

SMT107

User Manual



Certificate Number FM 55022

Revision History

Date	Comments	Engineer	Version
20/04/01	Initial	M.R.	1.0
24/11/05	Update information for CCS 3.1	M.A.	1.1
01/03/06	Update: Drivers location for CCS 3.1	SM	1.2

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SMT107 PCMCIA (PC-CARD) JTAG Emulator

The SMT107 is a size II PCMCIA (PC-CARD16) Card with full XDS510-JTAG Emulator capability built into it.

The emulator currently supports the TMS320C6000 family of DSP's from Texas Instruments and also Texas Instrument's Code Composer Studio development and debugging software environment.

The current basic package comes with PCMCIA Card, cable and device driver for Code Composer Studio. The full package includes Code Composer Studio at a special bundled price.

IF YOU EXPERIENCE ANY PROBLEMS OR HAVE ANY QUESTIONS REGARDING THE SMT107 EMULATOR THEN CONTACT THE SMT107 SUPPORT TEAM ON:

support@attavionics.com

Before You Start

Please take a few minutes to read this guide and acquaint yourself with both the installation process and the features of your card. Installation is simple, but you must take care to follow the instructions carefully.

Check the Contents

After opening and unpacking the box, you will find the following items:

1. SMT107 PCMCIA card,
2. SMT107 POD,
3. PCMCIA card cable (1m long),
4. JTAG cable (10cm long),
5. SMT107 Software Driver CD-ROM or Floppy Disk,
6. Installation Guide (this document).

PC System Requirements

In order to install the SMT107 and Code Composer for C6000, your PC will have to meet the following requirements:

1. A 486 or later processor with a minimum of 512MB Ram,
2. 1.5GB free hard disk space. This is for a standard CCS3.1 Platinum installation,
3. Microsoft Windows 2000 or later (Windows XP is advised),
4. Code Composer 3.0 (or later) or Code Composer Studio 2.2x (or later),
5. A free PCMCIA 16 bit slot.

Installation Instructions

If Code Composer for C6000 is not already installed on the host PC; install it now. Follow the instructions provided by Texas Instruments.

Hardware Installation

Both the SMT107 PCMCIA card and the cables supplied with the SMT107 are keyed to ensure they cannot be inserted incorrectly. Please ensure you are familiar with all these connections before you attempt to install the hardware. Then follow the following procedure.

1. Remove the power from the target board,
2. Shutdown and power off your PC,
3. Insert the SMT107 card into a spare PCMCIA slot in your machine,
4. Connect the PCMCIA card cable to the PCMCIA card,
5. Connect the other end of the PCMCIA card cable to the SMT107 POD,
6. Connect the JTAG cable to the SMT107 POD,
7. Connect the other end of the cable to the JTAG header on the target, using the blocked off pin to ensure correct alignment,
8. Reboot the PC,
9. Connect power to the target board,

Some operating systems (i.e. Microsoft Windows 95 & 98) allow you to insert PCMCIA cards with the machine already switched on. This is permitted with the SMT107.

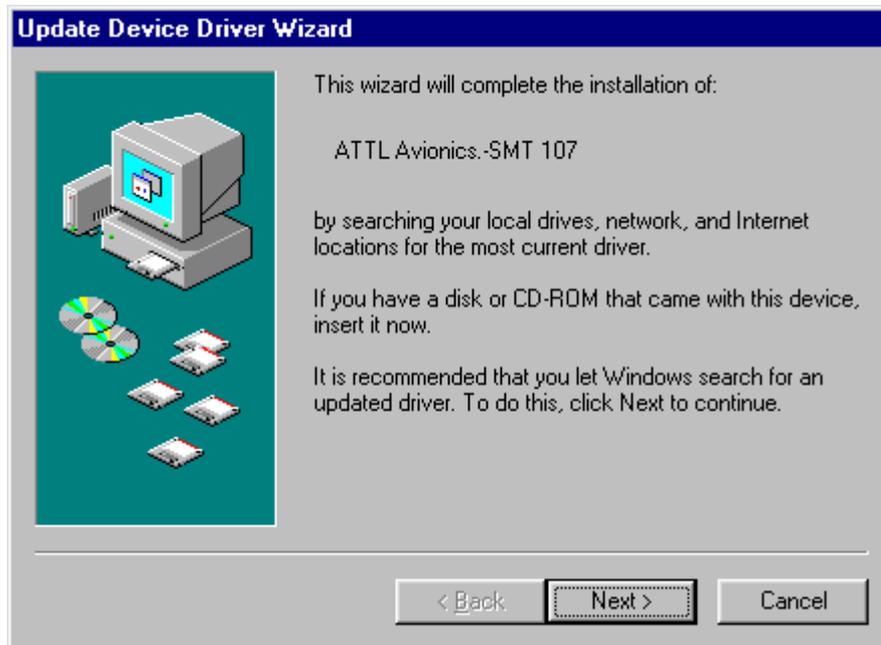
However, you must make sure that the SMT107 is installed and configured correctly **BEFORE** you try to start Code Composer. Code Composer is not written to allow PCMCIA cards to be inserted and removed whilst it is running.

For Microsoft Windows NT4 systems, the SMT107 has to be installed **BEFORE** you switch the machine on. Windows NT4 is only able to recognise PCMCIA cards during the boot sequence, and therefore the card must be inserted prior to booting

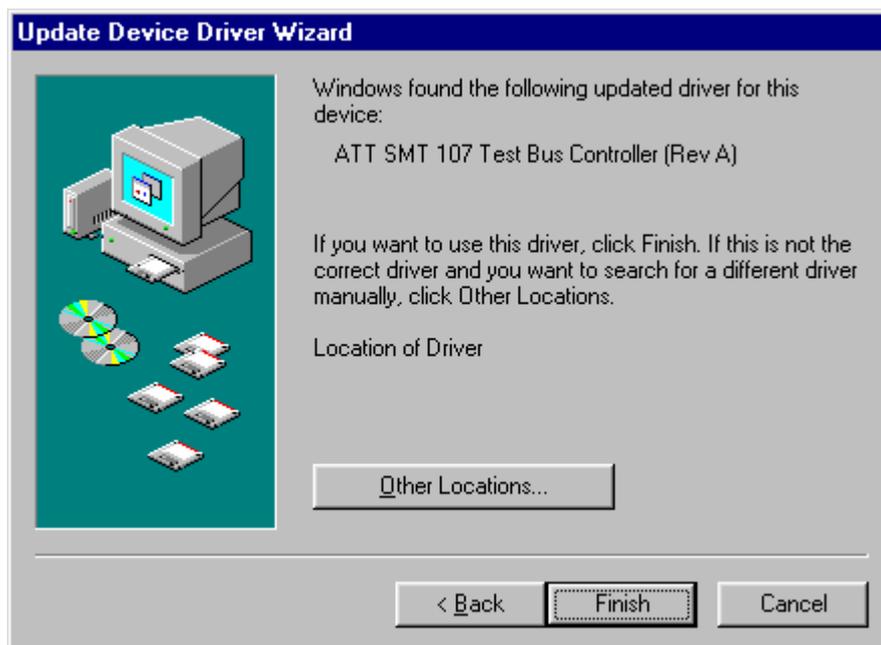
Microsoft Windows 95/98 Driver Installation

Microsoft Windows 95 and 98 are so-called Plug-n-Play aware operating systems. This means that they can automatically detect and configure new hardware as it is added to your system. When rebooting the PC for the first time after installing the hardware (step 8 in the Hardware Installation), Win95/98 will ask you to perform the following setup sequence.

1. When rebooting for the first time, the following screen will appear:

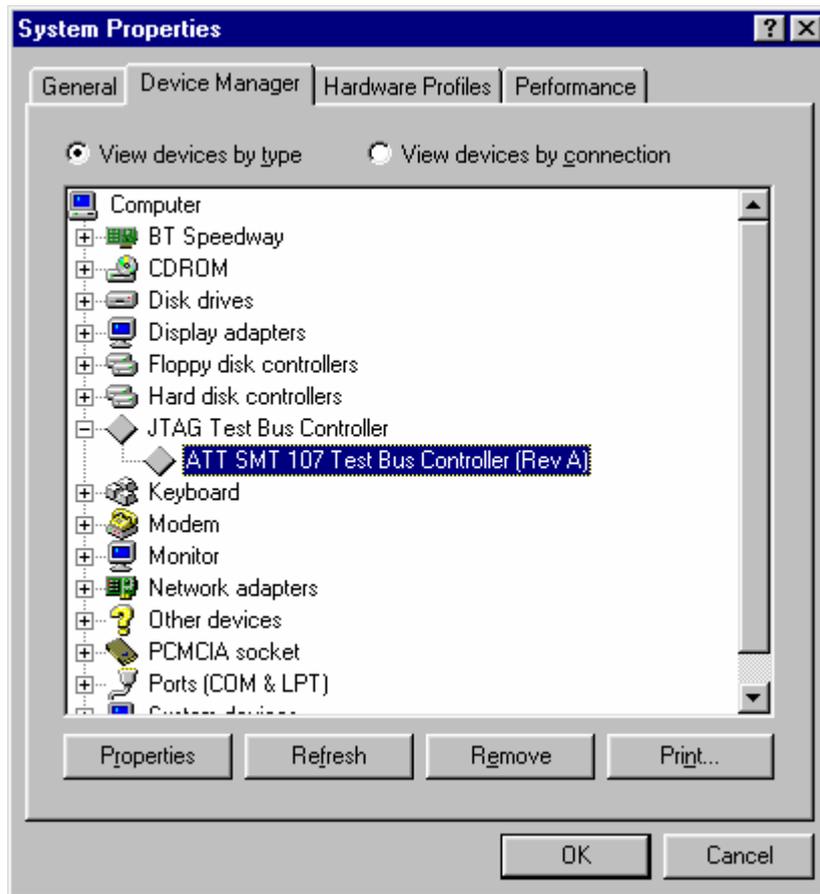


2. Insert the SMT107 Driver floppy or CD-ROM provided and Click Next.
3. Windows will search the floppy disk for a valid driver file, and the following screen will appear:



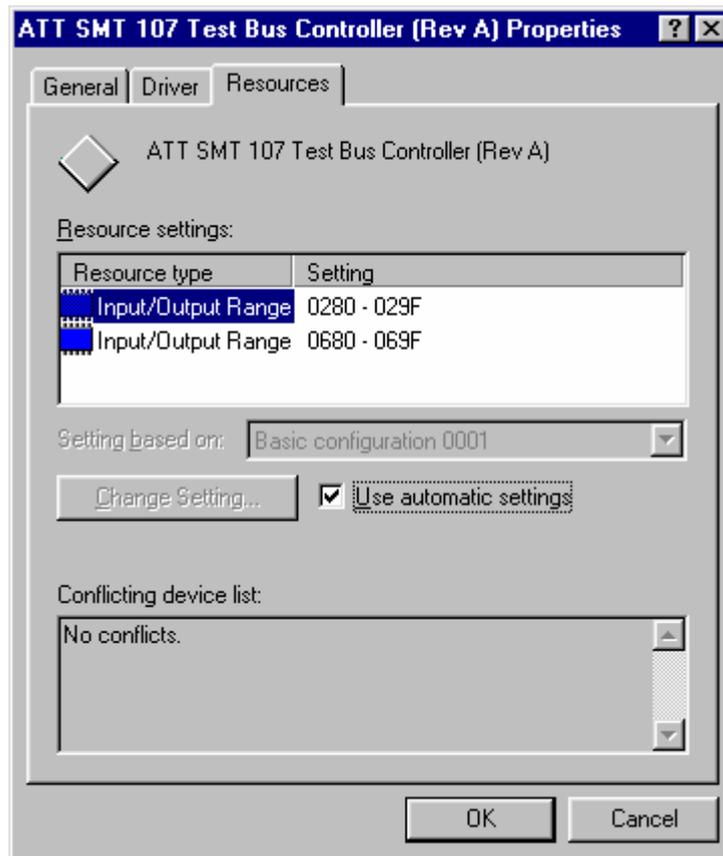
If Windows does not find a valid driver on the disk, then use the “Other Locations” button to browse for it.

4. Click “Finish”, remove the SMT107 installation floppy and allow the computer to reboot.
5. Once the computer has rebooted then the installation can be checked by going to the Start Menu and choosing *Settings->Control Panel*. Then double-click the “System” icon, the “System Properties” window will appear. Select the “Device Manager” tab.



6. The card should be listed as a “JTAG Test Bus Controller” as shown above. Select the device and then click the “Properties” button.

7. The device properties window should appear. In the “General” tab check that the device is working properly then select the “Resources” tab...



8. Make a note of the first I/O address (in this case 0x280) as this address will be required later,
9. Click “OK” to close the properties window,
10. Click “OK” to close the System window,
11. Close the “Control Panel”,
12. Proceed to the Setting Up Code Composer Section of this manual.

Microsoft Windows NT4 Driver Installation

Microsoft Windows NT4 is not a Plug-n-Play aware operating system, and will not automatically detect and configure new hardware as it is added to your system. Therefore, it is necessary for you to run the supplied installation program to configure your SMT107 to work with Windows NT4. To do this, perform the following setup sequence.

1. Insert the SMT107 Driver floppy or CD-ROM provided and run a : \setup
2. The following screen will appear:

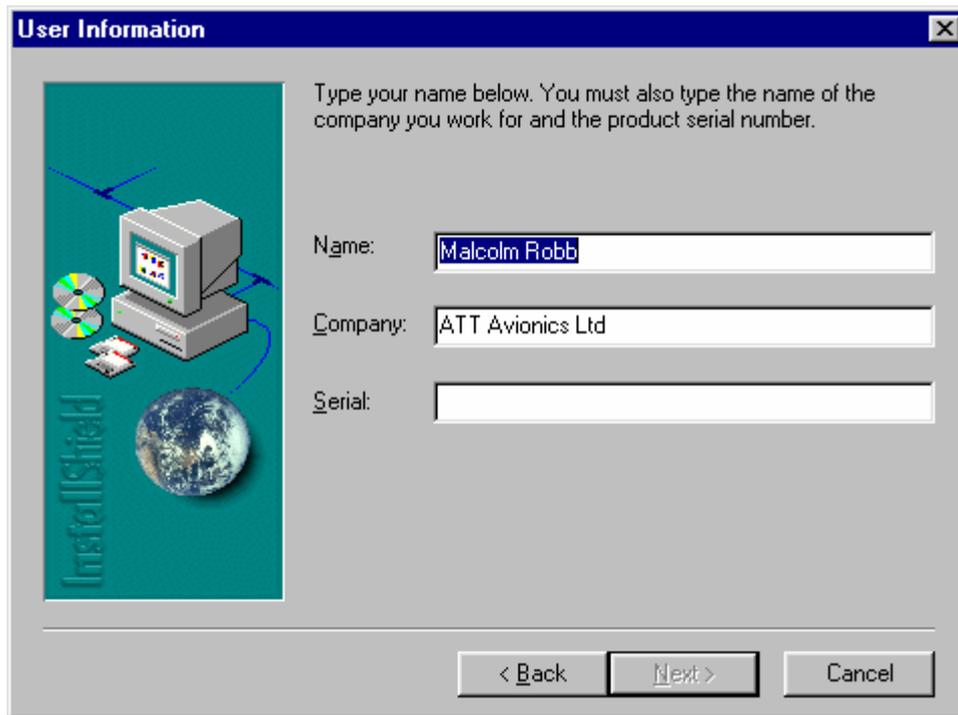


3. Allow the files to extract and the following screen will appear: Click "Next >"



4. Read the license agreement and click "Yes" to continue.

5. The User Information screen will appear:



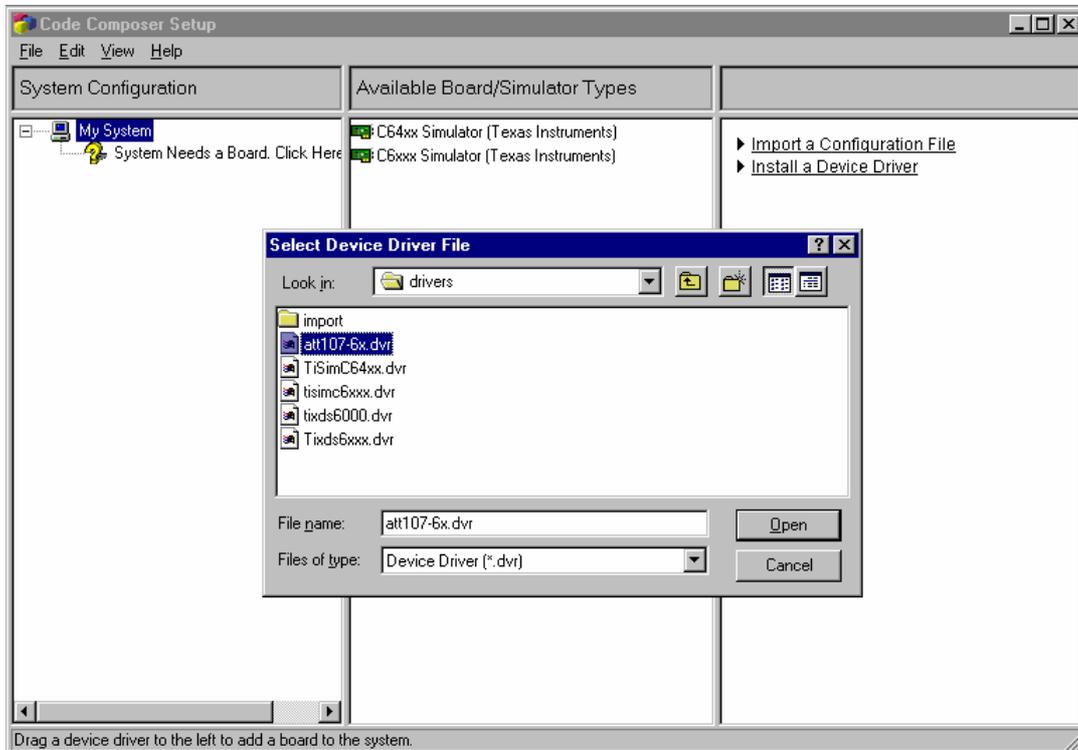
6. Enter your name and company and then enter the serial number of your SMT107 board, this should be clearly marked on both the board itself and on the packaging. Now click "Next >". The driver installation will complete and you will be asked to restart the computer.
7. Click "Finish", remove the SMT107 installation floppy and allow the computer to reboot.
8. Once the computer has rebooted, proceed to the Setting Up Code Composer Section of this manual.

NOTE: When installing the SMT107 in a Windows NT4 systems, the Base IO address will always be 0x240. This is due to a limitation in the support for PCMCIA cards under Windows NT4. If another device is already using IO port 0x240, then it will be necessary to either remove or disable that device in order to allow the SMT107 to work correctly.

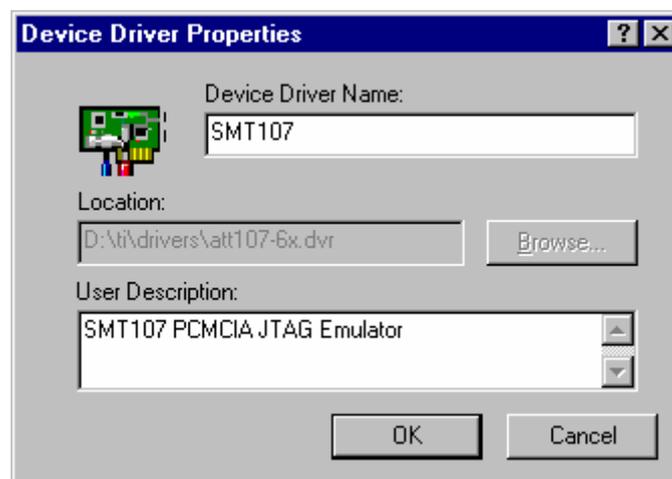
Setting-up Code Composer

Versions prior to 3.0

1. Start the “Setup CCStudio” program. Close the “Import Configuration” window which may open automatically.

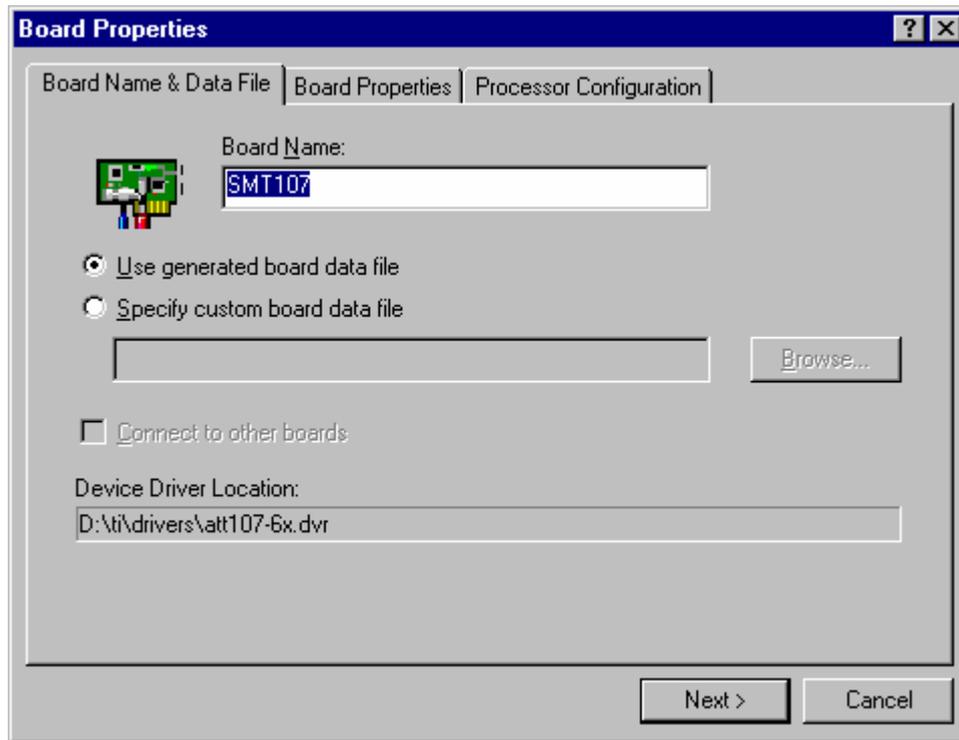


2. From the options on the right-most panel, choose “Install a Device Driver”.
3. The “Select Device Driver File” dialog will appear, choose the file “att107-6x.dvr” and click “Open”.
4. The “Device Driver Properties” window will appear, enter a suitable name and description to help identify the driver file.



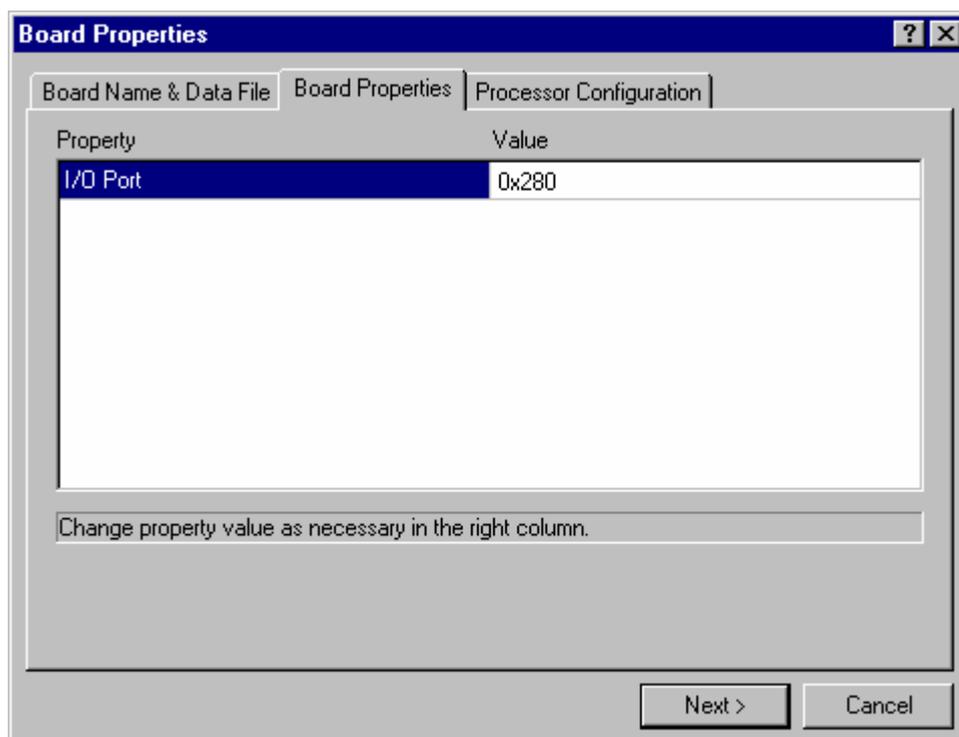
5. Click “OK” the device will now be listed in the central panel of the Code Composer Setup window.

- To select the SMT107 as the driver used by Code Composer, double-click the entry in the central panel. Details of the SMT107 will appear in the right-most panel and the “Board Properties” dialog will appear...

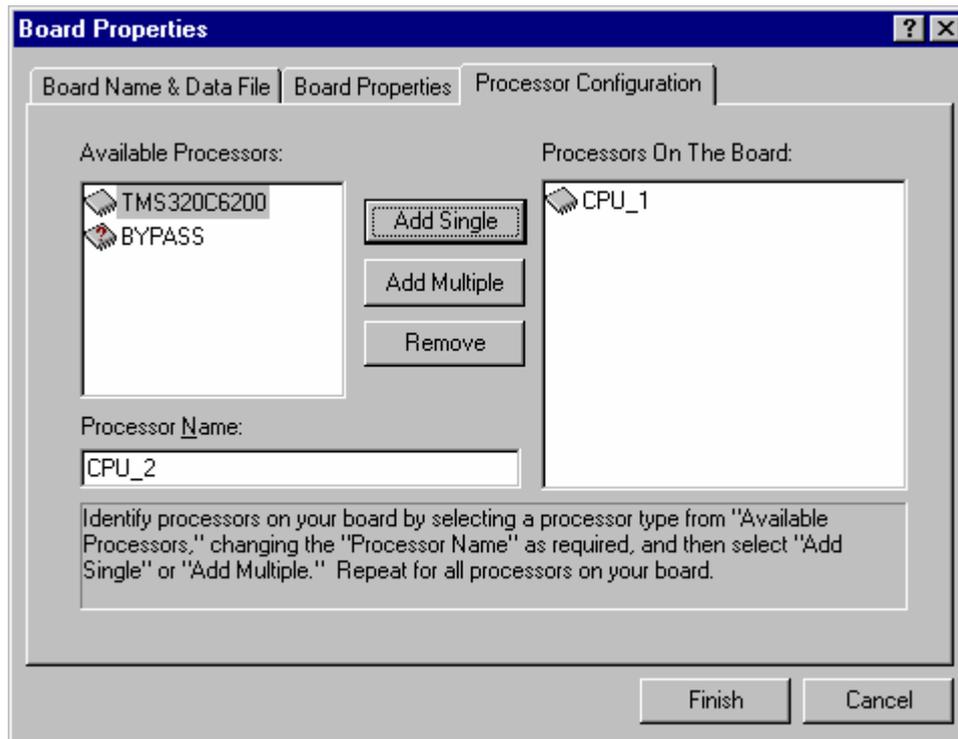


If you have a custom board data file for your target hardware link to it here, otherwise use the default generated board data file and click “Next >” to move to the “Board Properties” screen.

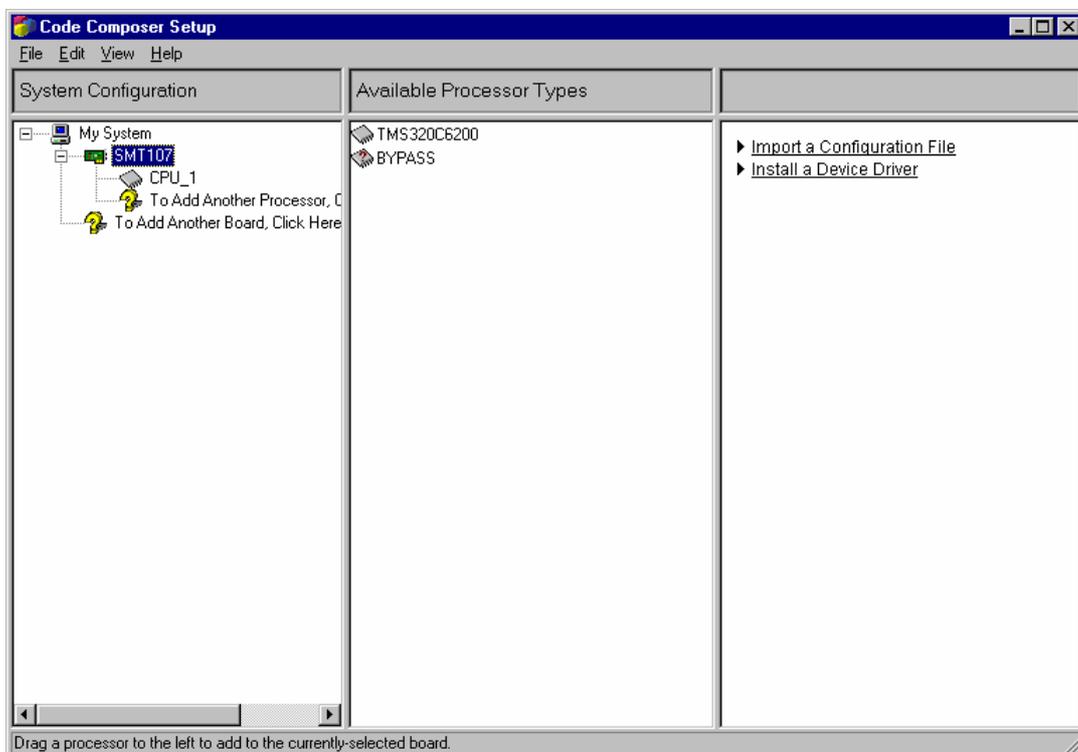
- In the I/O Port Value field enter the value you noted down from Section 13 of the Driver Installation (eg. 0x280). Click “Next >” to move to the “Processor Configuration” screen.



Follow the instructions on the dialog to add as many processors as there are on the target board. Click “Finish”.



8. The device should now be listed in the “My System” directory on the left-most panel of the Code Composer Setup screen. Use *File->Save* to save your changes and then *File->Exit* to complete the Setup procedure.

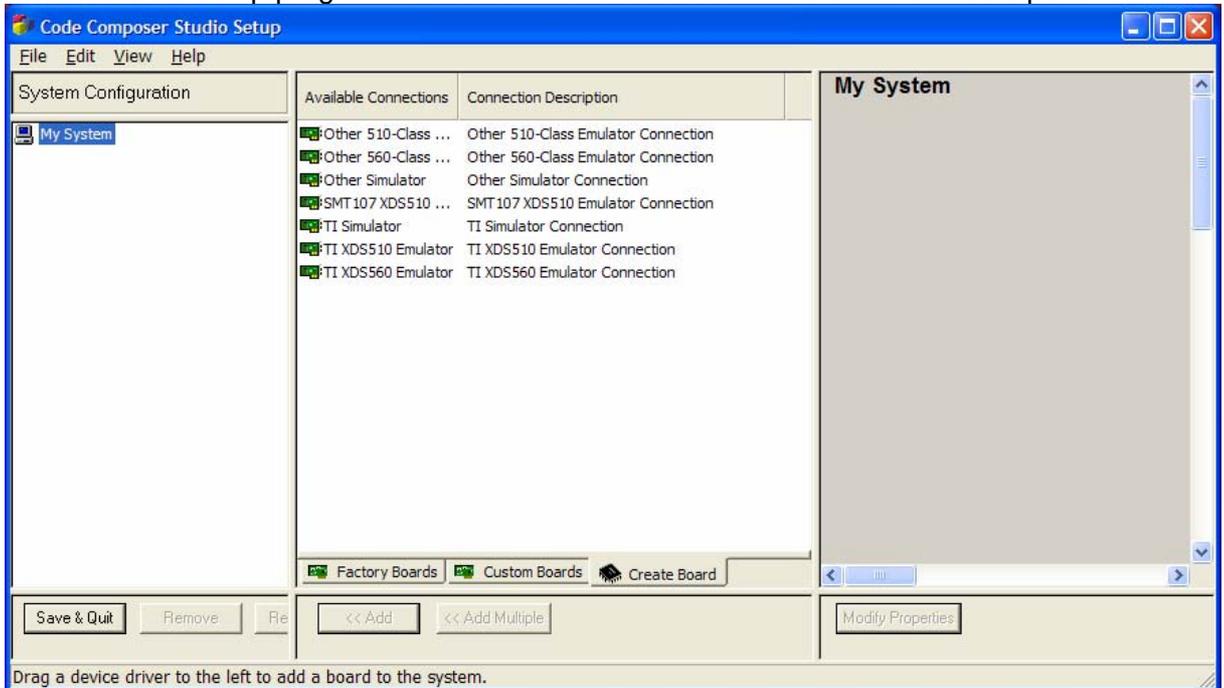


9. You can now start Code Composer in the normal way.

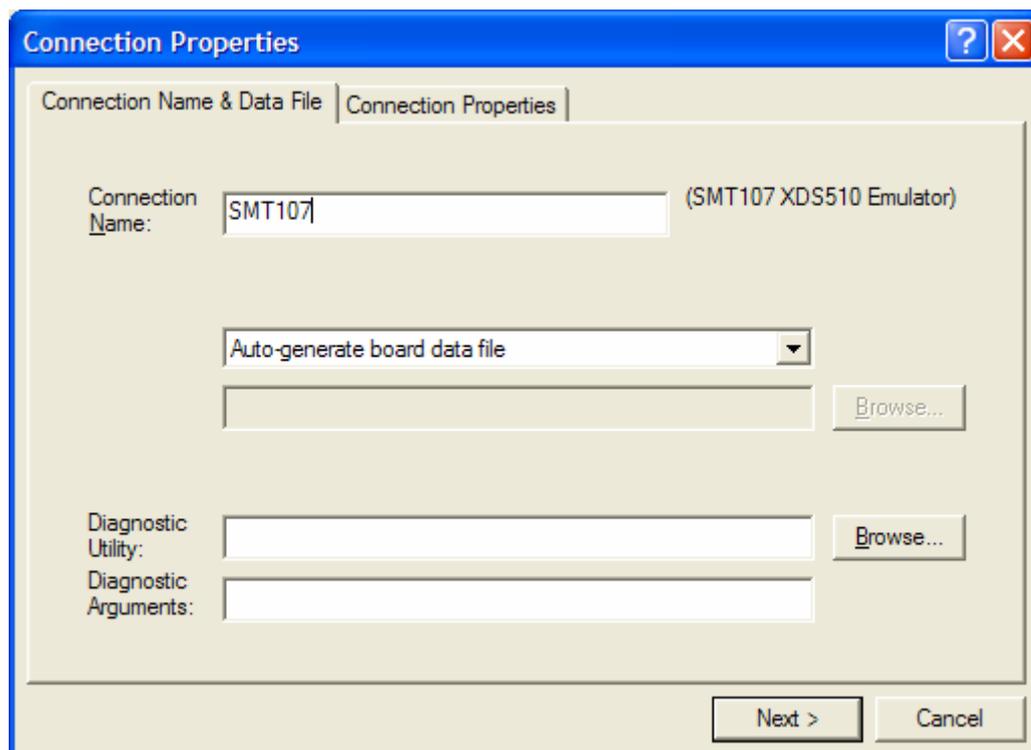
Version 3.0 and Later

The device driver interface configuration has been changed for CCS version 3.0 and higher.

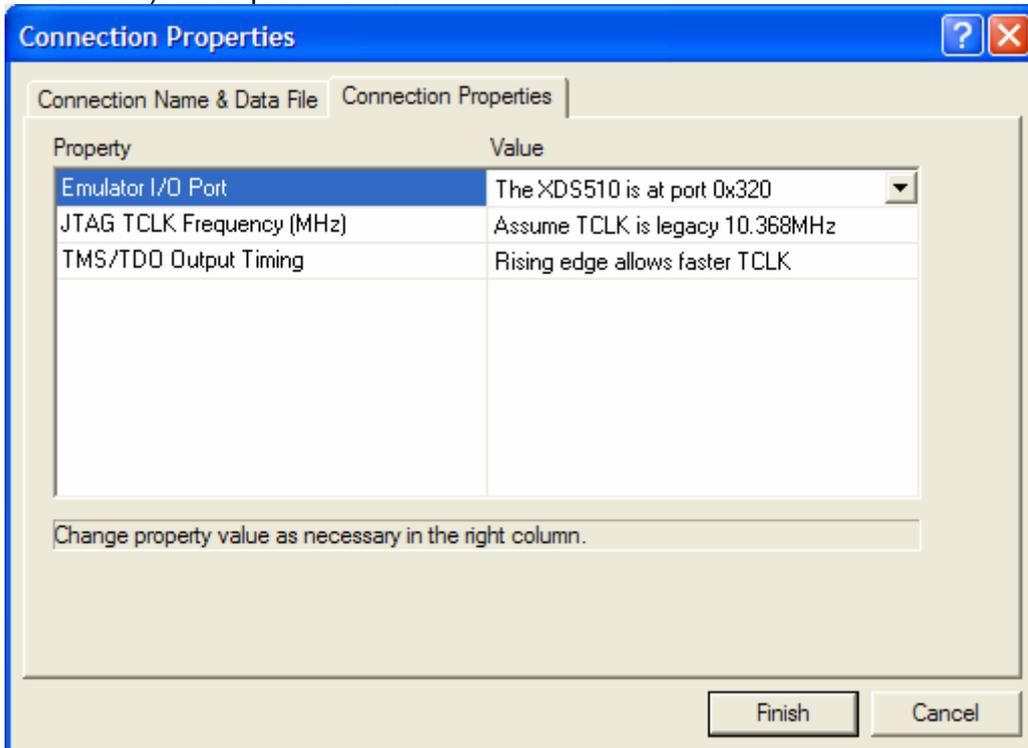
1. Copy the *SMT107.dll* from the disc to the **{CCS_base}\drivers, {CCS_base}\cc\bin** and in **C:\WINDOWS\system32 folders**.
2. Copy the *SMT107_XDS510_Connection.xml* file from the disc to the **{CCS_base}\drivers\TargetDB\connections** folder.
3. Start the CCS setup program and select the “create board” table in the middle pane



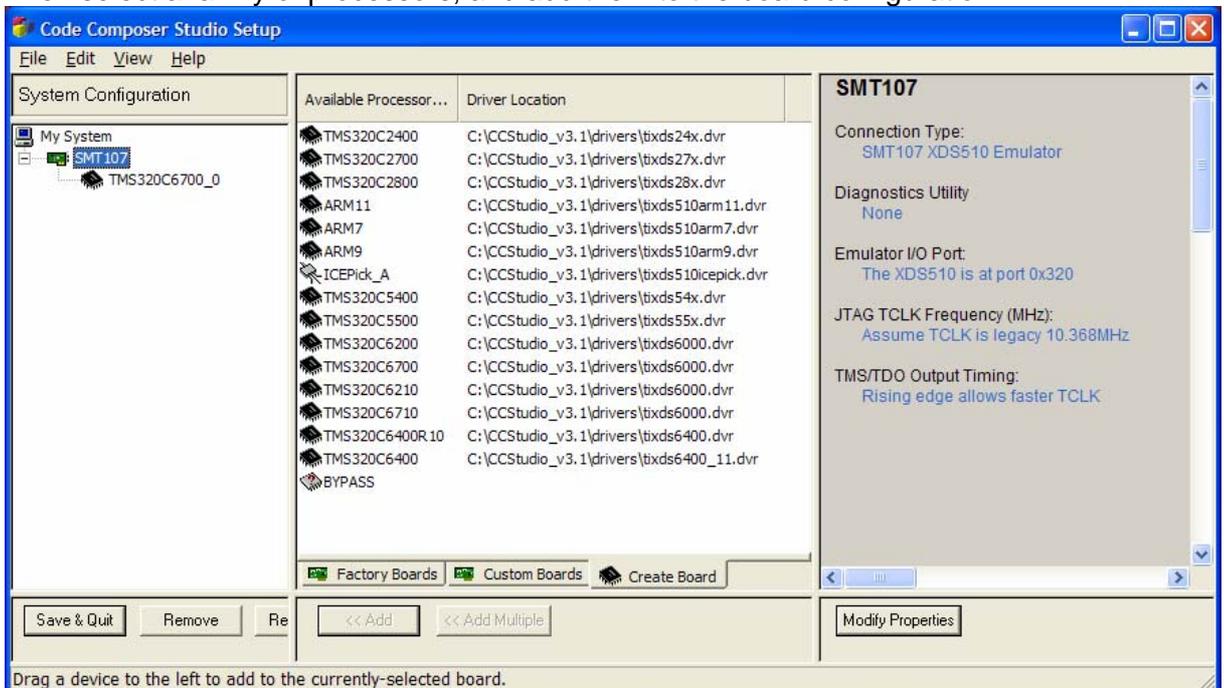
4. Select the “**SMT107 XDS510 Emulator Connection**” and press the now active “Add” button. This will now open a configuration dialog box.



5. Give the board a suitable name and press “Next”.
6. Change the configuration page so that the Emulator I/O port is 0x320 in this case (note that is generally 0x240, please checking in the System properties for the POD IO address). Then press “Finish”.



7. Then select a family of processors, and add them to the board configuration.



8. Save and Exit, and start code composer without forgetting to connect the target (in the menu DEBUG of CCS).