

# SofTec Microsystems

## Application Note AN001: Using CodeWarrior for ST7 with inDART-STX

### 0. Overview

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inDART-STX for ST7 is provided with STMicroelectronics Visual Debug Integrated Development Environment. As an alternative IDE, you can use Metrowerks CodeWarrior for STMicroelectronics Embedded Systems. CodeWarrior includes an editor, assembler, C compiler, linker, debugger and works smoothly with inDART-STX.

#### Getting an Evaluation Version of Metrowerks CodeWarrior

To get an evaluation version of Metrowerks CodeWarrior for ST7, go to STMicroelectronics MCU support site (<http://www.stmcu.com>) or to Metrowerks web site (<http://www.metrowerks.com>).

#### Installing the inDART-STX Plug-In for Metrowerks CodeWarrior

The inDART-STX for ST7 software (available on the SofTec Microsystems CD which came with the instrument, or downloadable from <http://www.softecmicro.com/download>) automatically installs the plug-in needed by CodeWarrior to work with inDART-STX. A sample project is installed as well. In order for the plug-in to work, CodeWarrior must be already installed in your system before to install the inDART-STX for ST7 software.



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## 1. Opening the Sample Project

The sample project provided assumes that inDART-STX is used with a SofTec Microsystems evaluation board. The sample project is based on a C example. For evaluation board-specific features, please refer to the evaluation boards' PDF manuals installed by the inDART-STX for ST7 software.

To open the sample project, choose **File > Open** from the CodeWarrior main menu. Select the "**Demo.mcp**" workspace file that is located under the "**(CodeWarrior Installation Path)\Examples\ST7\SofTec Microsystems\inDART-STX\Device Code**" directory. Click "**Open**". The sample project will open.

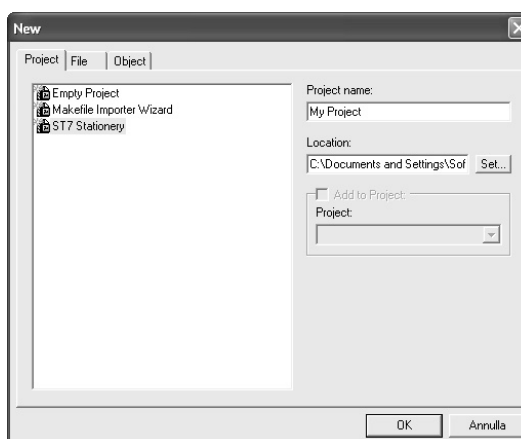
Every parameter needed to work with inDART-STX is already set by the sample project. Just select the **Project > Make** command from the main menu to build the sample application.

Make sure inDART-STX is connected to the PC and to the appropriate evaluation board, and select **Project > Debug** from the main menu. A debugging session will start.

## 2. Creating Your Own Application

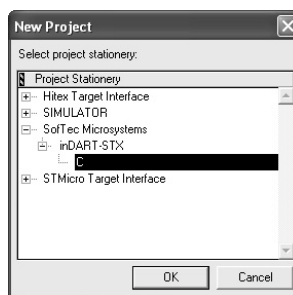
CodeWarrior helps you getting started with your own application by including a project stationery specific for inDART-STX. To create a new inDART-STX project:

1. From the main menu, select **File > New**. The following dialog box will appear:



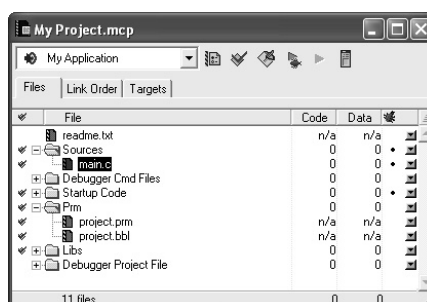
The *New Project* Dialog Box

2. Select "**ST7 Stationery**" as project type and give the project a name. Click "**OK**". The following dialog box will appear:



Project Stationery Selection

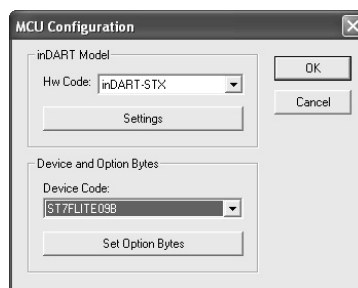
- One inDART-STX project stationery for the C language is available. It is located under **SofTec Microsystems > inDART-STX**. After selecting the stationery, an empty project will be available for you to work with. The *Project* window (shown below) will appear.

The *Project* Window

- The `project.prm` parameter file (under the **Prm** group) contains device-specific information, such as memory map, registers, etc. You must edit this file according to the target device you are using in your project.  
The `main.c` file (under the **Sources** group) is the starting file for your project's source code.  
For detailed information about all the other files making up the project, read the project's `readme.txt` file (it's the first file listed in the *Project* window).

### 3. MCU Configuration

The first time you start the debugging of your application (with the command **Project > Debug**), the *MCU Configuration* dialog box will appear, allowing you to select the hardware model and the target microcontroller you are working with.

The *MCU Configuration* Dialog Box

First, ensure that the “**inDART Model**” parameter is set to “**inDART-STX**”. Then, set the “**Device Code**” parameter to the specific target microcontroller you are working with. For details about the “**Settings**” button and the “**Set Option Bytes**” button, please refer to the inDART-STX user’s manual and user’s manual addendum.

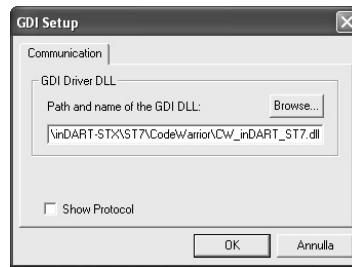
## 4. Using Existing Projects with inDART-STX

If your project has been targeted to an emulator/simulator other than inDART-STX and you wish to use inDART-STX as the debugger for your project, please do the following:

1. CodeWarrior is interfaced to the inDART-STX engine through a so-called “GDI interface”. From the CodeWarrior debugger interface, select **Component > Set Target**. The *Set Target* dialog box will appear.

The *Set Target* Dialog Box

2. Set the “**Target Interface**” parameter to “**GDI Target Interface**”. Click “**OK**”. Note that on the CodeWarrior debugger interface a new menu (**inDART-ST7**) is created.
3. A new dialog box (the *GDI Setup* dialog box) will automatically appear asking you to locate the GDI dll file needed to interface with inDART-STX. Select the **CW\_inDART\_ST7.dll** file located into the **\Program Files\SofTec Microsystems\inDART-STX\ST7\CodeWarrior\** directory. The *GDI Setup* dialog box can be recalled at any time from the **inDART-ST7 > Setup** command from the main menu.



The *GDI Setup* Dialog Box

4. CodeWarrior will then recognize inDART-STX as the target interface for your project. The *MCU Configuration* dialog box will appear allowing you to select the derivative you are working with. The *MCU Configuration* dialog box can be recalled at any time from the **inDART-ST7 > MCU Configuration** command from the main menu.
5. From the main menu, select **inDART-ST7 > Load** and locate the object file your project is based on.