SERIAL I/O MODULE INSTALLATION & OPERATION (USING T & D STUDIO VER. 6.0 OR LATER)

CHAPTER 3

In This Chapter...

Note: This Chapter only applies if you are using the WinPLC with Think & Do Studio version 6.0 or later. Use Appendix B if using the WinPLC with Think & Do versions 5.2 or 5.3.
Only Think & Do WinPLCs (H2-WPLC1-TD and H2-WPLC2-TD) support the H2-SERIO module.

H2–SERIO Overview

The Scope of This Manual

This chapter introduces the use of the H2-SERIO module using the WinPLC with Think & Do Studio, version 6.0 or later). See Appendix B if you are using Think & Do versions 5.2 or 5.3.

This chapter will not describe in detail how to build a project or connect to a WinPLC. Depending on which version of Think & Do you are using, further information can be found in:

Chapter 2 of this manual, Workbench Utility Operation

Appendix A of this manual, Using The ESP Utility To Set Up The WinPLC

The Think & Do Studio Learning Guide, Chapter 2.

The basic steps in using this module are:

1. Install the Serial I/O module in the base.

2. Connect power to the base.

3. Bring up Think & Do Studio.

4. Select the WinPLC as the target.

5. Connect to the WinPLC.

Add Serial Ports to Your WinPLC

The Serial I/O module plugs into the DL205 I/O base and is used exclusively with the WinPLC to provide additional RS232 serial ports. The WinPLC communicates with the H2–SERIO module across the DL205 backplane.
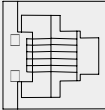
As Many as Ten Serial Ports

The WinPLC has one built-in serial port. Now, you can add as many as nine additional serial ports for Think & Do applications requiring multiple serial devices, such as barcode scanners.

Setting Communication Parameters Using Think & Do

Use I/O View to set baud rate, parity, data bits, and stop bits for each port. Choose from 300 to 57,600 baud communication speeds. Think & Do Studio allows each port to be designated as a MODBUS slave or a generic serial device. Each port on the H2–SERIO module is capable of hardware handshaking.

RS-232 Wiring

Pin Assignments for: H2-SERIO ports			RJ12 (6P6C) Female Modular Connector
1	0V	Power (–) connection (GND)	
2	CTS	Clear to Send	
3	RXD	Receive Data (RS232C)	
4	TXD	Transmit Data (RS232C)	
5	RTS	Request to Send	
6	0V	Signal Ground (GND)	

NOTE: The serial port on-board the WinPLC has a different pinout from the H2–SERIO module. Refer to page 1–7 for the WinPLC serial port pin assignments.

H2-SERIO Specifications	
Module type	Intelligent module for use with H2–WPLC1–TD
Maximum number of modules supported by one WinPLC	3
Recommended cable	Belden 9729 or equivalent
Connector	RJ12 jack
Power consumption	230mA @ 5VDC
Operating environment	0° to 60°C (32°F to 140°F), 5% to 95% RH (non-condensing)
Manufacturer	Host Engineering

# Using Think & Do to Set Serial Port Parameters

Installing the H2-SERIO

Install the H2-WPLC1-TD or H2-WPLC2-TD, and the H2–SERIO module in your DL205 base. Please refer to the guidelines elsewhere in this publication for information about installation, power wiring, and Ethernet connections. The WinPLC must be recognized on the network to proceed, so use Think & Do to establish your link to the WinPLC.

Setting the WinPLC as the Runtime Target

With Think & Do Studio ProjectCenter open, click the "Project Explorer Bar", and project information will display in the main ProjectCenter window. In the "Runtime Target" area, select "Windows CE - Think & Do WinPLC" from the drop-down list.

Project Explorer Bar

Runtime Target Selection Area
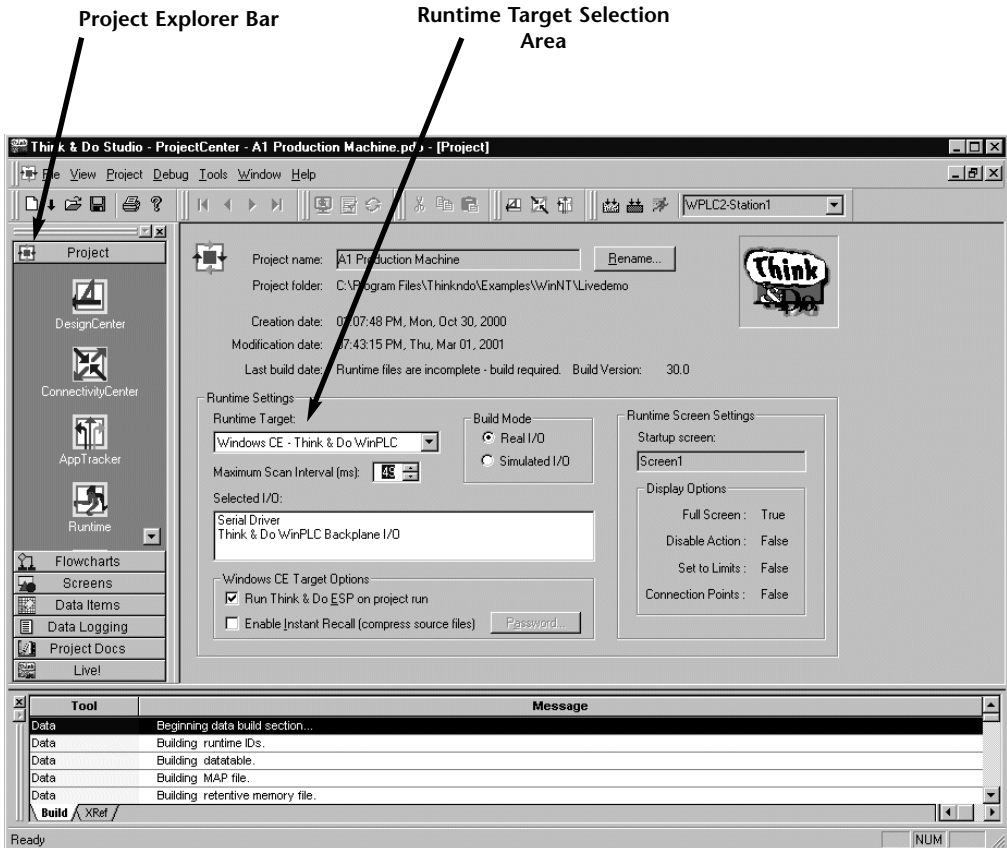
Using Think & Do ConnectivityCenter to Set Up The Serial I/O Module

ConnectivityCenter is the Think & Do Studio tool for configuring I/O devices. See the Think & Do Studio Learning Guide (Chapter 2) for more detailed information on using ConnectivityCenter.
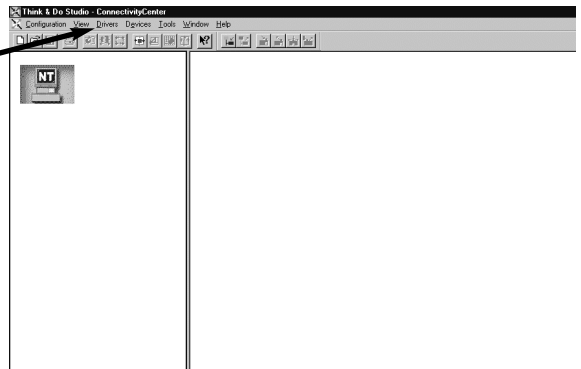
Open up the ConnectivityCenter.

Click here to open ConnectivityCenter From ProjectCenter
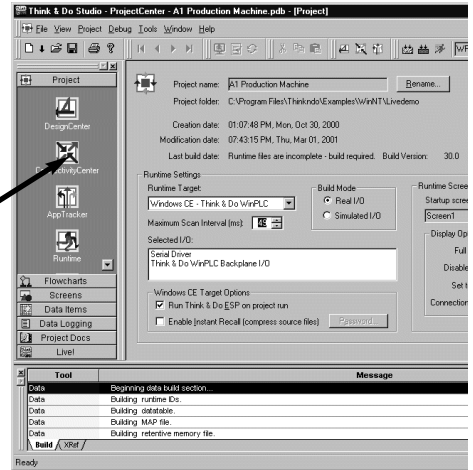
Drivers menu

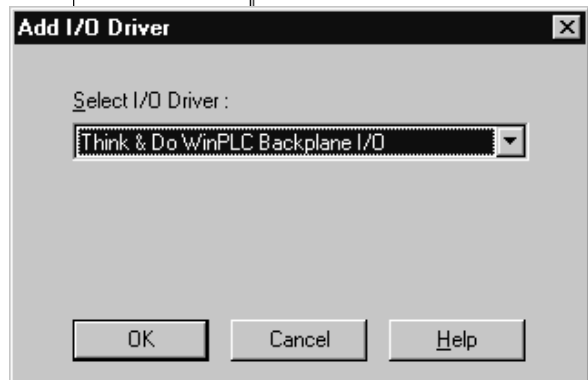This frame shows an initial ConnectivityCenter screen with no WinPLC connected.

Adding the Serial I/O Module Driver

Again, see the Think & Do Studio Learning Guide for more information on adding I/O drivers.

Either click on the "Drivers" menu and select "Add", or click on the Add Driver toolbar button.

Select "Think & Do WinPLC Backplane I/O" as the target.

Connecting To The WinPLC

To connect to the WinPLC, click "Configuration", and select "Connect".

Think & Do recognizes the DL205 base as you have configured it. The WinPLC is displayed in the CPU slot, and the Serial I/O module is displayed where you have installed it.

Click on "Serial Driver".
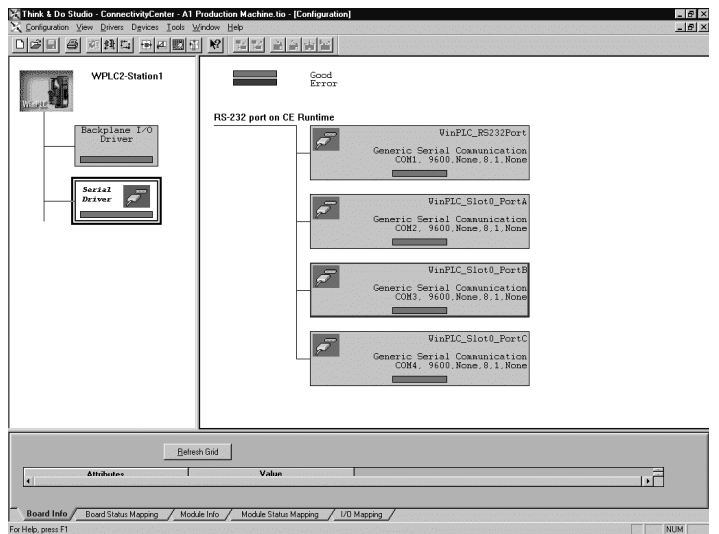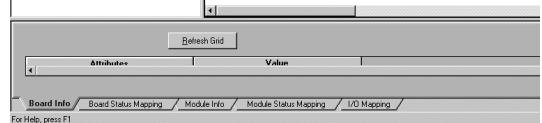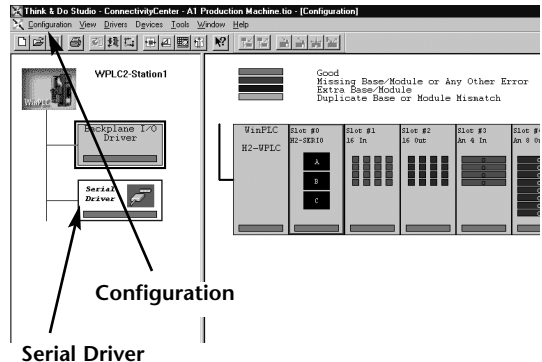

Configuration

Serial Driver

You will see a port configuration box for each serial port Think & Do Studio recognizes. In our example to the right, Think & Do sees four serial ports. One is on the WinPLC and the other three are on the Serial I/O module.

Notice that the ports are numbered COM 1 through COM 4 in Think & Do. COM 1 is on the WinPLC. COM 2 through COM 4 are on the first Serial I/O module in the base. Think & Do counts the serial ports from top to bottom (on the Serial I/O module) and from left to right in terms of slot position.

If you install additional Serial I/O modules at a later time, be aware that the order of the modules in the base determines their COM numbers. If you install a Serial I/O module between an existing Serial I/O module and the CPU, your port settings will remain the same, but the COM number will change.

Setting Serial Port Parameters

To set the serial port parameters, click on the "Serial Driver" in the left pane of the ConnectivityCenter window. You will see a port configuration box for each serial port Think & Do recognizes. In our example to the right, Think & Do sees four serial ports. One is on the WinPLC and the other three are on the Serial I/O module.

Position curser here, and drag line up to expand lower window pane.
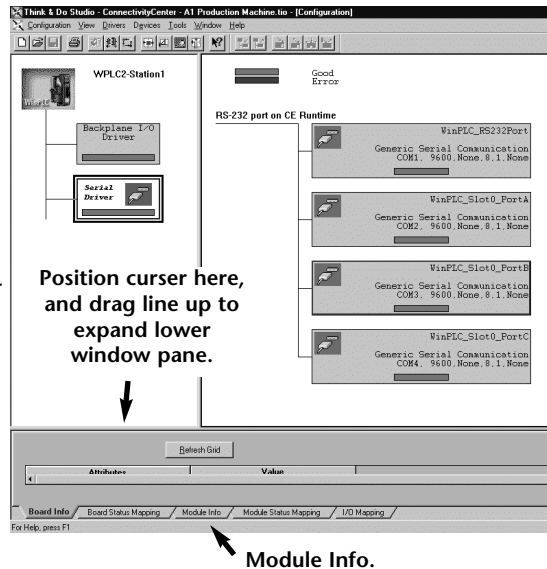
Module Info.

Expand the Window Pane

Position your cursor on the line that separates the upper window panes from the lower window pane. Move this line up by dragging your mouse. Click on the tab at the bottom of the lower window pane marked "Module Info." You will see a screen that looks similar to the one shown here. Pull-down menus allow you to change the serial port parameters.
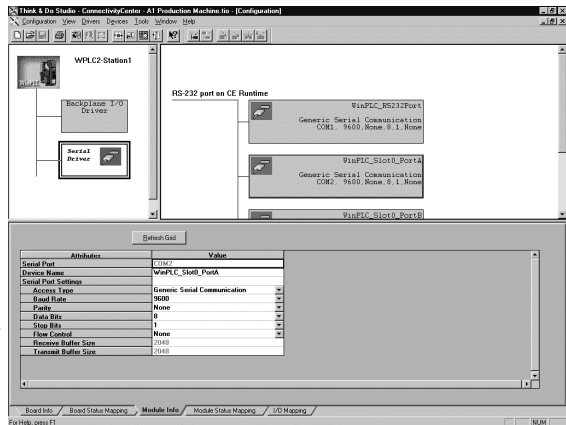
Select the port whose parameters you want to change by clicking on that port in the upper right pane. Make the changes in the lower pane, and save the changes using the Ctrl + S keys.