XDS510USB JTAG Emulator Installation Guide

IMPORTANT INFORMATION

About This Installation Guide

This Installation Guide is for the XDS510USB Emulator product. The XDS510USB Emulator is a module to be attached to a PC for hardware engineers and software programmers to develop DSP applications.

The text paragraphs in this Guide are very important for proper device functioning and for preventing any possible damages on the XDS510USB Emulator device and project target board. These paragraphs are shaded as in the following example. Please carefully read each of the shaded text.

This is an example of a very important text paragraph mentioned above.

Introduction

Overview

XDS510USB Emulator is designed to use with digital signal processors (DSPS) operating at 1.0-5.0 volts. The emulator itself is a bus-powered USB device. It is fully plug and play compatible and is fully powered by the host computer's USB connection. The XDS510USB Emulator operates with TI Code Composer Studio IDE debug tool and is fully compatible with windows 98/SE/ME/2000/XP/VISTA.

Features

XDS510USB Emulator has the following features:
- Supports Texas Instruments DSP with a JTAG (IEEE1149.1) interface: C2000, C5000, C6000 ,OMAP platforms.
- Supports Texas Instruments Code Composer Studio.
- Supports 1.0-5.0 volt DSP devices.
- USB compatible. Simple Connection, fully Plug-and-Play compatible-no jumpers, noswitch settings.
- Hot pluggable
- Power provided by USB bus , no additional power supply is required.

QUICK Installation

Quick Install Procedures

This guide describes the steps to installing the XDS510USB Emulator in the following orders:

1. Install the XDS510USB Emulator hardware
2. Install the XDS510USB device driver
3. Make sure Code Composer Studio IDE is installed on the PC
4. Install the XDS510USB Emulator software
5. Configure Code Composer Studio IDE
6. Reset the XDS510USB Emulator and Reset the target DSP
7. Run CCS

The XDS510USB JTAG Emulator kit contains:

- XDS510USB JTAG Emulator
- USB interface cable
- The XDS510USB driver disk
- XDS510USB Emulator Installation Guide Reference Guide (this document)

Installation Requirements

- Code Composer Studio IDE 1.2 or greater
- A free USB port
- 233 MHZ or higher Pentium compatible CPU (500MHZ or higher Pentium III CPU or equivalent is recommended)
- Local CD-ROM drive

Supported Operating Systems

- Windows98/ME/2000/XP/VISTA

Detailed Installation

What you will need

The following detailed list contains all items needed to install and run with the XDS510USB JTAG Emulator.

- PC with a free Universal Serial Bus (USB) port
- XDS510USB JTAG Emulator
- XDS510USB driver disk
- USB interface cable
- DSP target system
- Code Composer Studio

The Hardware Installation

● Remove power from the target DSP system.
● Connect the keyed XDS510USB JTAG Emulator JTAG interface cable to the target board.
● Apply power to the target DSP system.
● Connect the XDS510USB JTAG Emulator to the host computer system using a USB cable.

WARNING

Be sure to connect interface cables with the correct orientation. Pin 1 on the interface cable should match Pin 1 on the DSP system connector. The Wintech TDS510USB JTAG Emulator features a "keyed" connector to minimize your chance of error.

Do not force cables into position. Forcing them may cause damages on the cables or the interconnected boards and systems.

The USB Device Drivers Installation

Driver installation for windows 2000/XP:

1. After plug the XDS510USB JTAG Emulator into the host computer's USB port, the system should display the Found New Hardware (Figure A-1) dialog box. This dialog box indicates the computer operating system has found a new USB device.

Figure A-1

2. The system will prompt for new hardware detected and start the "Found New Hardware Wizard" as shown in Figure A-2.
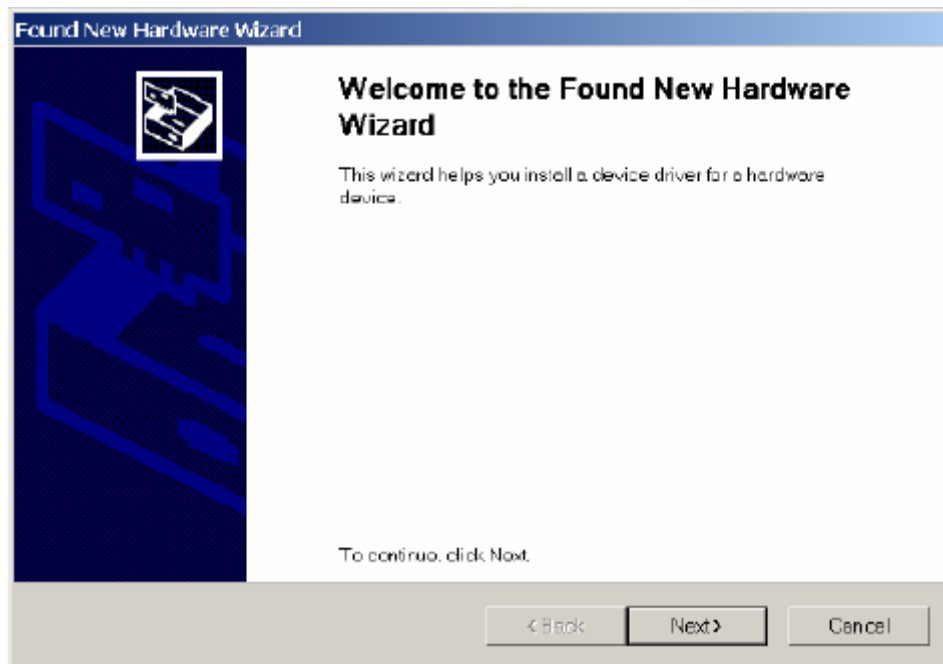
Figure A-2

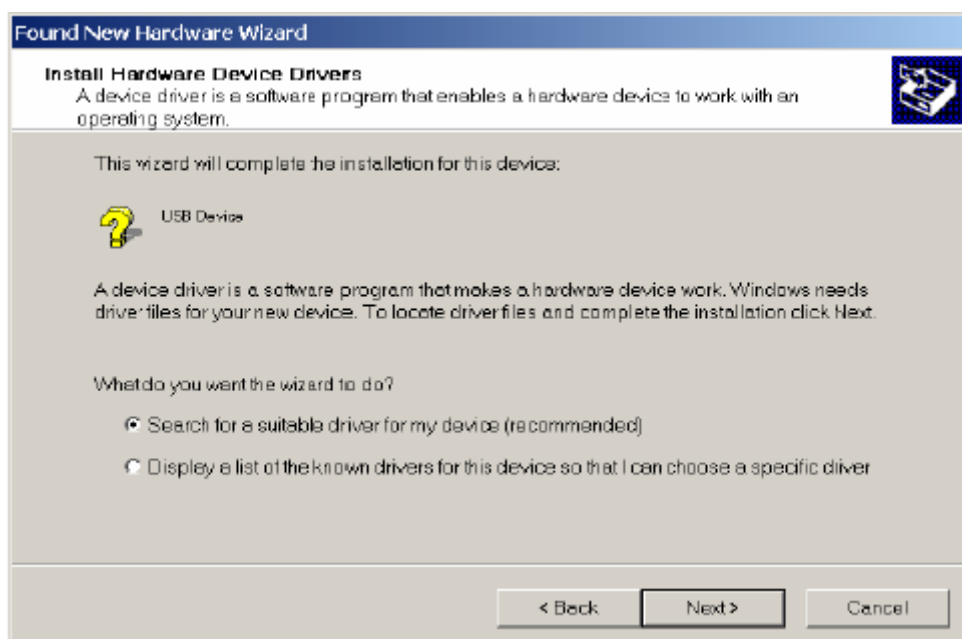3. Click on next and system will display the window as shown in Figure A-3.

Figure A-3

4. Check on "Search for a suitable driver for my device(Recommended)" and click on next. The system will display a window as shown in Figure A-4.
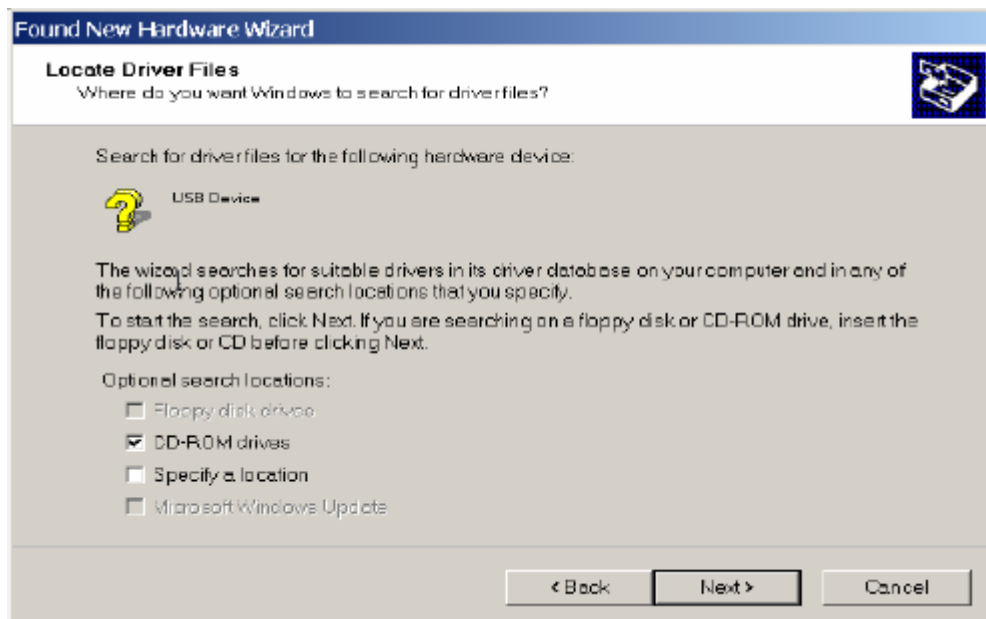
Figure A-4

5. Check on "CD-ROM drives" and click on next. The system will prompt you to insert the manufacturer's installation disk, as shown in the Figure A-5.
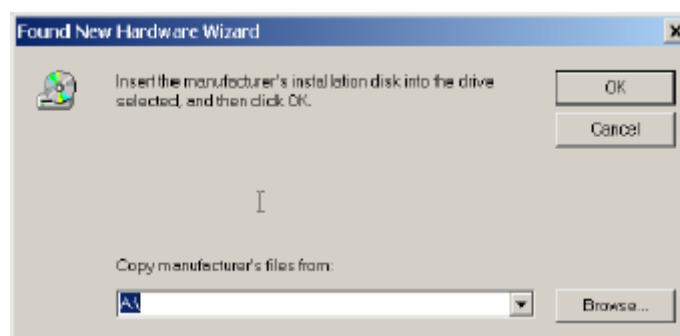

Figure A-5

6. Click on Browse and locate the file **usb510.Inf** in the installation CD(TI DSP Emulator\XDS510 USB_driver), or in the folder where you have downloaded the file into, as shown in Figure A-6.
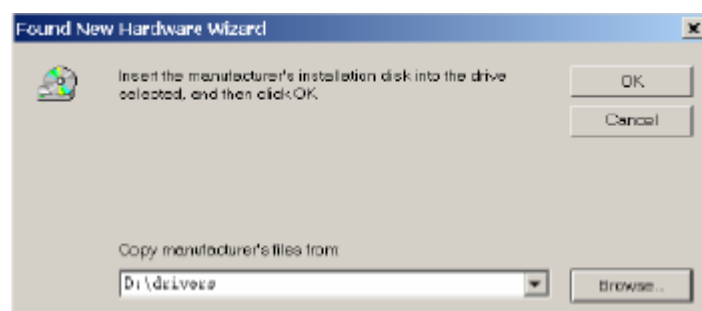

Figure A-6

7. Click on next, the following window will be displayed ,as shown in Figure A-7.

Figure A-7

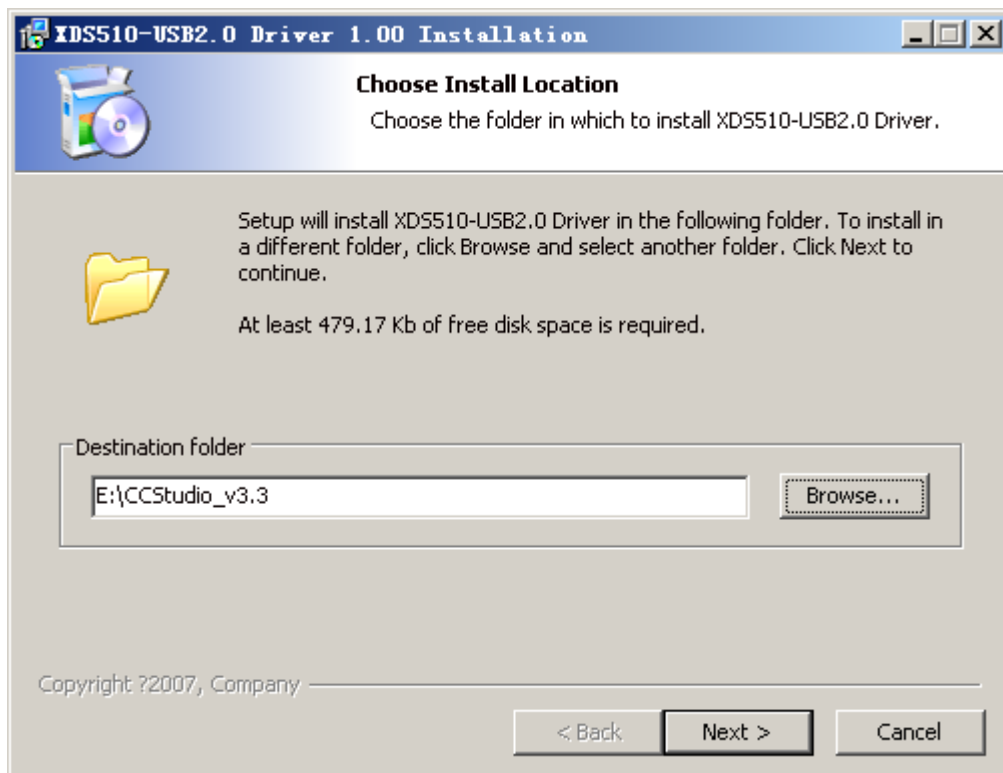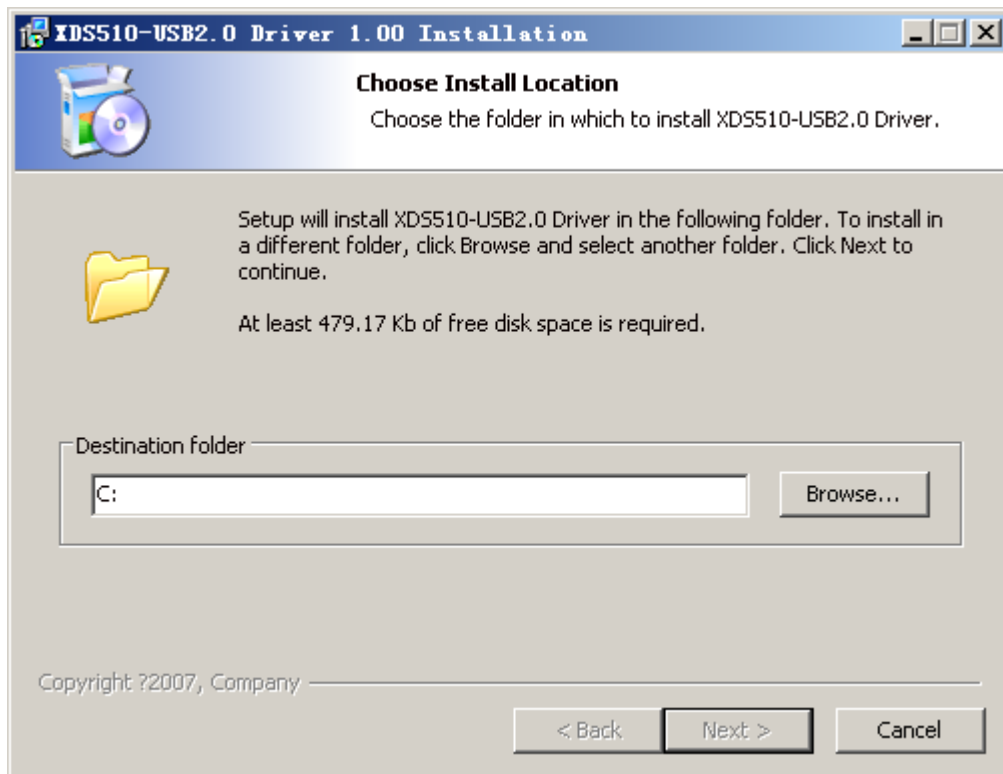8. Click on Finish. Set up is completed.
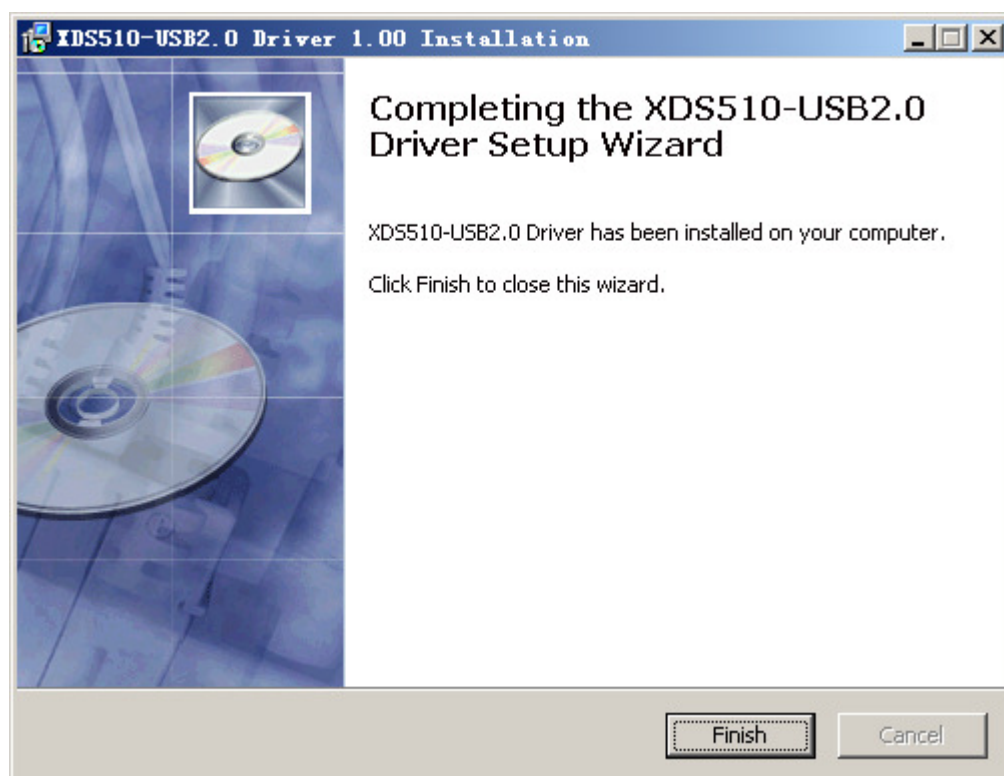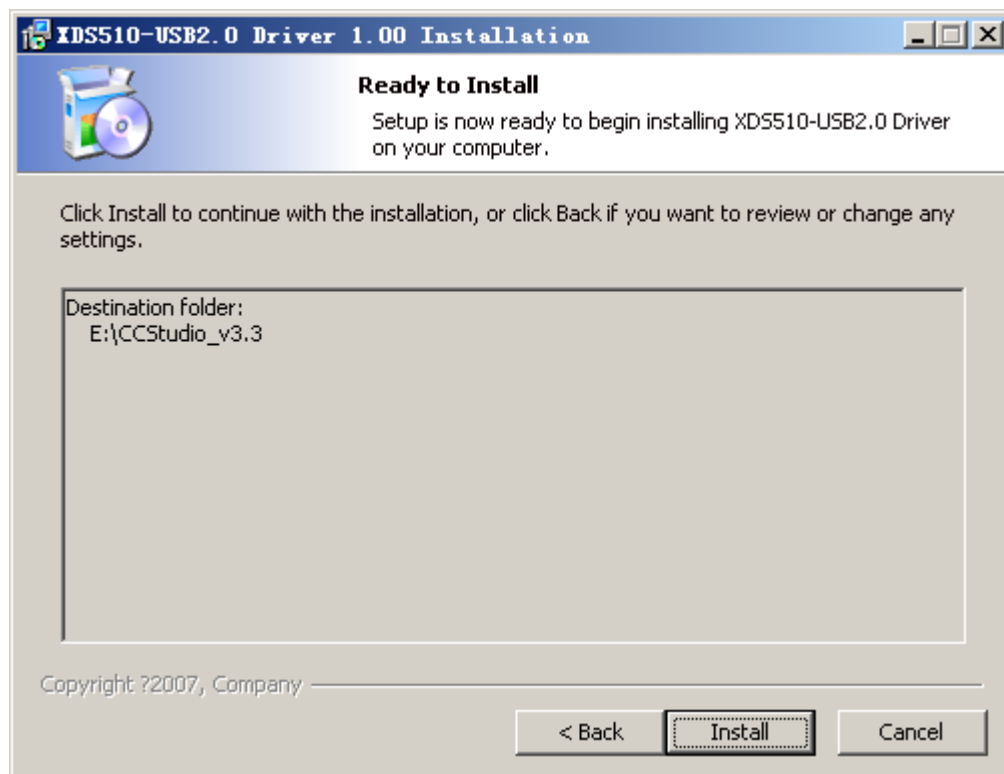
Installing the XDS510USB software

This installation assumes that the Code Composer Studio IDE has already been installed on the PC. If not, please follow the directions for installing Code Composer Studio first. After completing the installation procedure, you may return to the guide to complete the installation procedure of the XDS510 Emulator.

Insert the XDS510USB driver disk into your CD-ROM, Double click on **Setup.Exe**(TI DSP Emulator\XDS510 CCS_driver) to install the JTAG emulator tools for CCS. **In order to run the application properly the XDS510 CCS Driver must reside in the same folder in which the Code Composer Studio IDE is installed.For example,if the Code Composer Studio IDE installed in E:\CCStudio_v3.3,the XDS510 CCS Driver must install in E:\CCStudio_v3.3.**
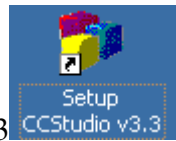
NOTE

   Be sure the Code Composer Studio has been installed before run Setup.exe. It'll copy files to the CCS install directory and create environment variable to enable the file usage by CCS. If this step is missing, the XDS510USB can't function properly.

XDS510-USB2.0 Driver 1.00 Installation

Choose Install Location
Choose the folder in which to install XDS510-USB2.0 Driver.

Setup will install XDS510-USB2.0 Driver in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

At least 479.17 Kb of free disk space is required.

Destination folder
C:
Browse...

Copyright ?2007, Company

< Back   Next >   Cancel

XDS510-USB2.0 Driver 1.00 Installation

Choose Install Location
Choose the folder in which to install XDS510-USB2.0 Driver.

Setup will install XDS510-USB2.0 Driver in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

At least 479.17 Kb of free disk space is required.

Destination folder
E:\CCStudio_v3.3
Browse...

Copyright ?2007, Company

< Back   Next >   Cancel

CCS Emulate Configuration

XDS510USB JTAG Emulator has provided many typical emulate configuration. The user can use them directly without modification.

1. Launch the Setup CCStudio v3.3 , the program will display the window as shown in figure C-1.
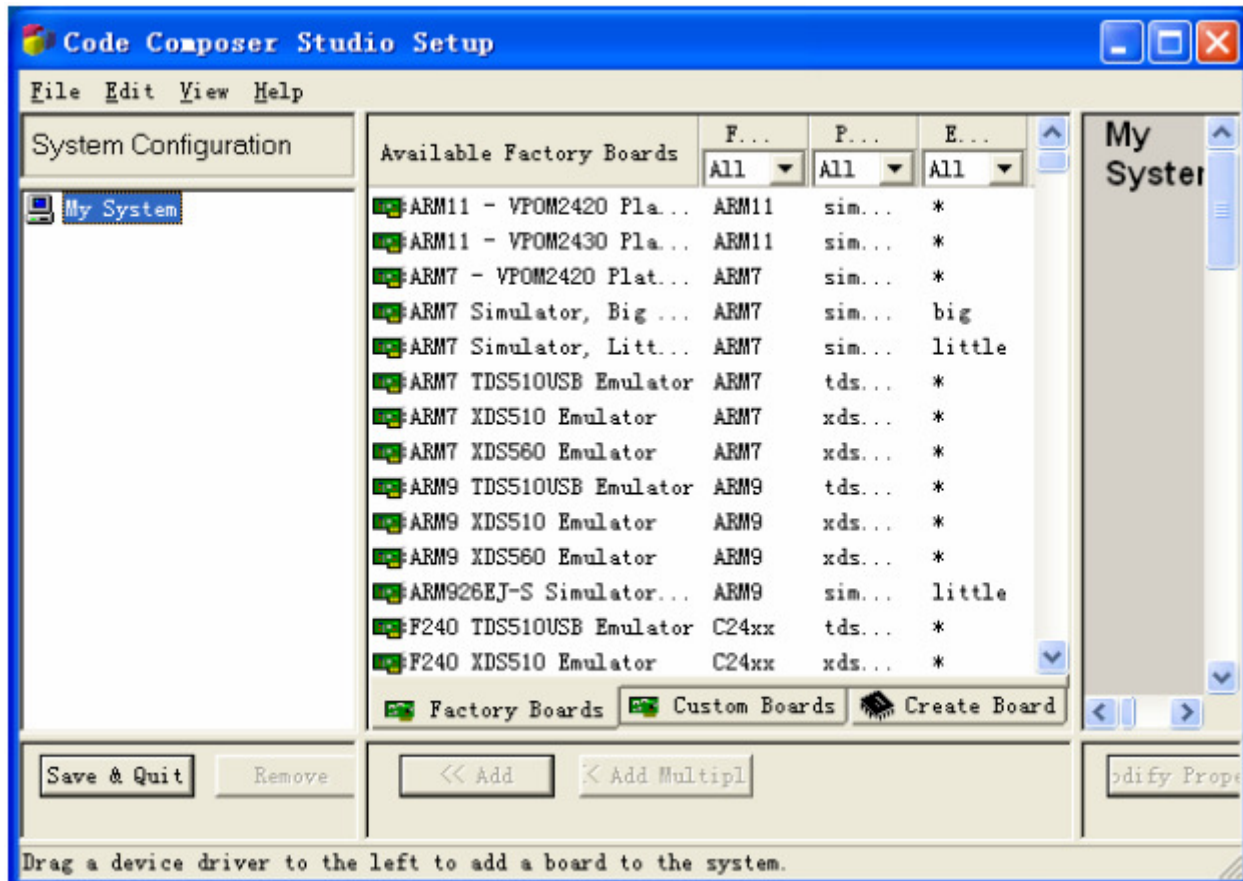

Figure C-1

2. Select xds510 emulator in the platform list; Select your DSP type in the family list. The program will list some typical configuration.

3. Double-click the item according to your target board .The new configuration will appear in My System list in the System Configuration window.Configure the properties of your target board and Set the proper gel file. Save the configuration and exit the setup program.

4. Connect your target board to the emulator, then power on the target board, launch the CCS. Now, you can debug your target system using XDS510USB JTAG Emulator.
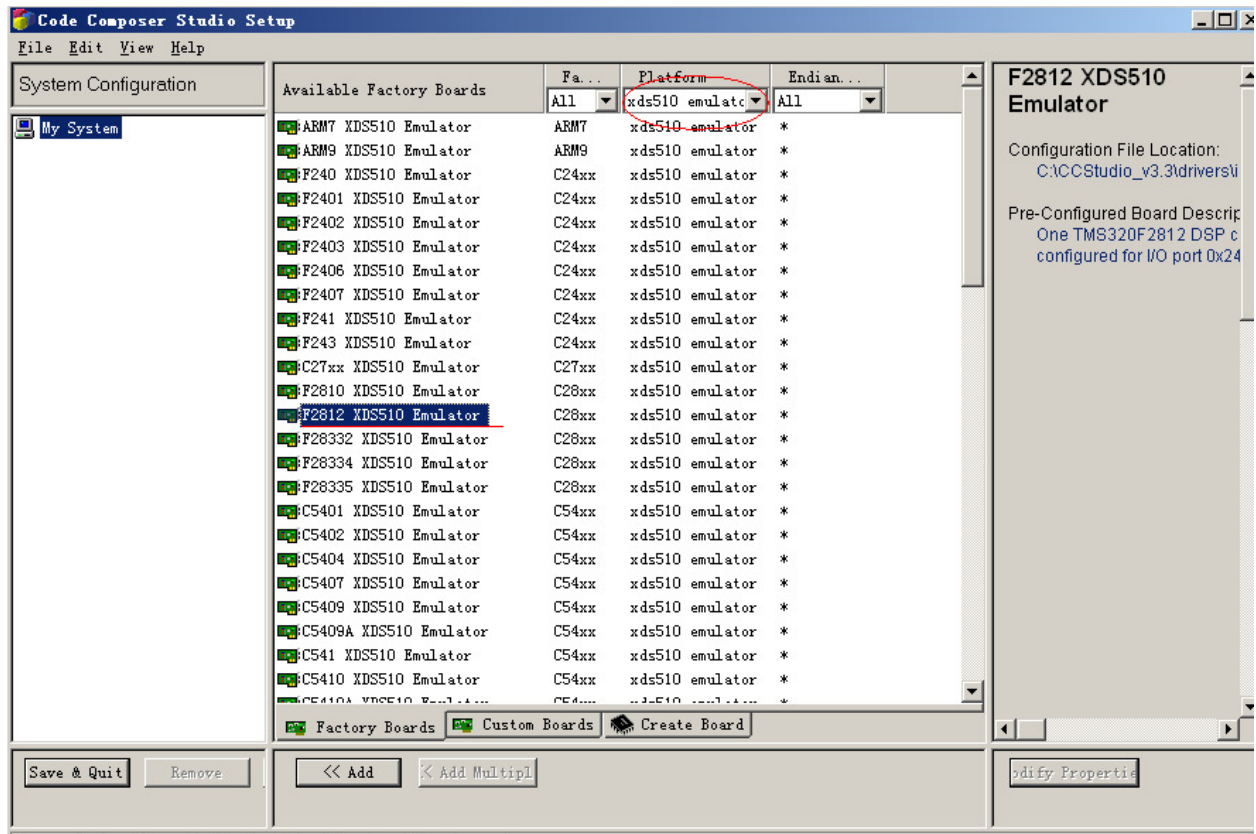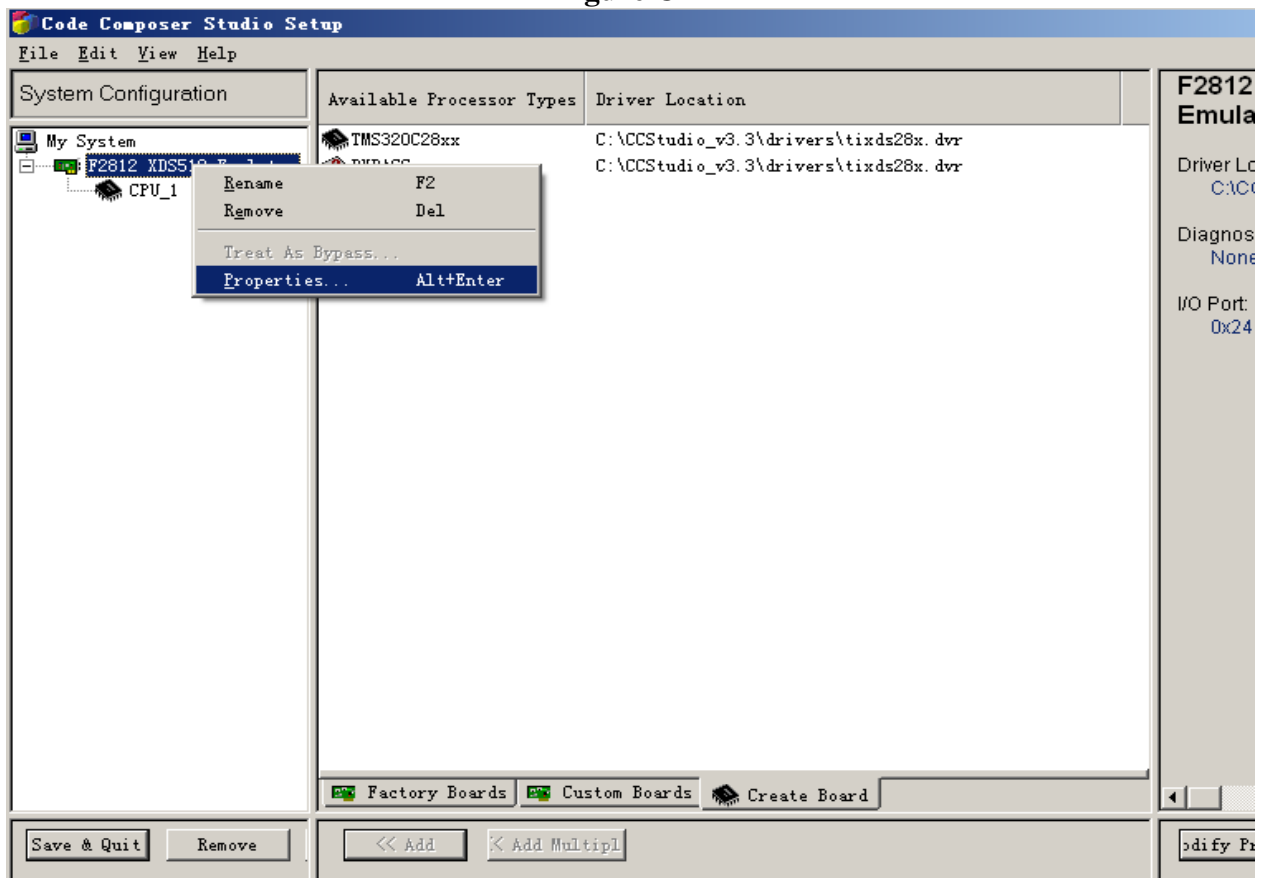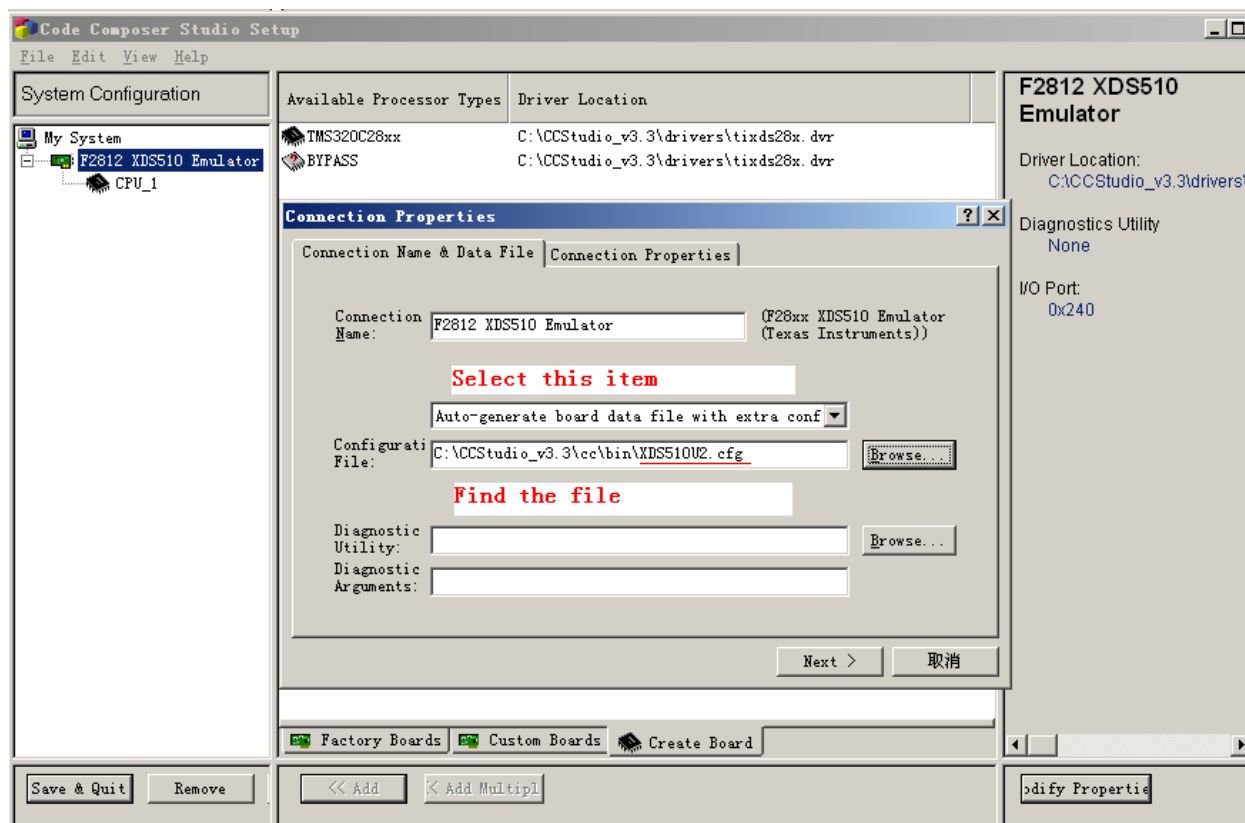
Figure C-2

Figure C-3

Figure C-4

(Select "Auto-generator board data file with extra configure", Referring to the chapter "Installing the XDS510USB software", select proper configuration file(XDS510U2.cfg) which has been included in the "cc\bin", Click "Next" button and Click "Finish" button in the next interface.)

IMPORTANT NOTE

It is very important to properly orient the connector on the DSP target system so that Pin 1 on THE cable matches Pin 1 on the DSP target system. Connecting the cable incorrectly may cause damages on your DSP target system or the XDS510USB Jtag Emulator.

The JTAG interface flat cable comes with a keyed 2x7-socket connector that should match your target DSP system hardware connector.

Figure 23 – 14-Pin JTAG Header Signals

Signal	Description
TMS	Test mode select
TDI	Test data input
TDO	Test data output
TCK	Test Clock
TRST	Test Reset
EMU0	Emulation pin 0
EMU1	Emulation pin 1
PD(V$_{cc}$)	Presence detect
TCK_RET	Test clock return
GND	Ground

Table 1 - JTAG Signal Descriptions