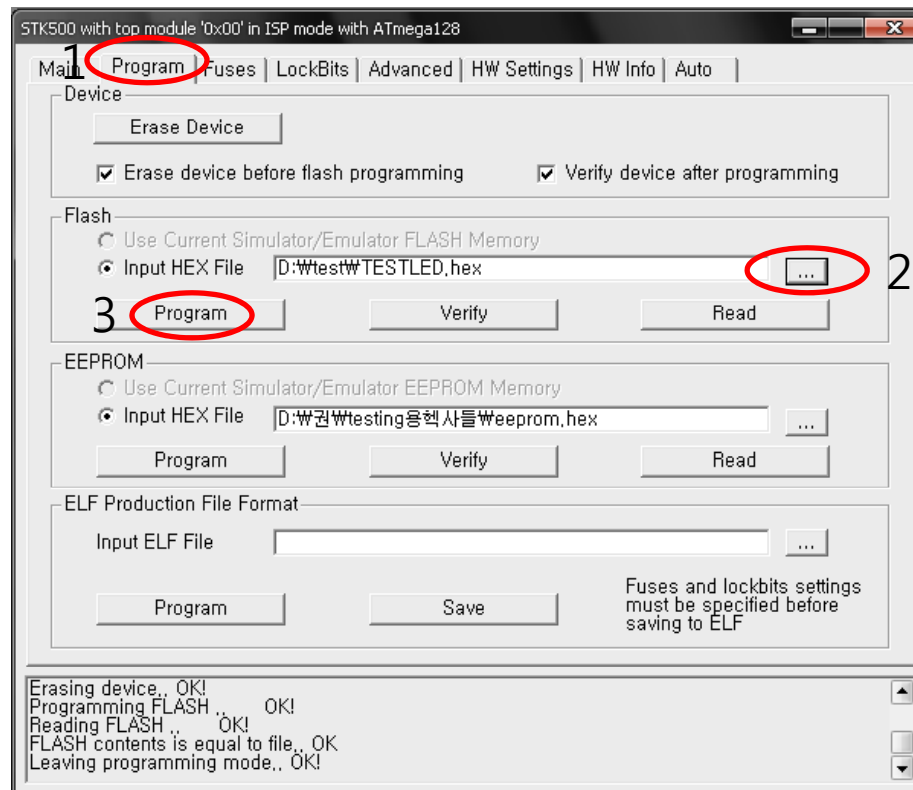
# Flash Downloading using USBISP on AVR Studio(3/4)

- Press Main TAB, and select Device as ATmega128



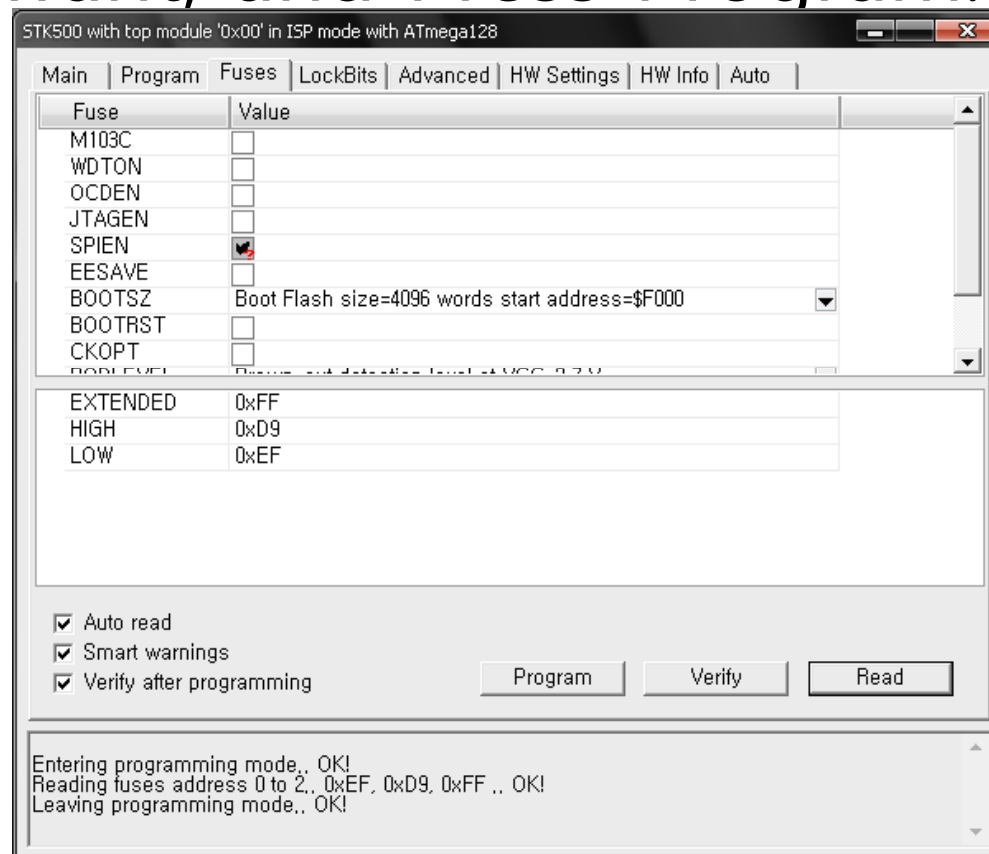
# Flash Downloading using USBISP on AVR Studio(4/4)

- Press Program TAB, and select HEX file and Press Program.



# Fuse bit Setting using USBISP on AVR Studio(1/3)

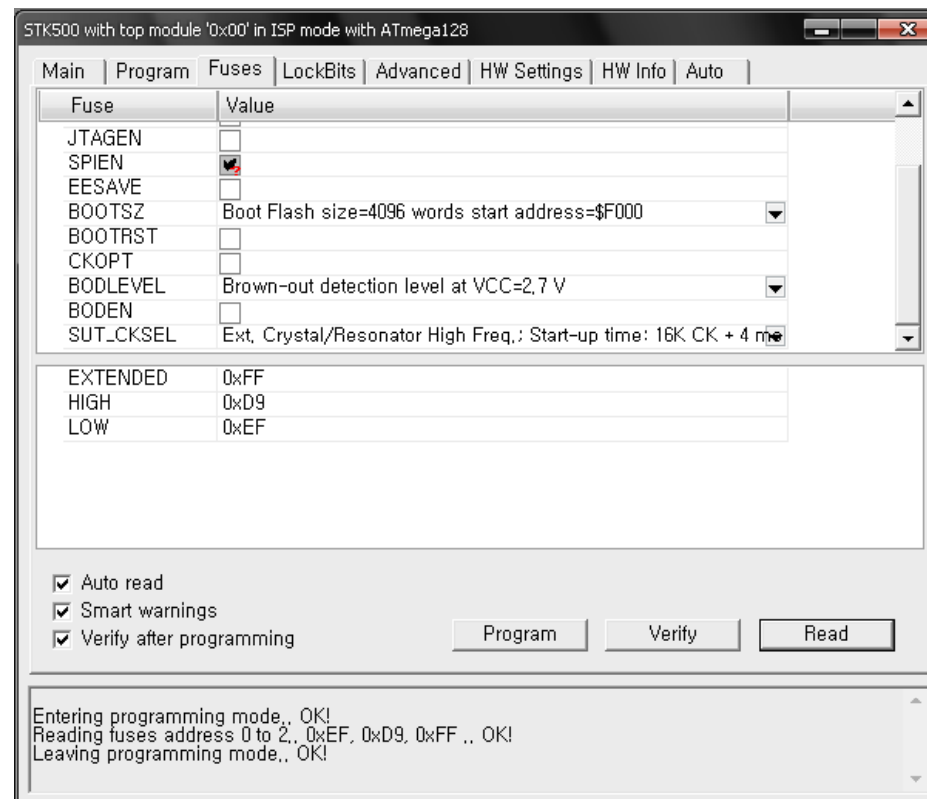
- Just Press Fuses TAB, and check what you want, and Press Program.





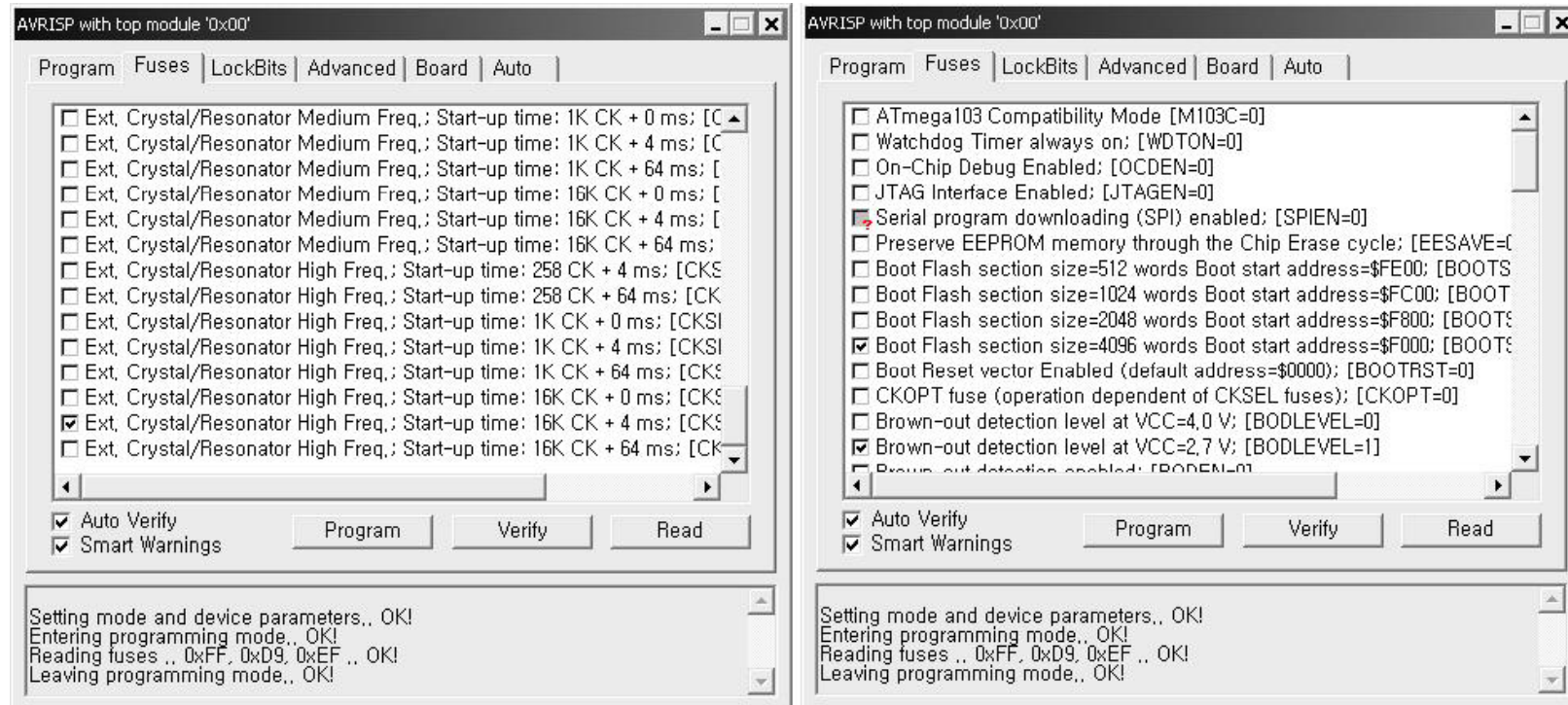
# Fuse bit Setting using USBISP on AVR Studio(2/3)

- Normally, I use 0xFFD9EF as following.
- On AVR Studio 4.16



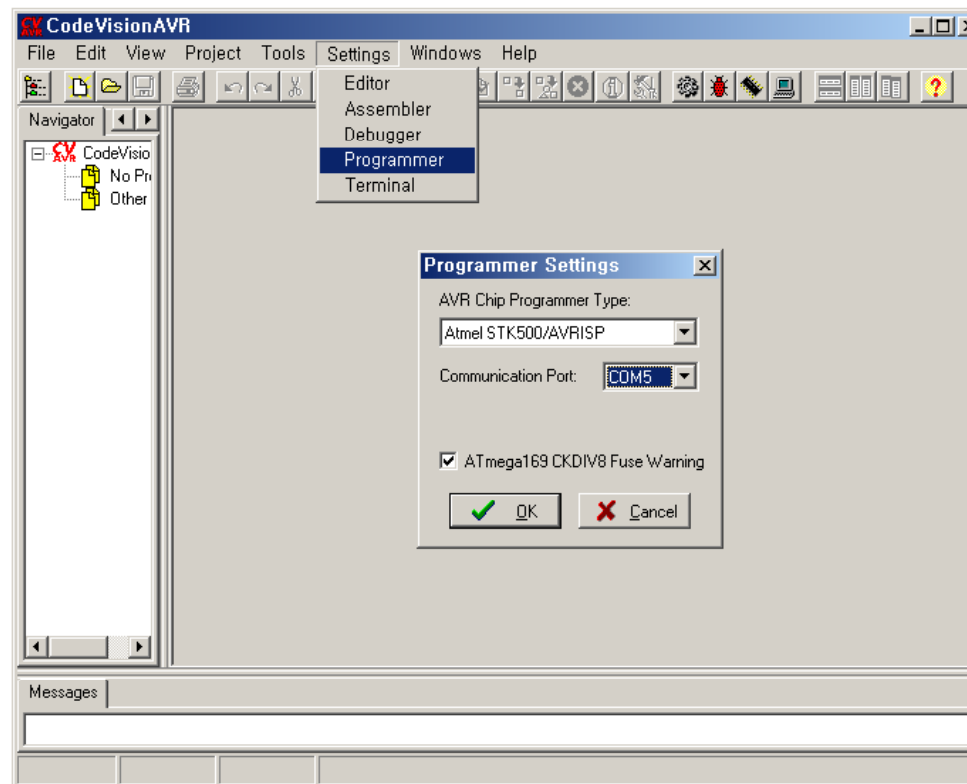
# Fuse bit Setting using USBISP on AVR Studio(3/3)

- Under AVR Studio Version 4.13



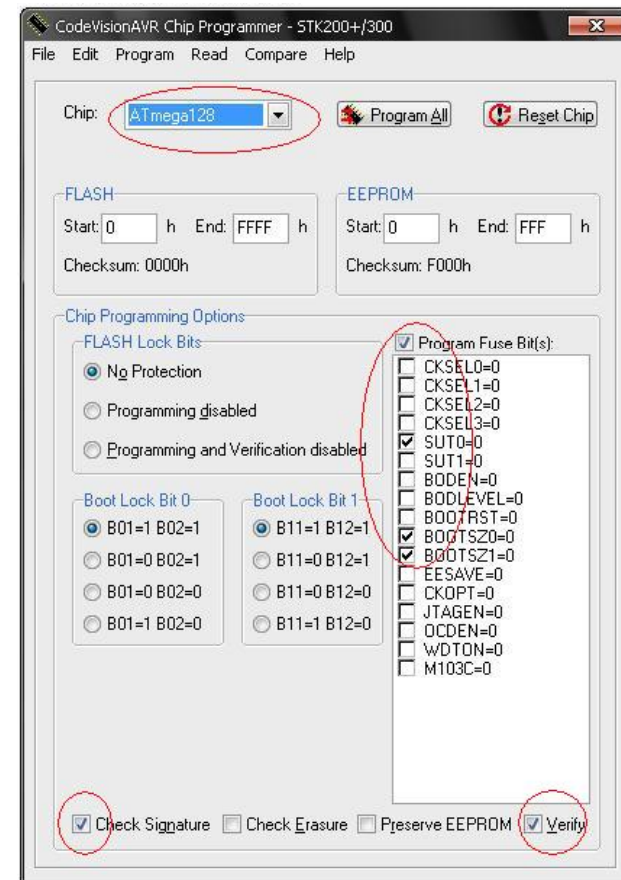
# Flash Downloading using USBISP on codevision(1/2)

- Settings → Programmer → STK500 → COMx → OK



# Flash Downloading using USBISP on codevision(2/2)

- File->Load Flash (.HEX)
- After checking fusebit as the picture,
- Program Flash



# About LED

- When version up to USBISP V03, LED representation changed very clearly. It has 5 modes. If USBISP is connected to PC, blue LED is ON.
- ISP downloading mode : Red LED ON. Green LED OFF
- ISP downloading finish : Red LED OFF. Green LED ON
- Normal state (When USBISP is connected with PC or target board with power ON)
  - : Red LED OFF. GREEN LED Blinking at almost 1 times / sec.
- USBISP is not connected to target or target power is OFF.
  - : Red LED blinking. Green LED OFF.
- Download error : For 4 second, Red LED and Green will blink together, and it enters to normal state.
- I mean, if USBISP is connected to PC USB, LED AVR is not connected then, LED will blink in red. /RESET of USBISP, and /RESET of target AVR ON, then LED will blink as green. When downloading, red LED will be ON. After download, green LED again will be ON, and after some time green LED will blink.
- % In 89Sxx series, LED blinking, ON/OFF will be changed between RED and GREEN.