

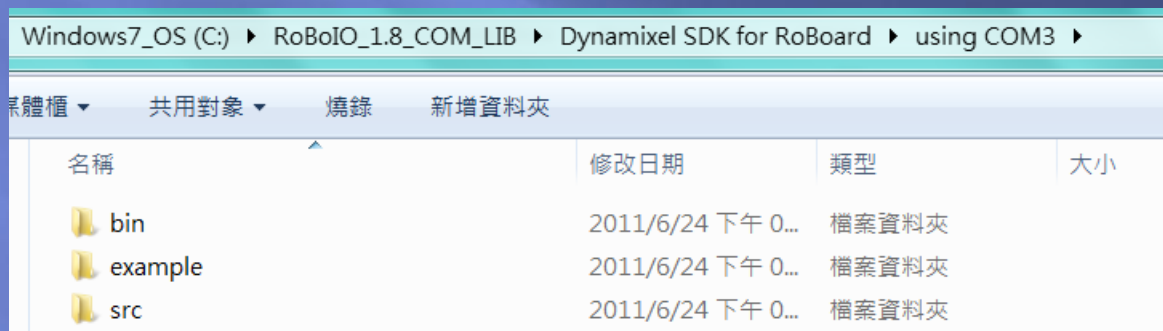
Dynamixel SDK for RoBoard's COM3

DMP Electronics Inc
Robotic Division
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Installation for VS2008

Installation

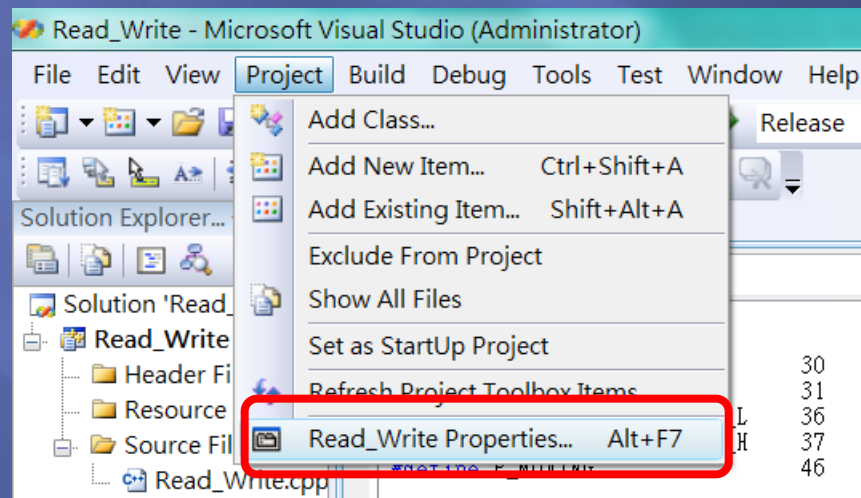
- ▣ Decompose **Dynamixel SDK for RoBoard** zip-file to your PC.



- ▣ In the “**using COM3**” folder, it contains:
 - **bin**: Binary files of the SDK (for COM3).
 - **example**: Sample codes from the original Dynamixel SDK.
 - **src**: Source code of the SDK.

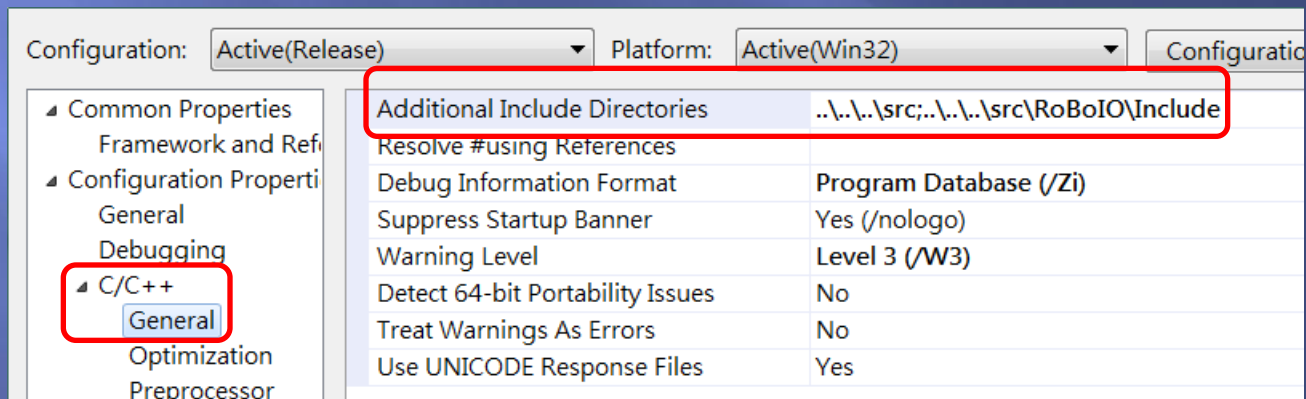
Setting in VS2008 Projects

- ❑ Before using the SDK in your project, you need to set it in VS2008.
- ❑ Open the **Properties** window:



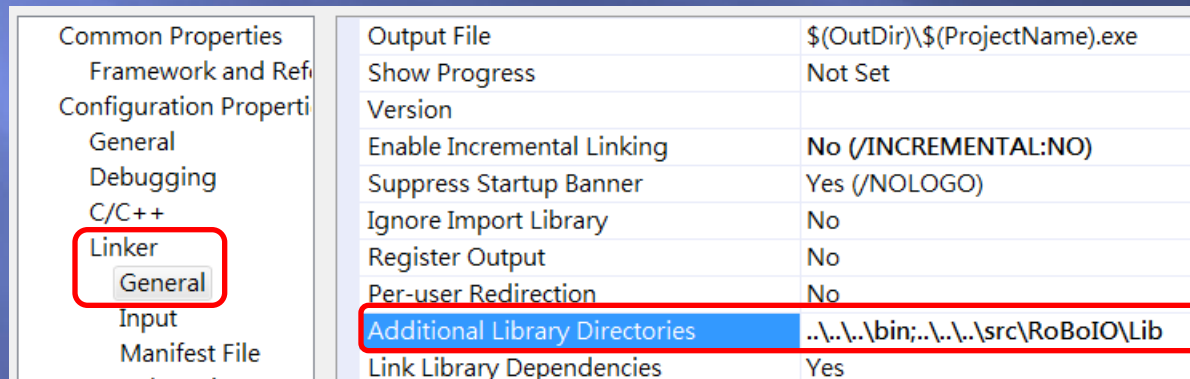
Setting in VS2008 Projects

- ▣ Set **Additional Include Directories**.
 - ▣ Path1: Set to “**src**” in the “**using COM3**” folder;
 - ▣ Path2: Set to the “**Include**” path of RoBoIO library.



Setting in VS2008 Projects

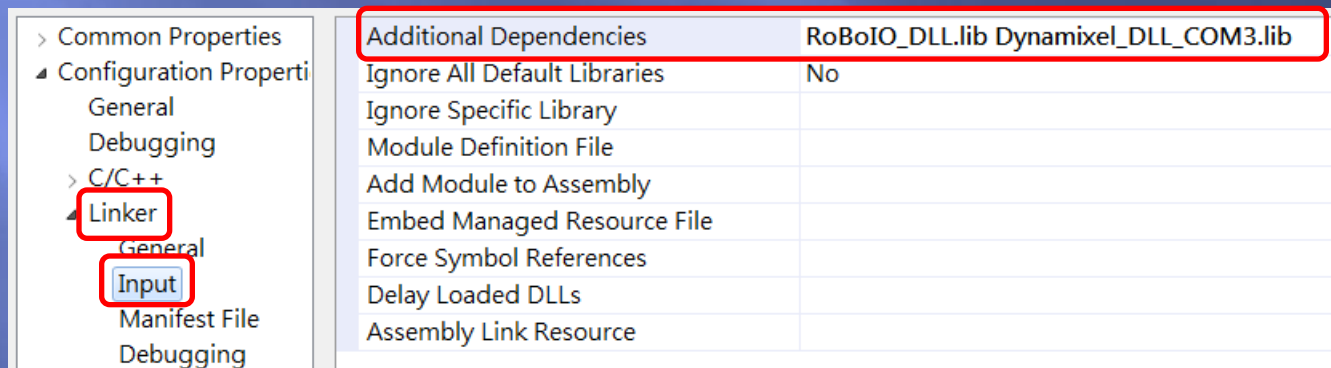
- ▣ Set **Additional Library Directories**.
 - ▣ Path1: Set to “**bin**” in the “**using COM3**” folder
 - ▣ Path2: Set to the “**Lib**” path of RoBoIO library.



Setting in VS2008 Projects

▣ Set **Additional Dependencies** .

- ▣ File1: Add **Dynamixel_DLL_COM3.lib**;
- ▣ File2: Add **RoBoIO_DLL.lib**.



Usage Overview

Usage

- ▣ Should include
 - **dynamixel.h** and
 - **roboard_dll.h**in your code.
- ▣ Before using the SDK, should first call **roboio_SetRBVer(...)** to set the correct model of your RoBoard.
 - See also RoBoIO introduction slide for reference.

```
.....  
#include "dynamixel.h"  
#include "roboard_dll.h"  
.....  
int main()  
{  
    roboio_SetRBVer(...);  
    .....  
    // use API of  
    // Dynamixel SDK here  
    .....  
}
```

Remarks

- ▣ For API manual of Dynamixel SDK, see the website of Robotis:
 - <http://support.robotis.com/en/software/dynamixel/sdk.htm>
- ▣ When calling **dxl_set_baud(...)**, only standard baudrates (e.g., 115200, 9600,) are allowed in the SDK for RoBoard.

DIY RoBoard \leftrightarrow AX-12 Connection Line

Preparation



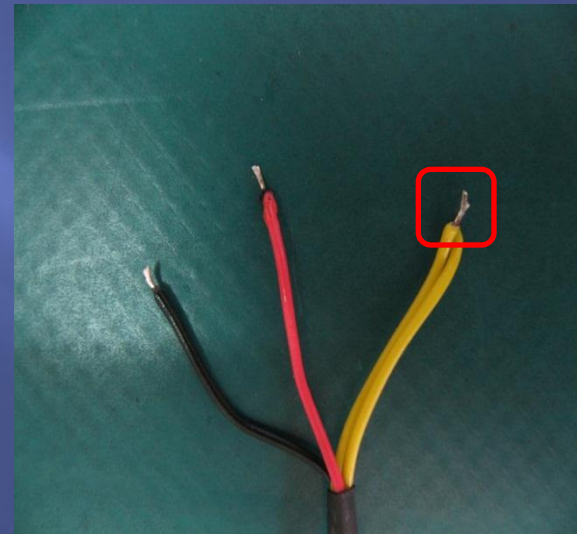
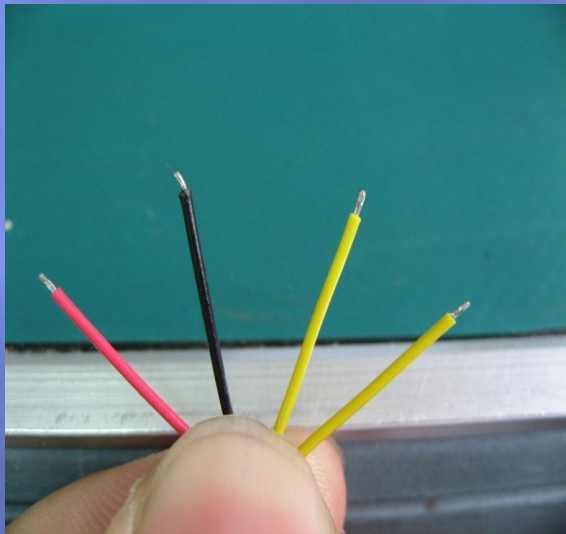
COM3 line in RoBoard Cable set



3-pin header of
2.54mm pitch

Step 1

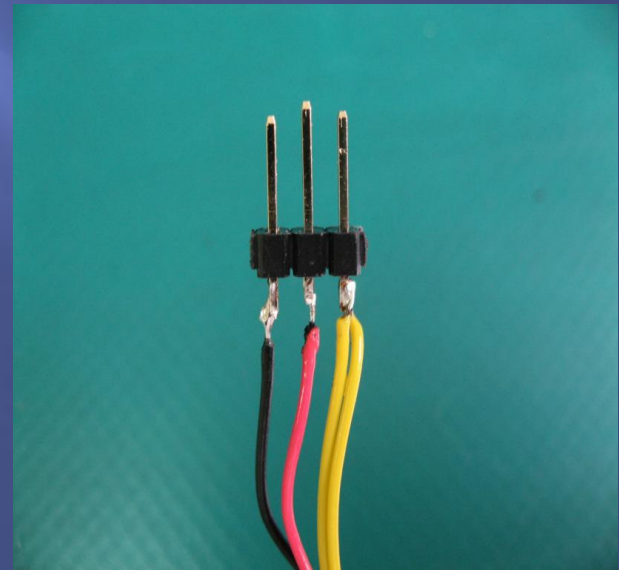
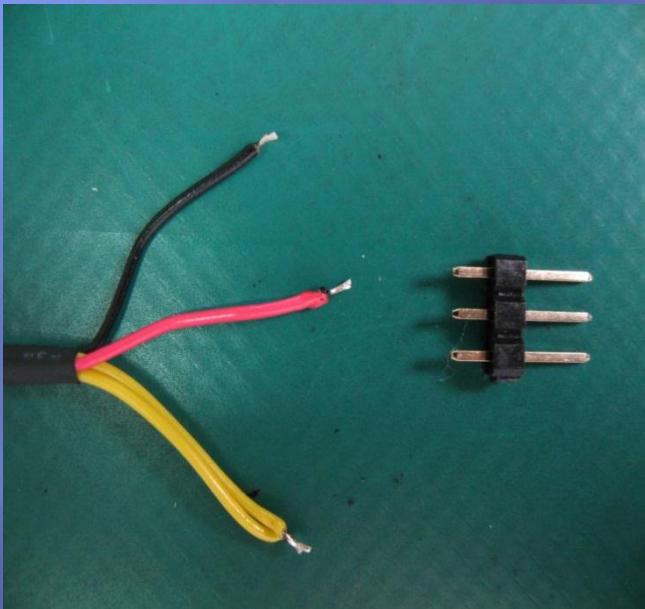
- ▣ Short the TXD/RXD pins (yellow lines)



Solder end of TX & RX lines

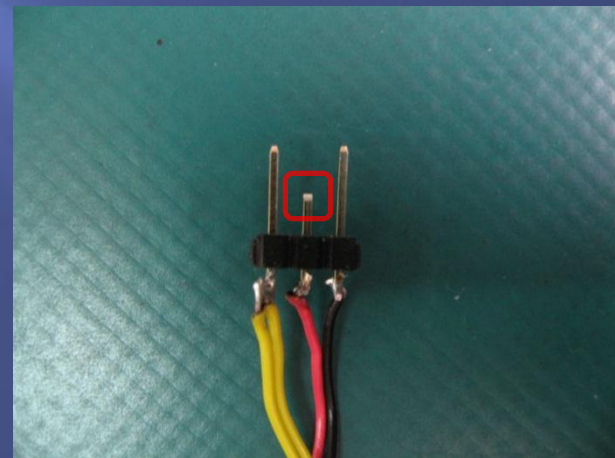
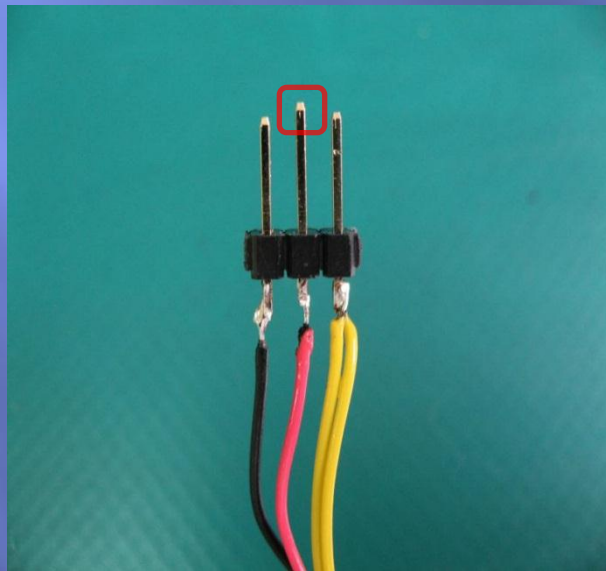
Step 2

- ▣ Solder the COM3 line and the pin header together.



Step 3

- Shorten the Vxx pin (useful for hot-plugging AX-12 servos).



Usage on RoBoard

- ▣ Now you can connect AX-28 to RoBoard's COM3 using the connection line.
- Note: don't plug the connector in wrong direction.



The heart of Robotics

Thank You

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<http://www.roboard.com>