How to Test, Download, and Run a Program on the MDE 8051 Trainer Board

(This document is produced with contribution from Bryce Deshazo)

The 8051 Trainer manufactured by Digilent board comes with AC-to-DC power Adaptor (5V) and DB-9 connector cable in which one side is DB-9 female and the other side is DB-9 male.

Note: Windows Vista and Windows 7 do not come with HyperTerminal. You will need an alternative program. Tera Term works just fine and it is an open source project, so it is a free alternative. Go to http://en.sourceforge.jp/projects/ttssh2/releases/ and you will see a place to download Tera Term below.


Download and install Tera Term.

Connecting the 8051 Trainer to PC with Tera Term:

a) Connect the Serial 0 connector of the 8051 Trainer to COM port of the PC using DB-9 cable, as shown below. If your PC does not have any serial port then you must use a USB to serial cable available from Digilent website
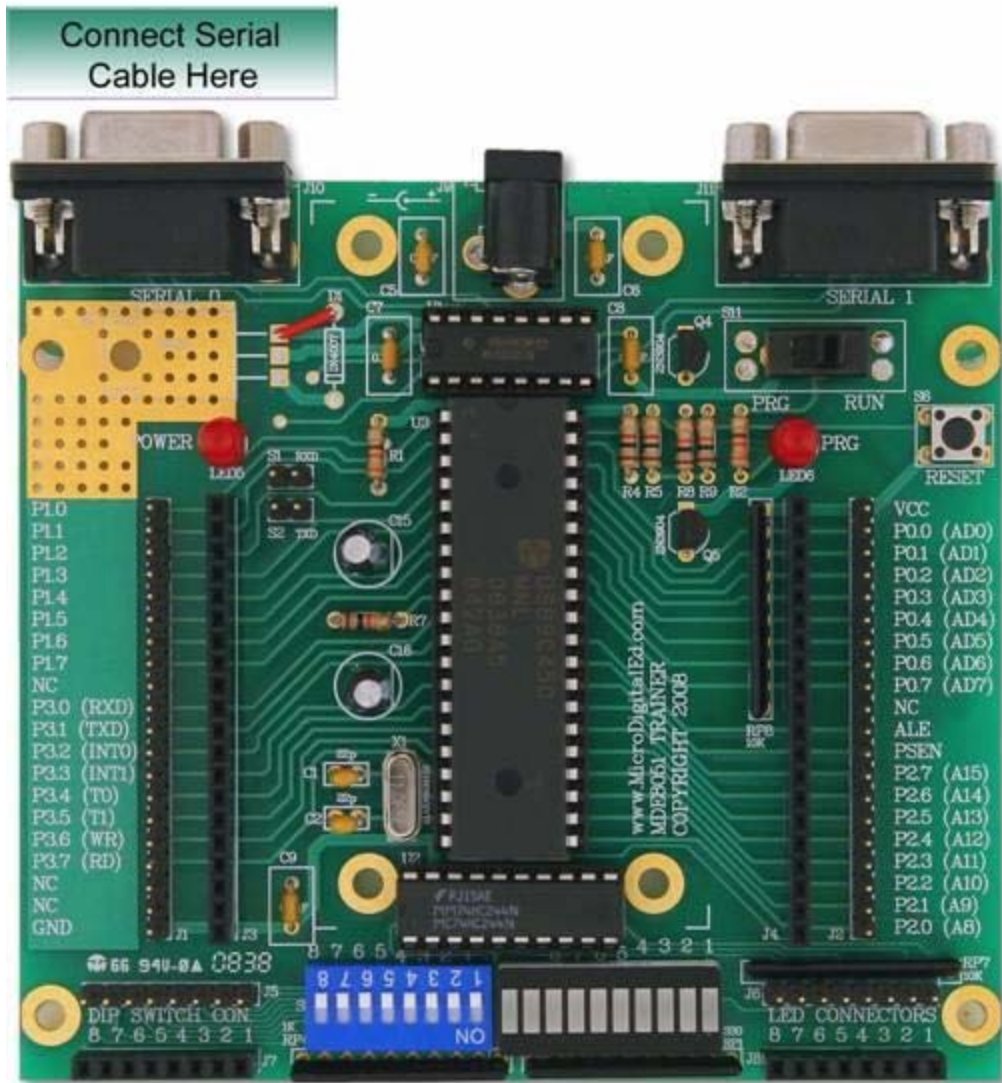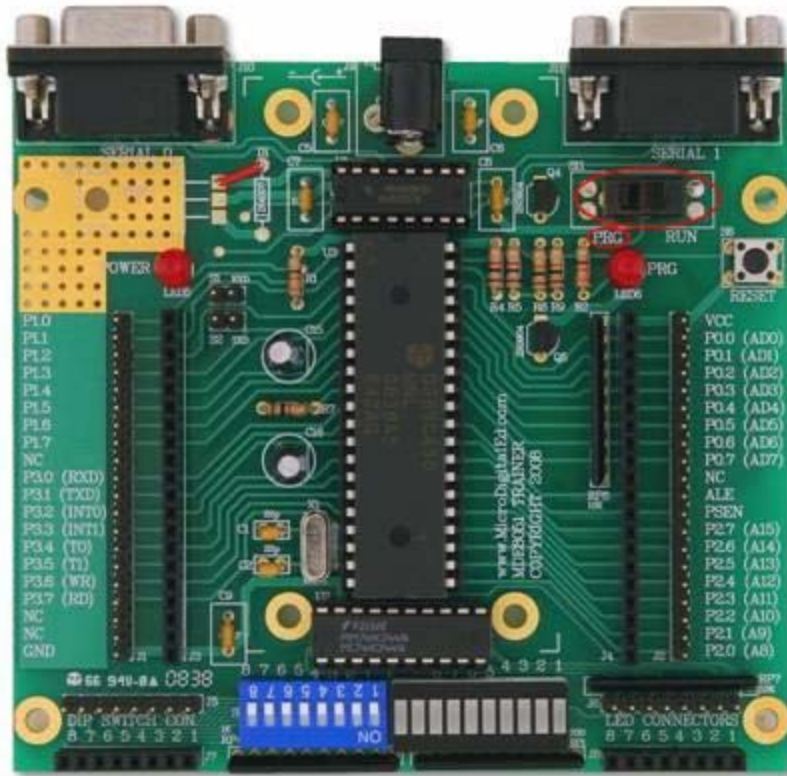
b) On your PC open Tera Term.
c) Select the proper Com port then click OK
   Note if you are using a USB to serial cable, then it will show up with a
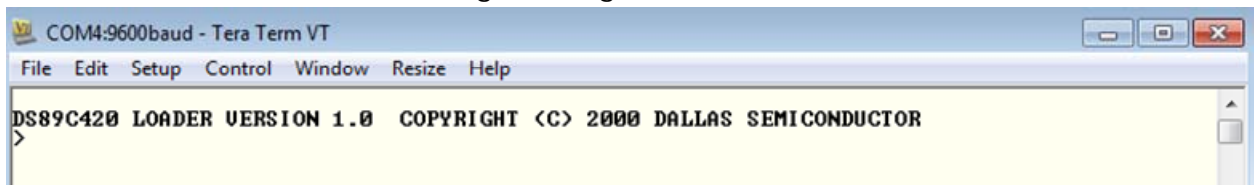   longer name like the one shown below

d) Connect the power

Connect 5V DC Power Cable Here
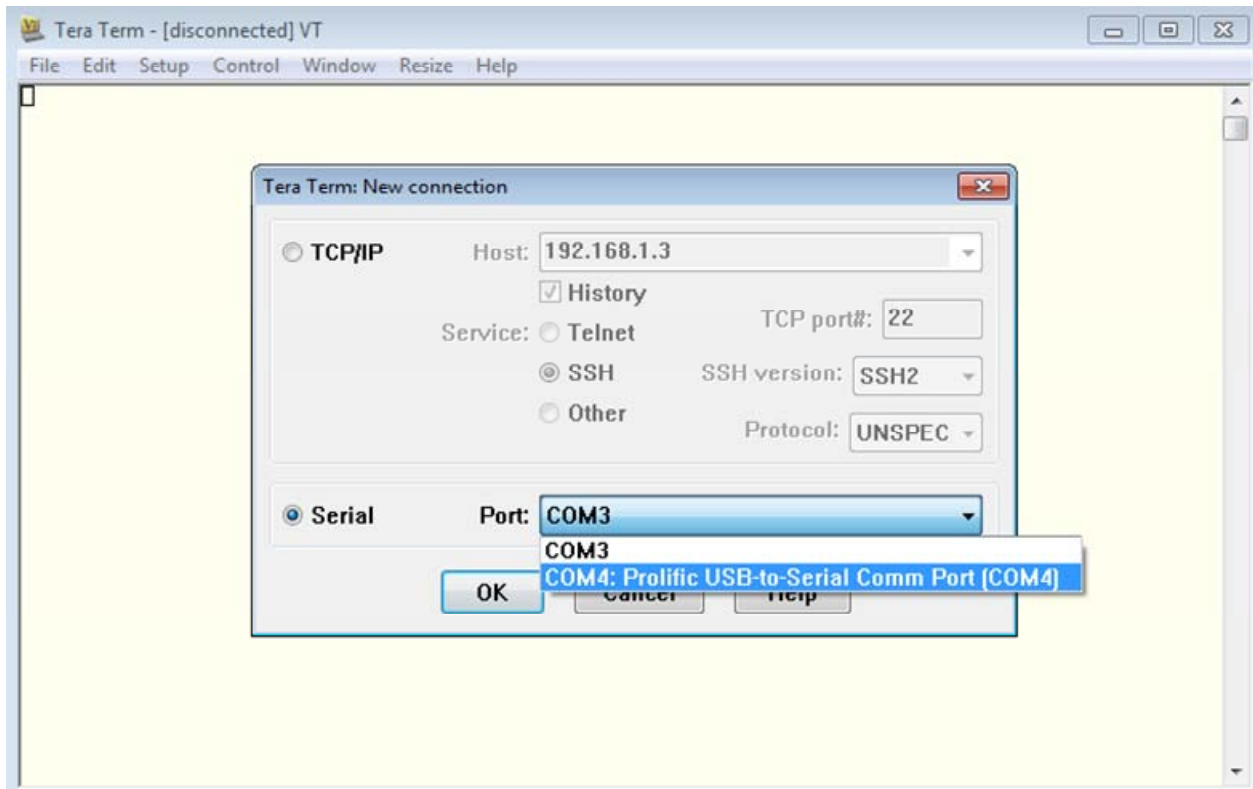
e) Put the Switch on PRG, as Shown bellow. (The PRG LED is turned on now)

f) Go to your Tera Term. Press Enter once and examine the Tera Term screen. You should now see the following message on the screen.
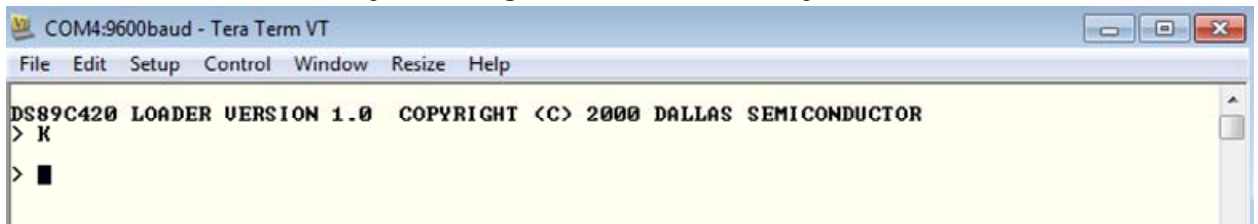

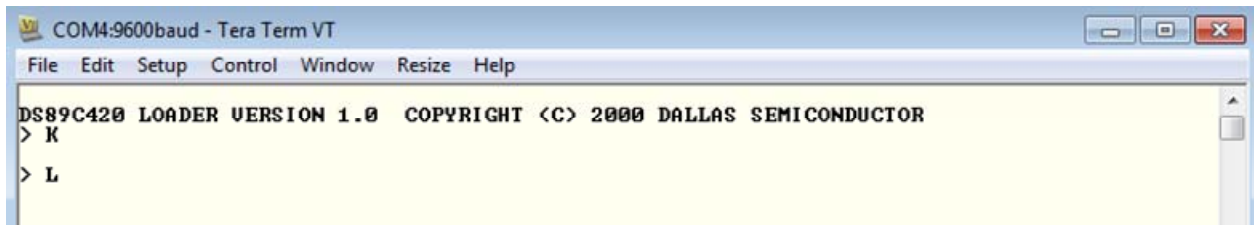You are now ready to load a HEX file into the trainer.
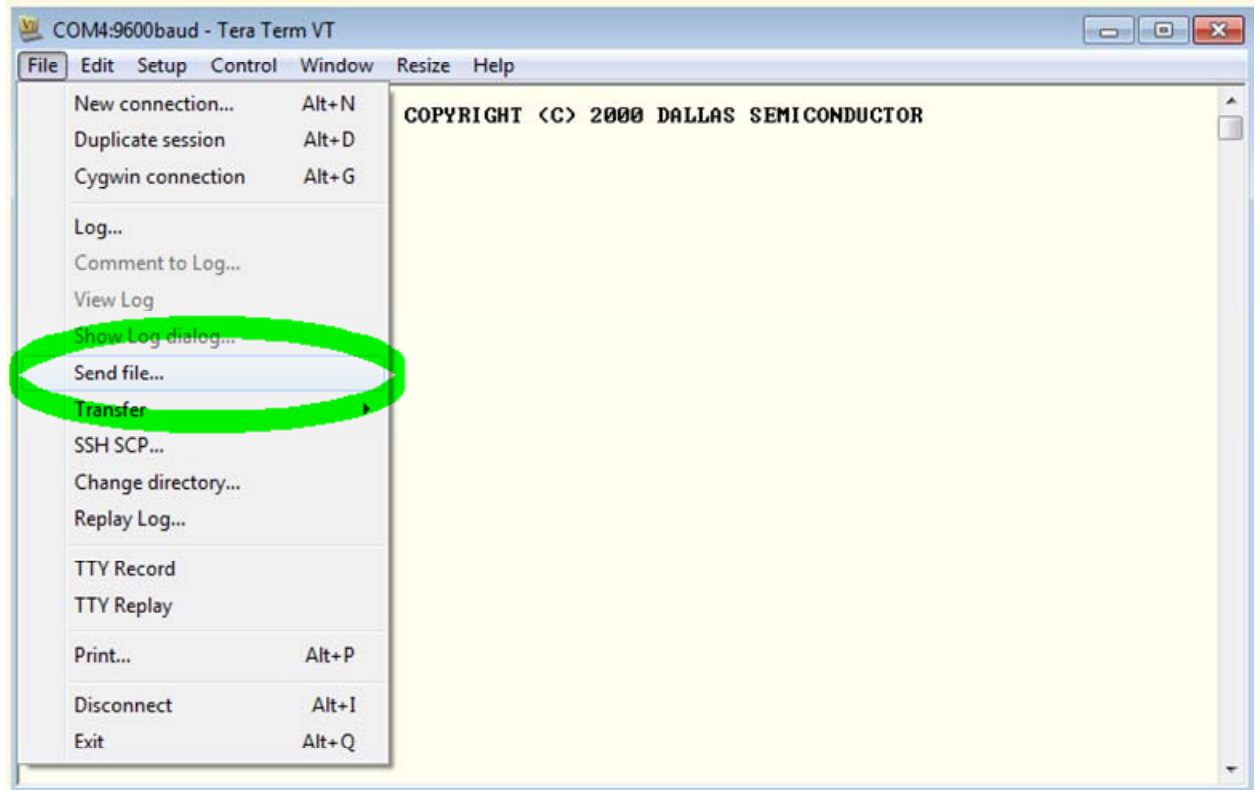

How to Load and Run Programs on 8051 Trainer:

g) Clear (Erase) the Flash by entering letter **K** followed by Enter.

h) Ready to download by entering letter **L** followed by Enter.

COM4:9600baud - Tera Term VT

File Edit Setup Control Window Resize Help

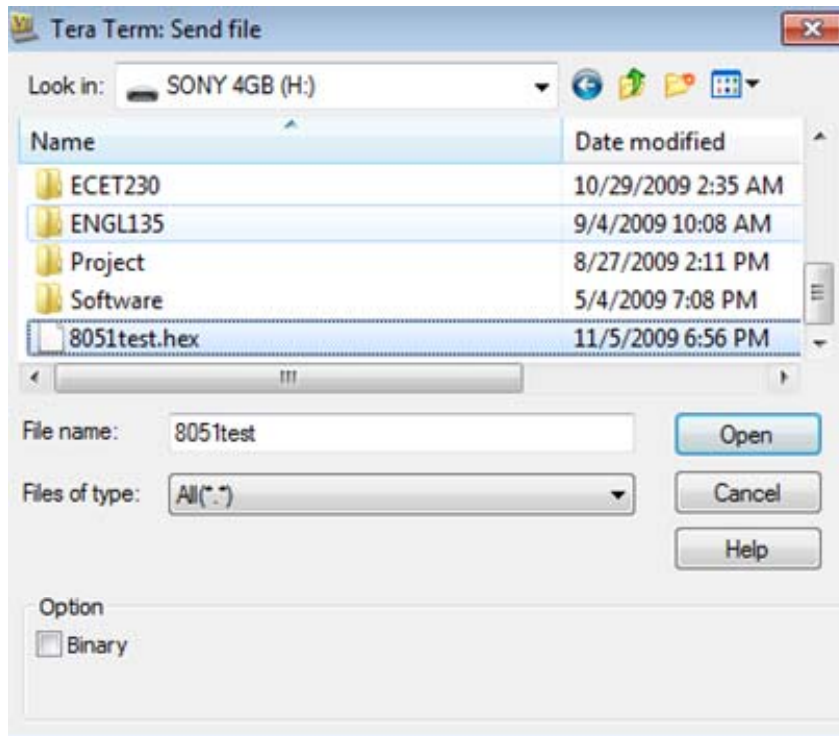DS89C420 LOADER VERSION 1.0   COPYRIGHT <C> 2000 DALLAS SEMICONDUCTOR
> K

> L

i) Using Tera Term send a text file to the trainer, like shown below.
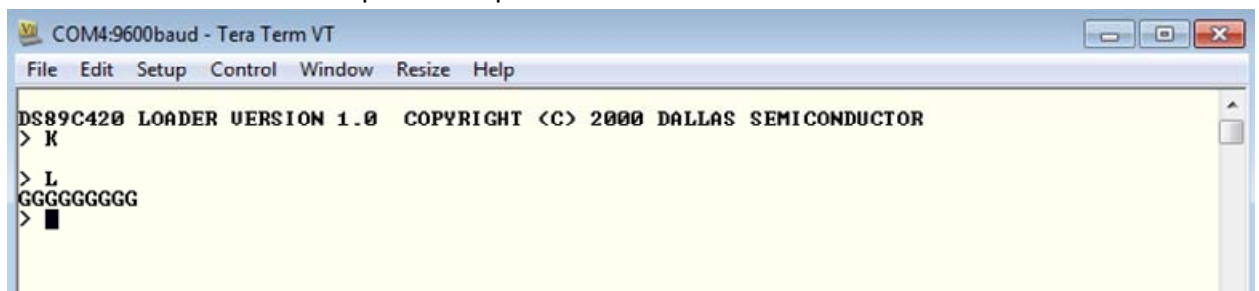

j) When the dialogue appears, select all files and navigate to find your HEX file to be sent to the trainer. (See the Proview Tutorial to create a HEX file test program.)
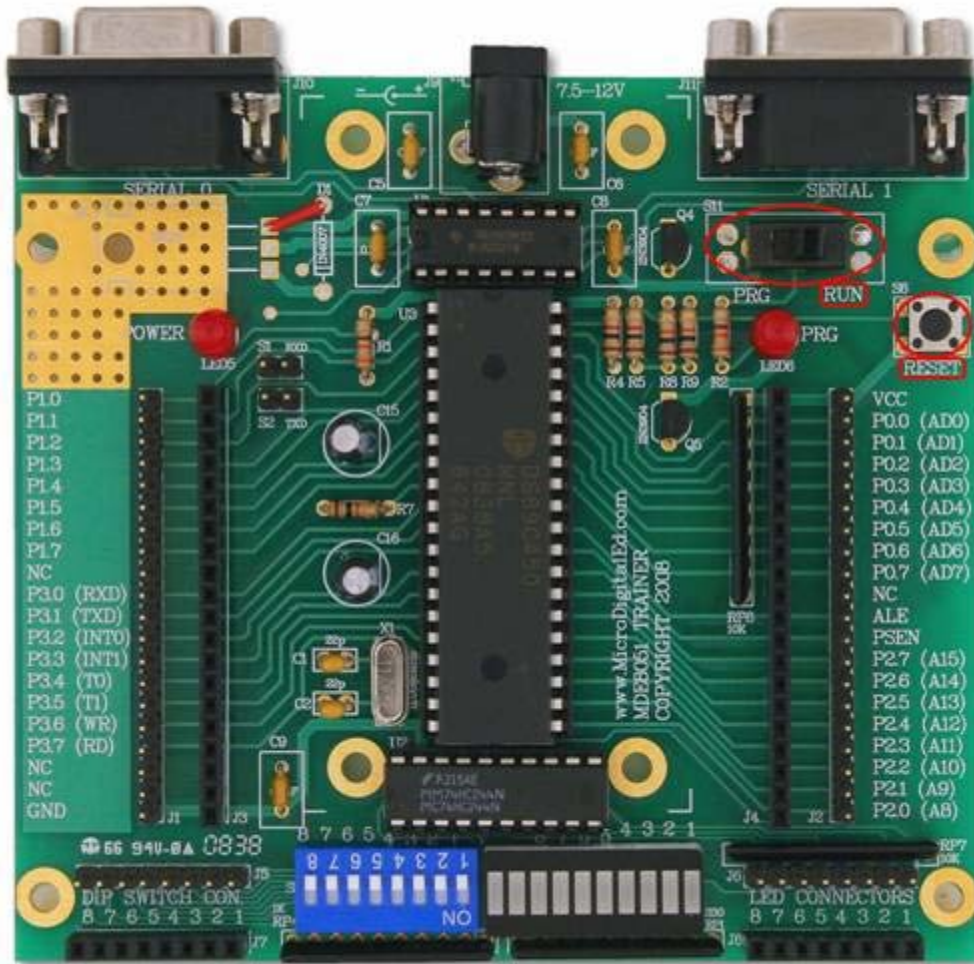
Click here to download toggle hex file

k) You should see a series of Gs appear on your screen if the download is successful. Otherwise repeat the process.

l) If the Download is successful, you can move the Switch to Run position and press RESET button to execute the code.

Check out the command list here.