



Product:	SerialStringDispatcher
Product version:	v1.1
Document ID:	PM-SerialStringDispatcher
Doc revision:	A1
Written/Appr.:	NPE / RE
Date:	21.10.2008

Industrial Control Design AS



SerialStringDispatcher v1.1

Programmers Manual

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1. Introduction

1.1. About

This document describes how to install the SerialStringDispatcher component. See the following section for an overview of the component. Details regarding configuration and setup is located in the User Manual.

1.2. Overview

The SerialStringDispatcher reads strings (or byte-sequences) from a serial COM port, and sends the string to a CDPCComponent (or CDPObject) as a CM_TEXTSTRING message.

The component also receives CM_TEXTSTRING messages which it will queue up and send out on the COM port. It will automatically handle discarding of invalid strings that are received in on the serial line if the received string header or footer does not match, or if the string is too long.

2. Installation

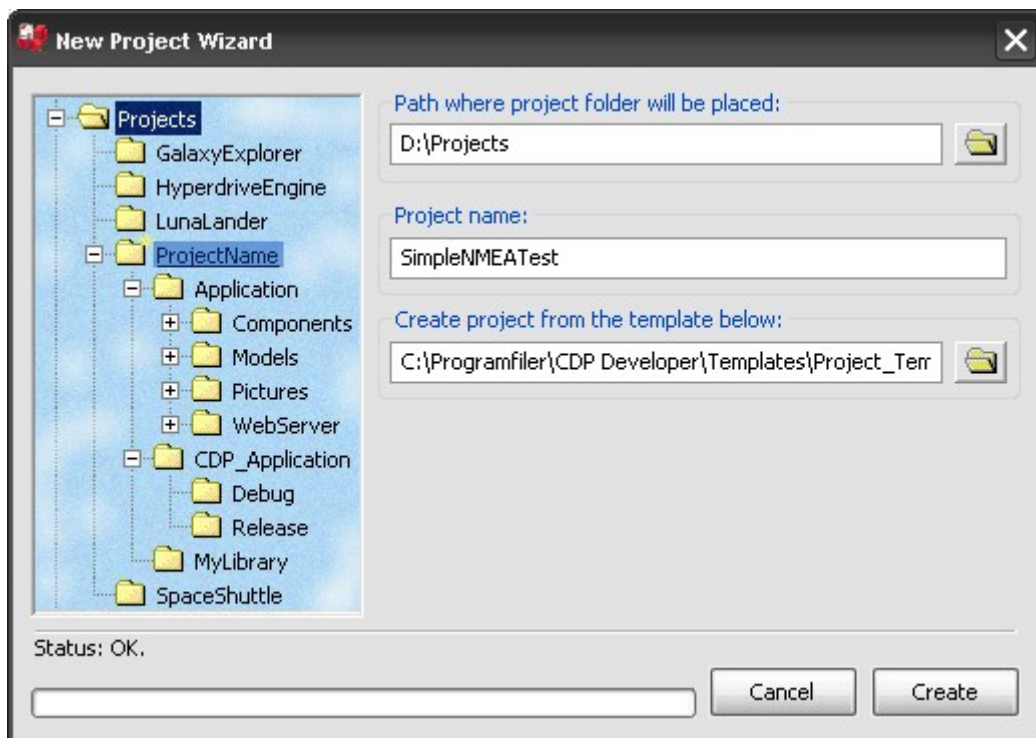
This chapter explains how to install the library containing the SerialStringDispatcher.

2.1. Prerequisites

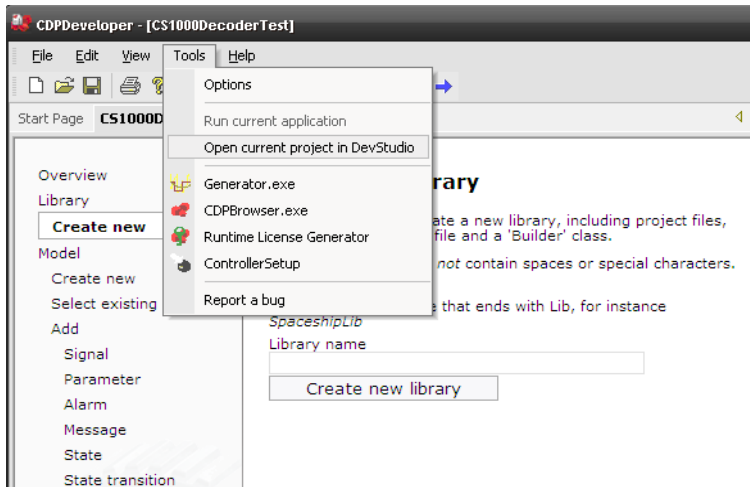
- A valid CDP license
- Familiar with CDP
- CDP version 2.3.1.0

2.2. How to add SerialStringDispatcher in a new or existing project

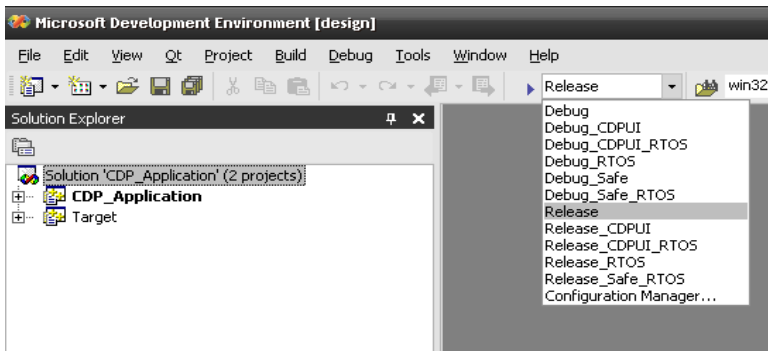
- Start CDPDeveloper located at Start Menu > Programs > CDP > CDPDeveloper
- Make a new project by Selecting File->New, type in project name and click Create (or skip four steps forward and open an already existing project in Visual Studio)



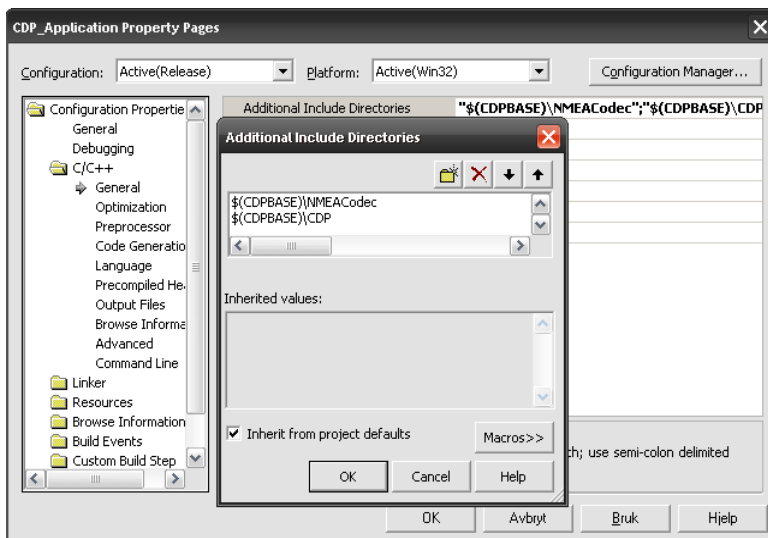
- Choose 'Open current project in Devstudio' from the Tools menu:



- If Visual Studio asks to convert the project, accept this by selecting 'Next'/'Finish'/'Close' until done. Close the conversion report.
- In Visual Studio, select the configuration that is right for your target platform.

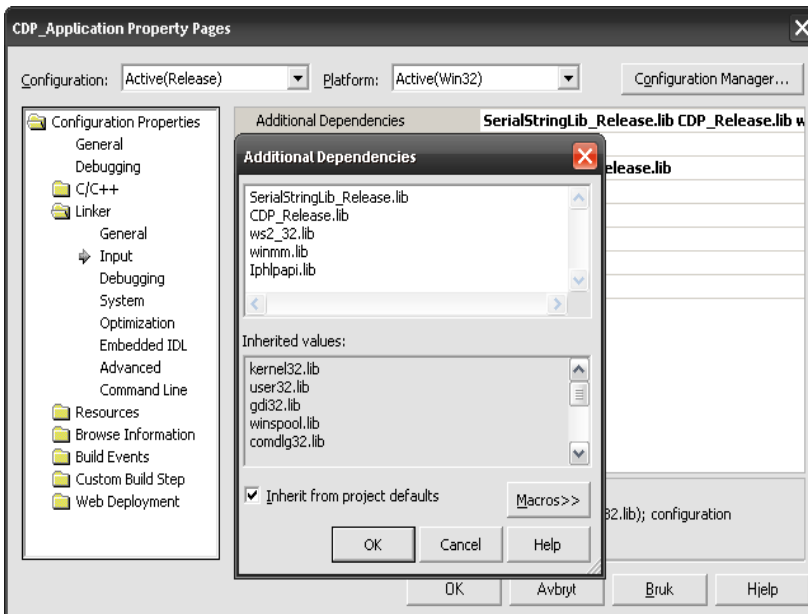


- Select 'CDP_Application' from the 'Solution Explorer', right-click and select Properties.
- In C++/Additional include Directories, make sure it says: “\$(CDPBASE)\SerialStringLib”; “\$(CDPBASE)\CDP”. When compiling for Ontime RTOS, the following include is also required: “;\$(RTTarget)\Include”.

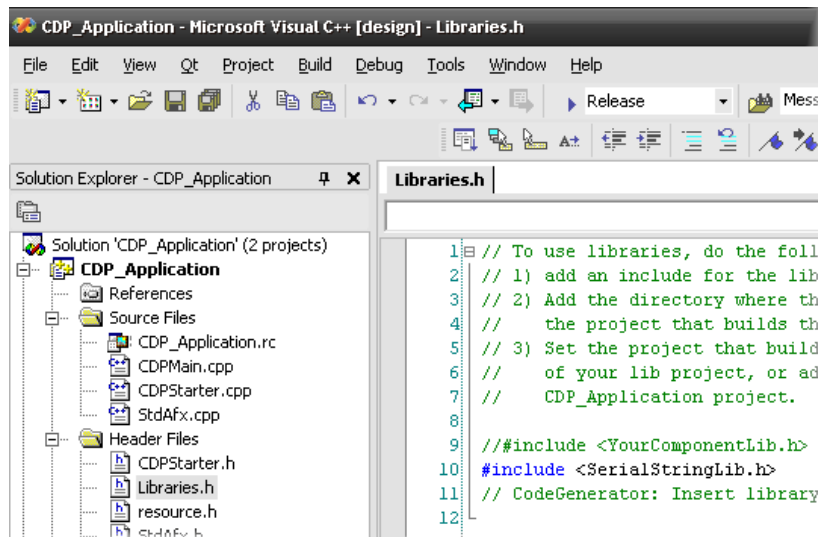


The compiler will look in the directories specified in 'Additional Include Directories' for files that you #include in your .cpp and .h files. If you get an error 'Can not open include file ...' then it is most likely caused by a missing include directory, or that the file you #include does not exist.

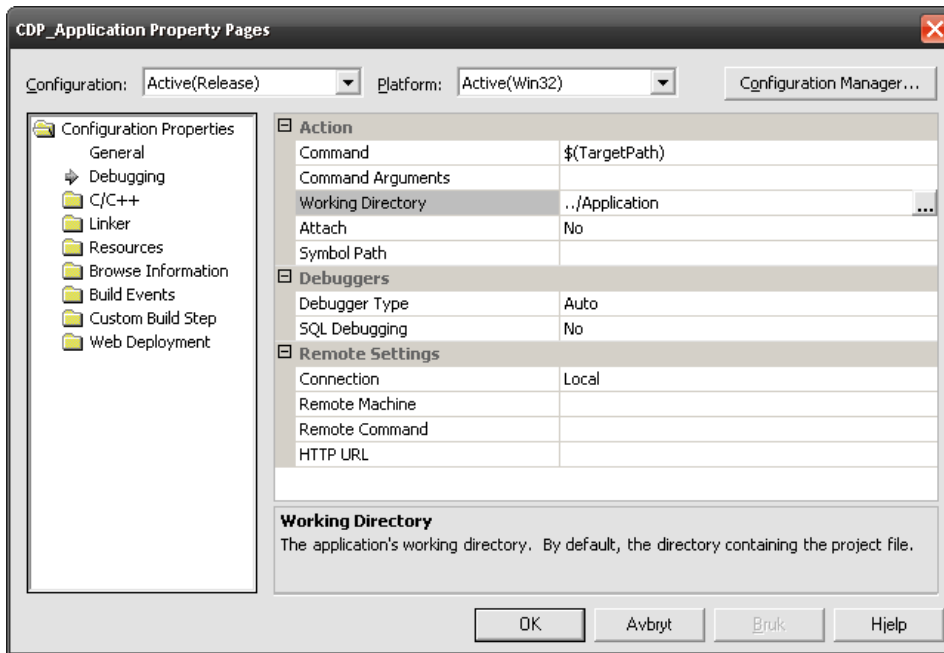
- In Linker->Input, make sure you list SerialStringLib_Release.lib and CDP_Release.lib in addition to all the win32 libraries you need. This will ensure that the linker finds all the functions that is referenced in the code. Note that when compiling for other Operating Systems you will need to replace these libraries with the ones for the target OS.



- In the 'Solution Explorer', inside the 'CDP_Application' project, locate the Header file Libraries.h, and add the line #include <SerialStringLib.h>:



- Finally, make sure that the working directory of the project is set to ../Application. This will ensure that the executable is started where the configuration files are located.



2.3. Modify the project xml files

Add the following to your project's Application.xml:

Inside the <Components> element, add an instance of a SerialStringDispatcher component, for instance:

```
<Component Name="SerialStringDispatcher" src="Components/SerialStringDispatcher.xml"></Component>
```

Or, inside the <Subcomponents> element, add:

```
<Subcomponent Name="SerialStringDispatcher" Model="SimplenMEA" src="Components/SerialStringDispatcher.xml">
</Subcomponent>
```

This will tell CDP to initialize a component named “SerialStringDispatcher” from a component file located at “Components/SerialStringDispatcher”. Make sure that your Models\ folder contains a SerialStringDispatcher.xml model file, or the component will not be initialized correctly.