



Product Family: WinPLC

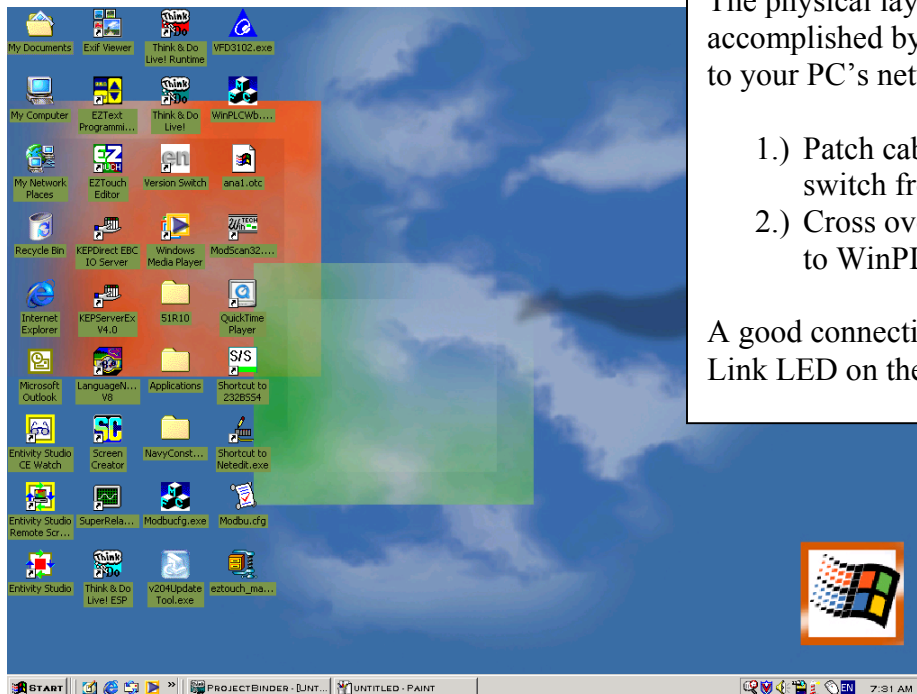
Number: AN-WPLC-001

Subject: Basic Connection to an H2-WPLC with Think & Do Live

Date Issued: 12/11/03

Revision: Original

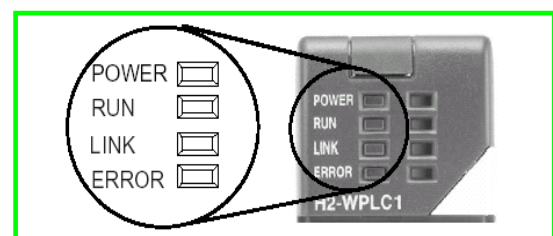
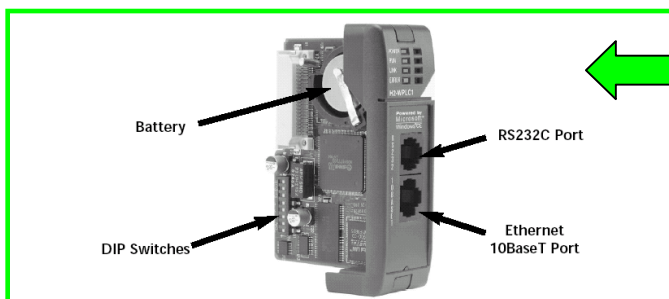
This application note shows an example of how to connect to an H2-WPLC with Think & Do Live version 5.5 and Microsoft Windows 2000.



The physical layer connections can be accomplished by the following connections to your PC's network interface card (NIC):

- 1.) Patch cables to network Hub or switch from NIC and WinPLC.
- 2.) Cross over cable directly from NIC to WinPLC.

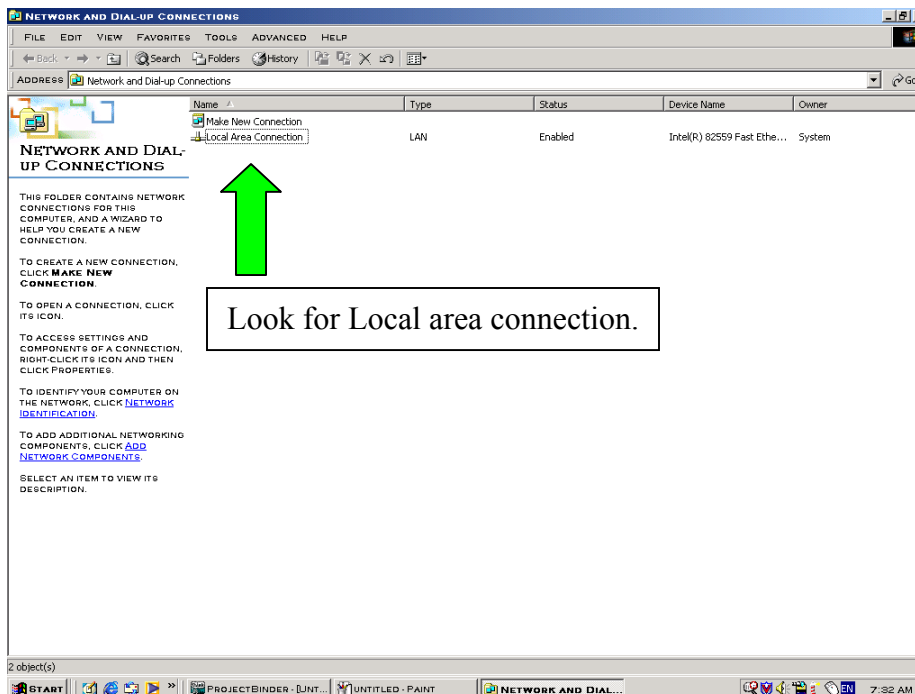
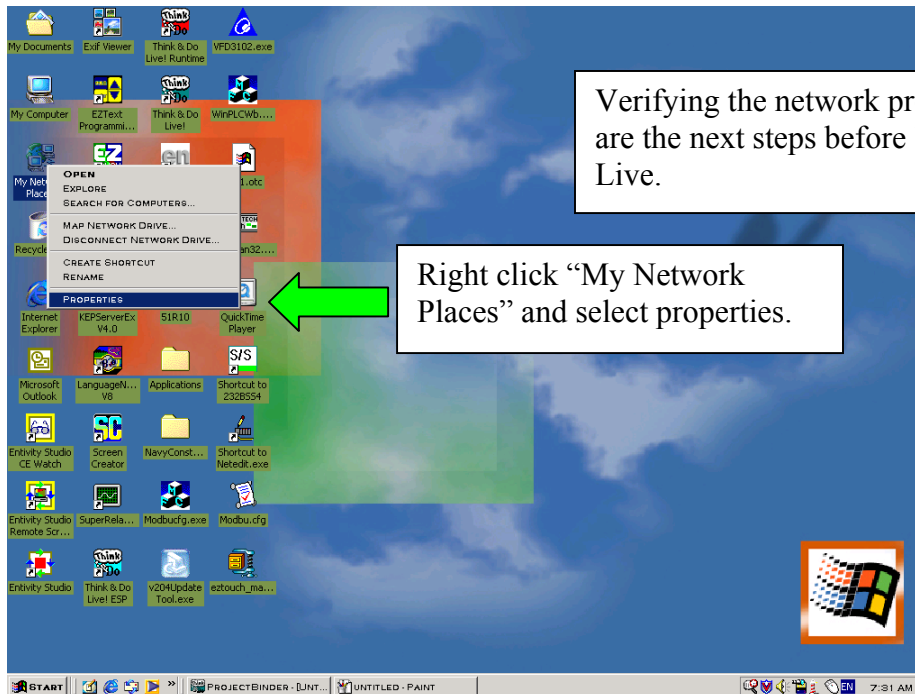
A good connection is indicated by the Green Link LED on the WinPLC.





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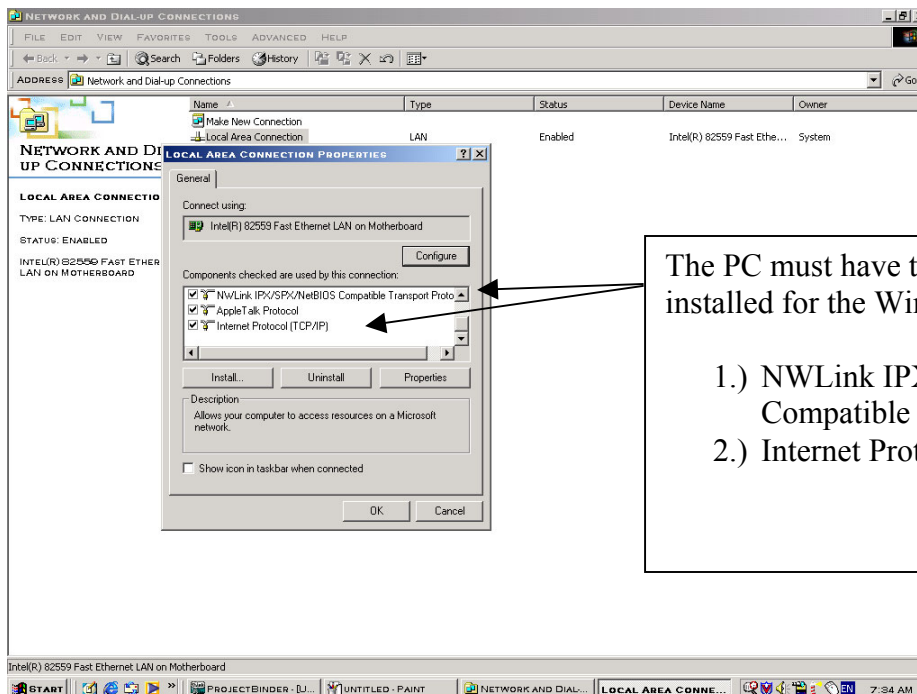
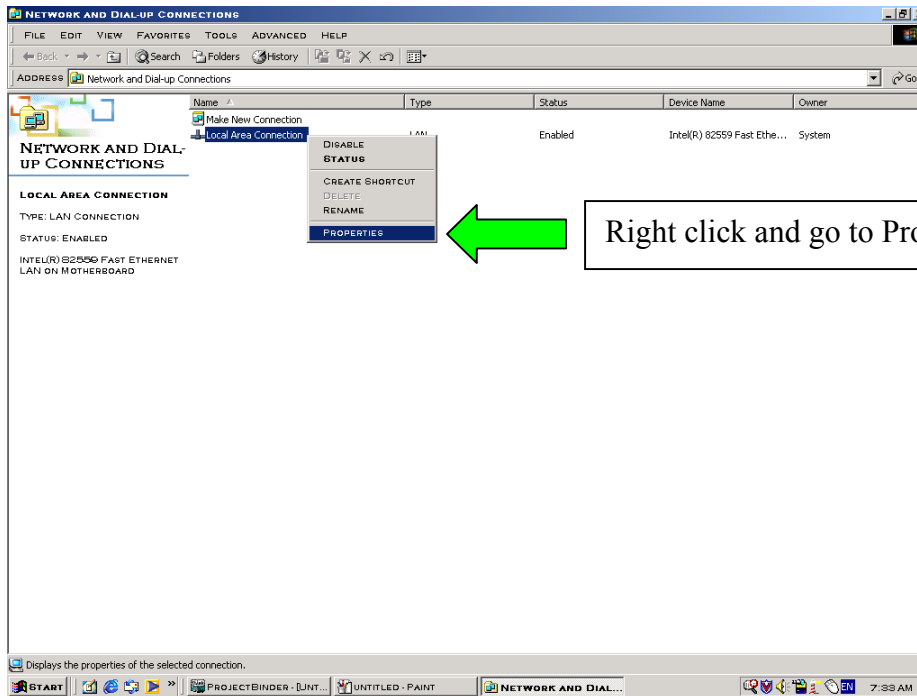
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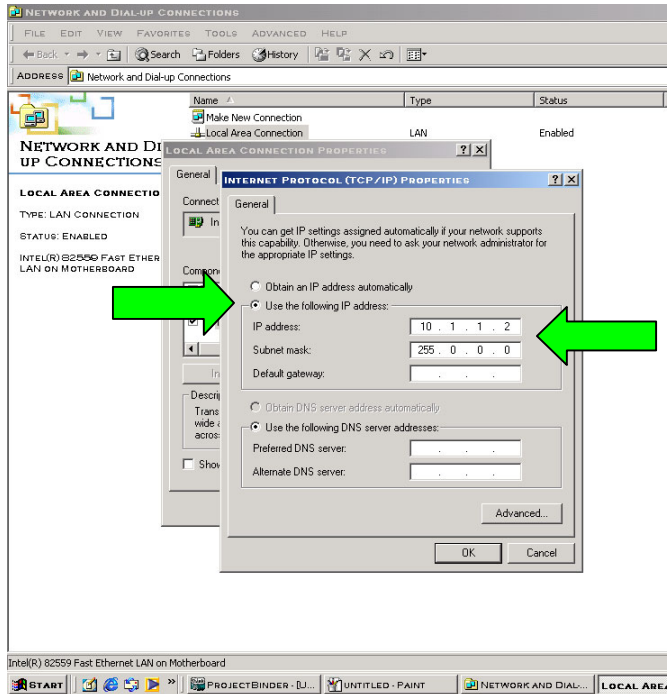
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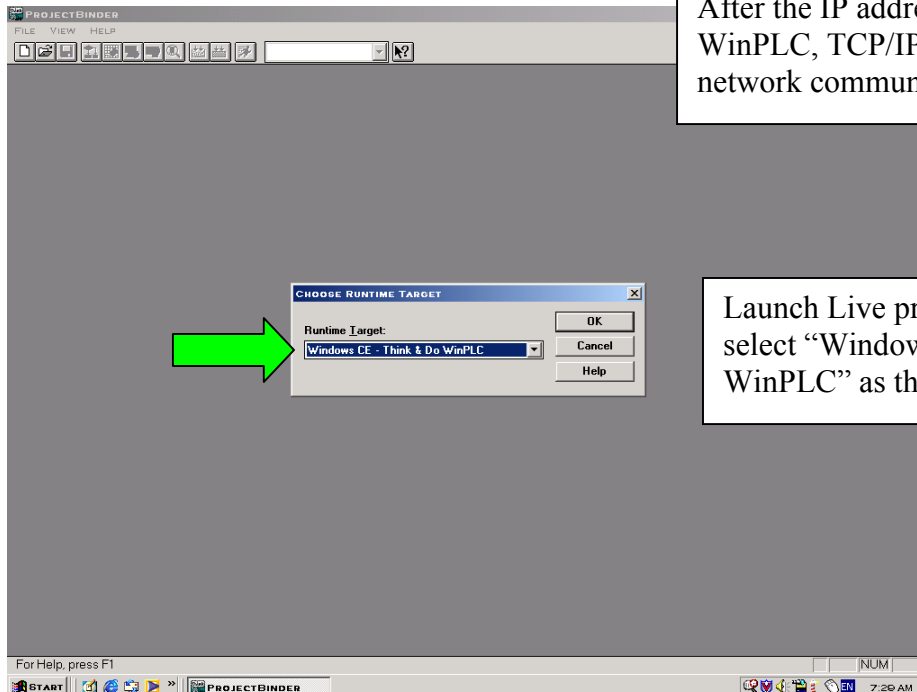
Select Internet Protocol (TCP/IP) and left click "Properties" Button under protocol list.

Ensure the PC has an IP address. Ask your Network administrator for one.

This example uses 10.1.1.2 with a subnet mask of 255.0.0.0. This means my WinPLC will need an IP address of 10.X.X.X. with a subnet mask of 255.0.0.0.

The WinPLC uses IPX broadcasts to recognize the unit on the network. The IPX booter mode is active only after power cycle. This will be reviewed a little later.

After the IP address is set in the WinPLC, TCP/IP takes over for network communication.

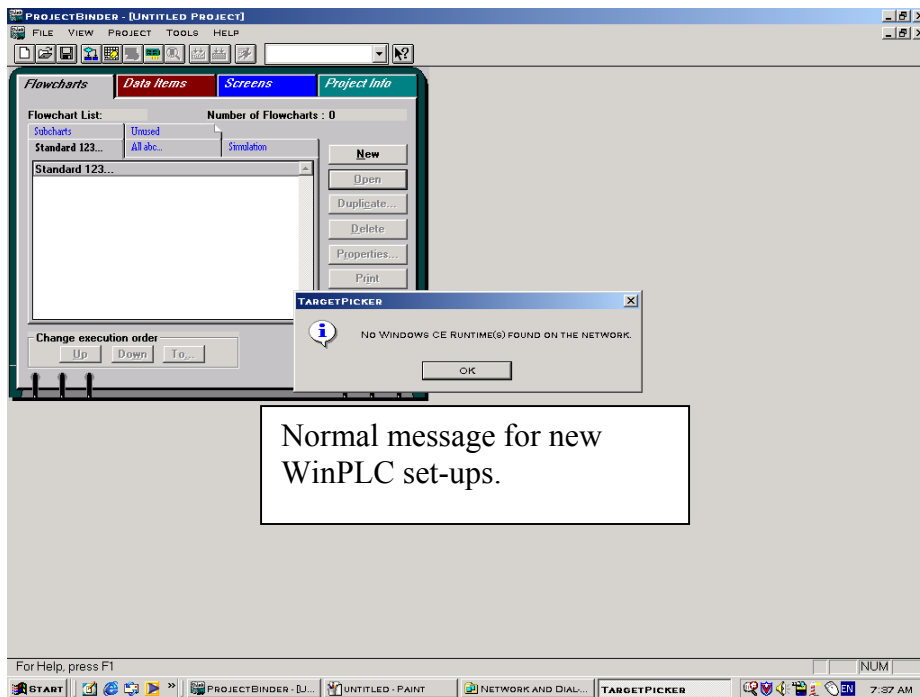
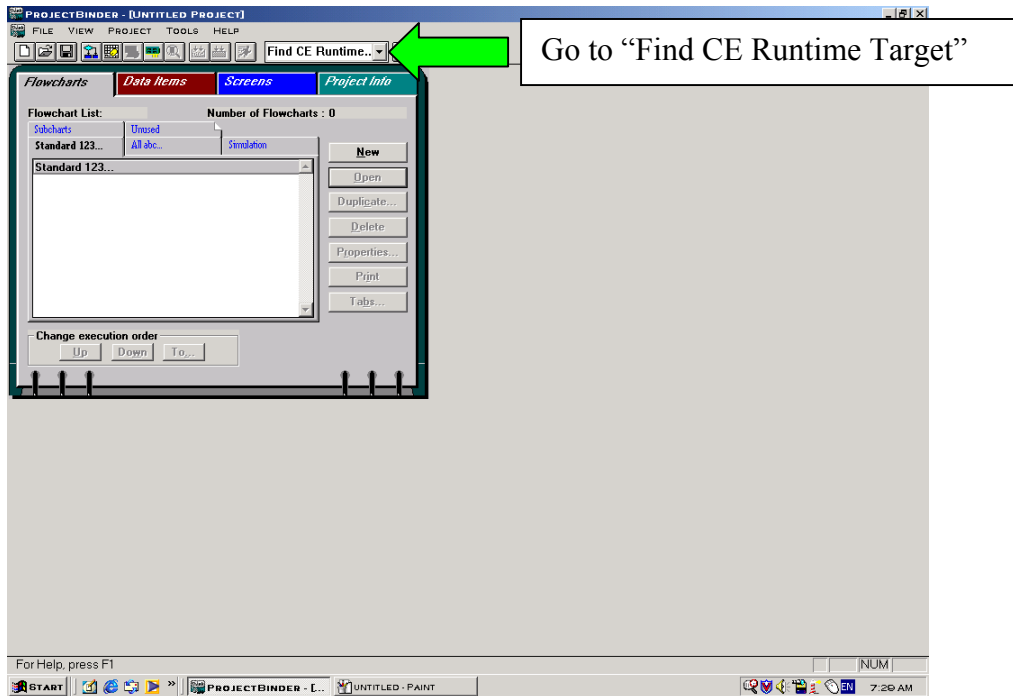


Launch Live project binder and select "Windows CE – Think & Do WinPLC" as the Runtime Target.



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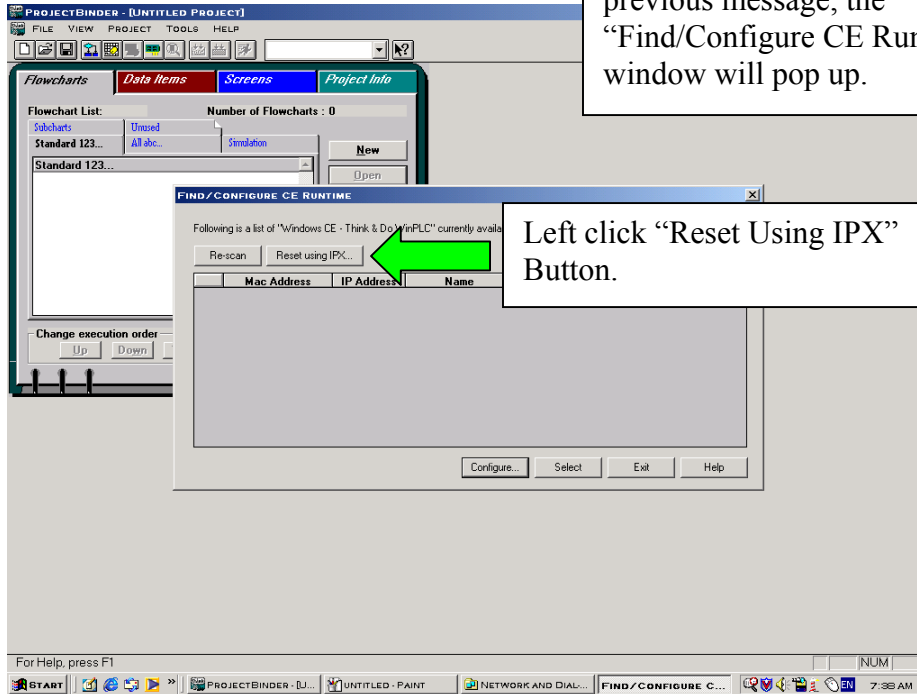




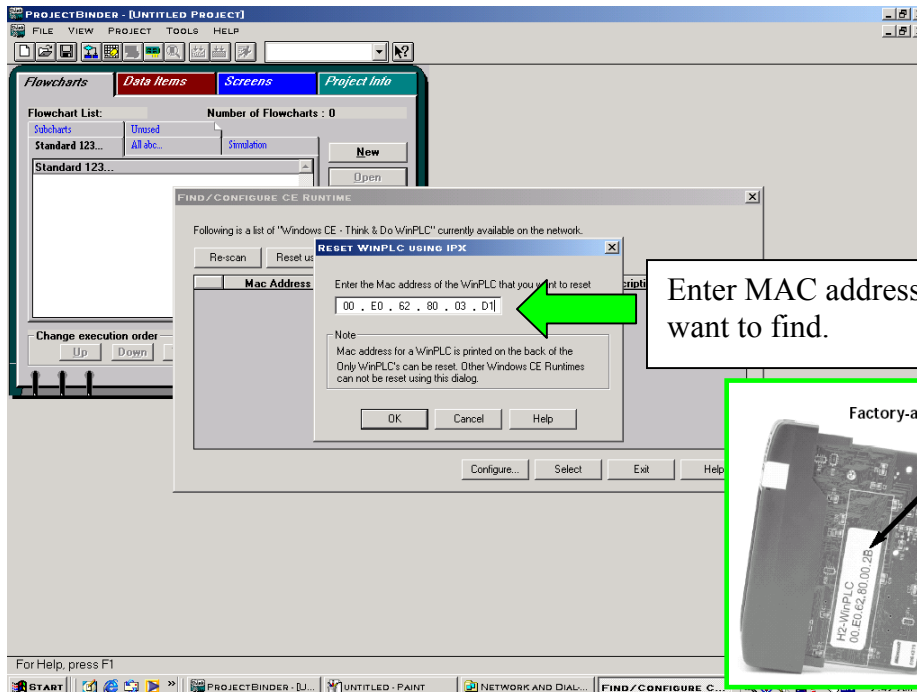
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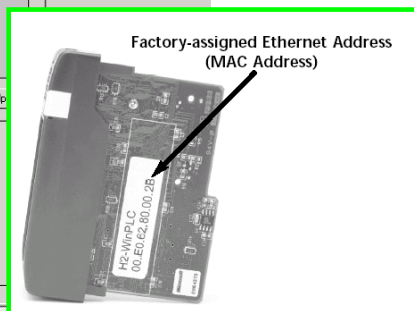
After acknowledging the previous message, the "Find/Configure CE Runtime" window will pop up.



Left click "Reset Using IPX" Button.



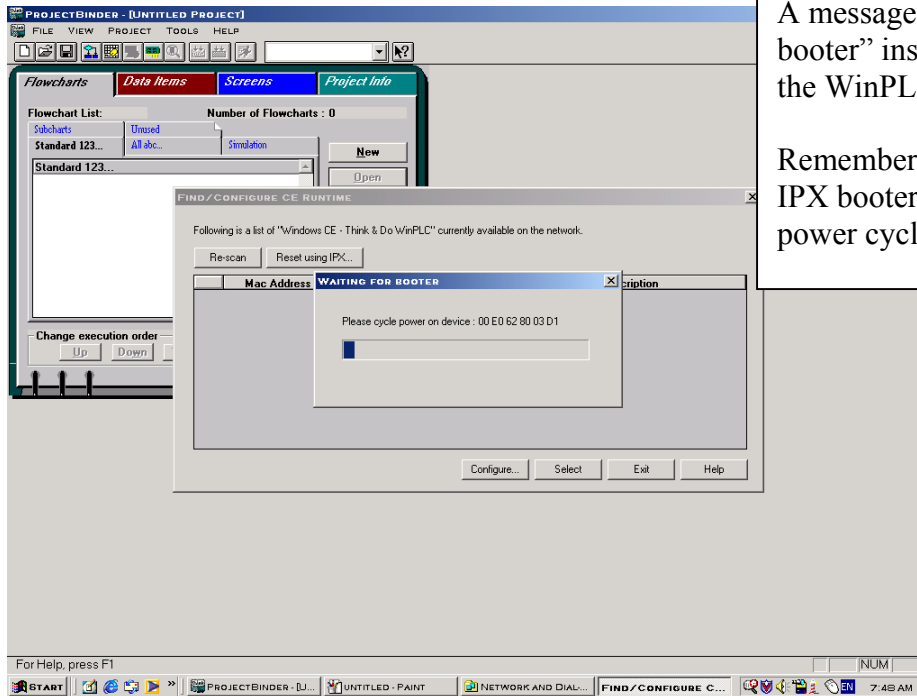
Enter MAC address of WinPLC that you want to find.





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A message will pop up called "Waiting for booter" instructing you to cycle power on the WinPLC.

Remember the only time a WinPLC is in IPX booter mode automatically is after a power cycle.

Important NOTE – If the "Reset Using IPX" does not work.

This behavior is due to Windows 2000 and Windows XP "unbinding" the protocols from the network card, whenever Windows detects that a network connection has been "unplugged". The "re-binding" process takes approximately 10-15 seconds.

During the "Reset using IPX" process, you are instructed to power cycle the WinPLC. When the WinPLC's power is turned off and the computer is connected to the WinPLC by a direct connect crossover cable, the computer sees that there is no connection at the end of the network cable, and translates this into an "unplugged" state. At this time, Windows unbinds the protocols that were otherwise bound to that network card.

When the WinPLC powers back up (boots up, under normal conditions), the WinPLC "listens" for IPX broadcasts for approximately 3-4 seconds. If no broadcasts are heard, then the WinPLC continues the OS loading operation, but stops listening for the IPX broadcasts.

Since Windows (2000 or XP) takes 10-15 seconds after reconnecting before rebinding the protocols, there are no message sent out in that 10-15 second period. By the time Windows has rebound the protocols, the WinPLC is no longer listening.

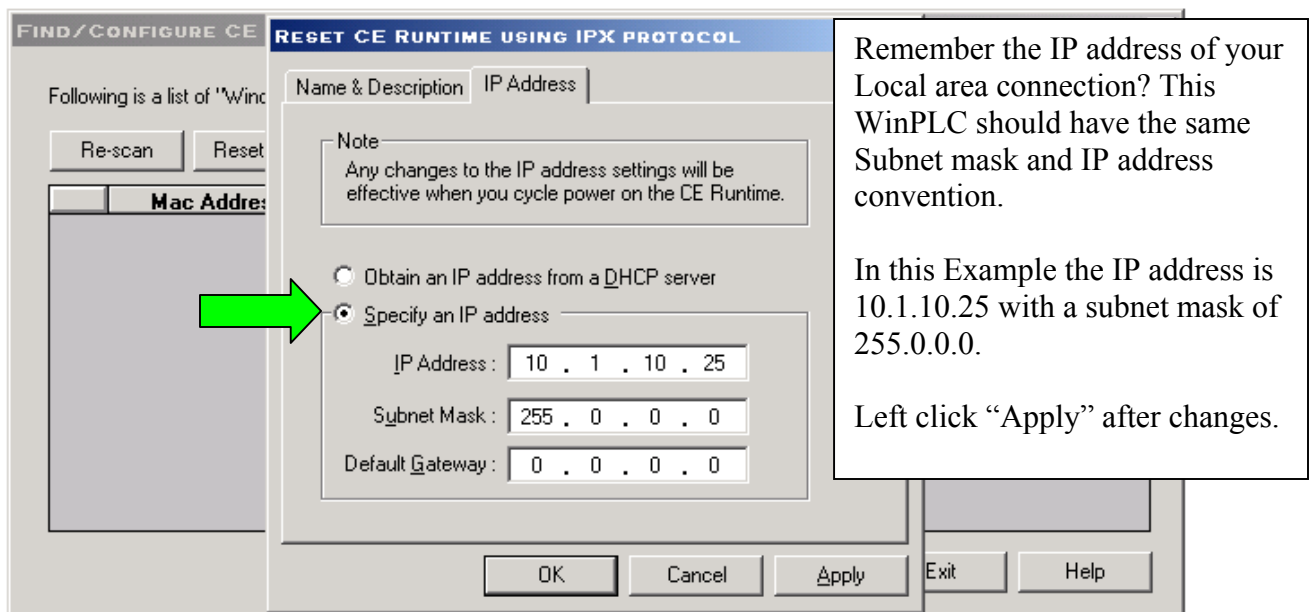
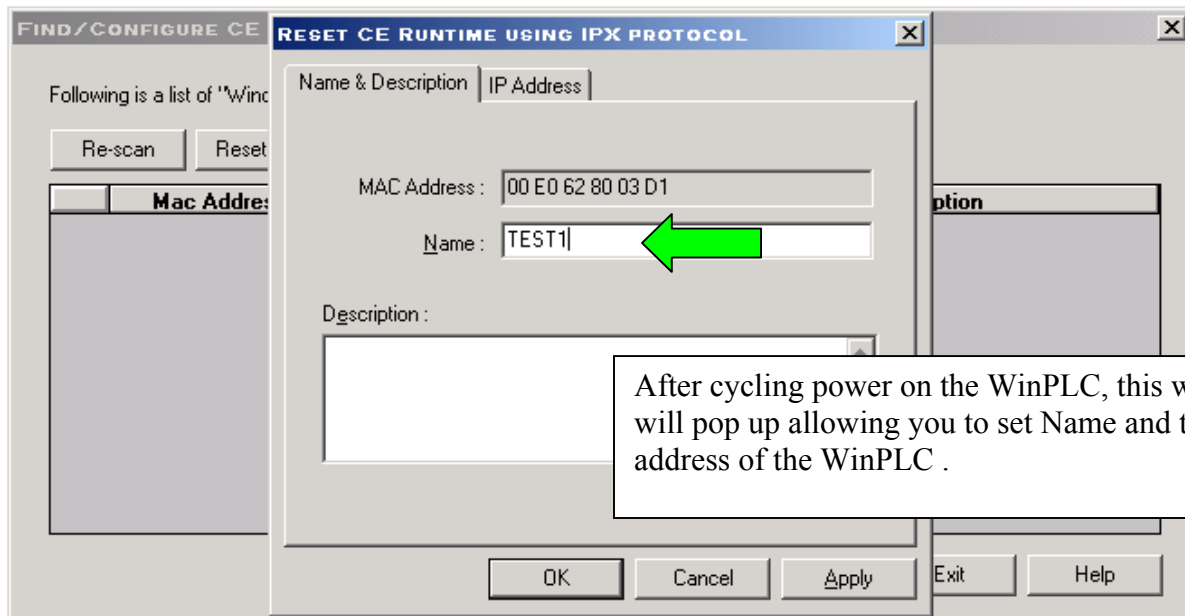
There are (2) workarounds to this problem.

- 1.) Use a hub or switch between the WinPLC and the computer, along with standard patch cables (do NOT use the crossover cable in this situation).
- 2.) Power down the rack. Remove the WinPLC from the rack. Locate the DIP switches on the WinPLC's circuit board. Slide the HIGHEST NUMBERED SWITCH (SW7) to the ON position. Replace the WinPLC into the rack, and power the rack back up. This switch setting will keep the WinPLC in the "booter" mode, continuously listening for the IPX broadcasts. This will allow the "Reset using IPX" operation to be used with a direct crossover cable on both Windows 2000 or Windows XP. After setting the IP Address of the WinPLC, BE SURE to set the DIP switch back to the OFF position.



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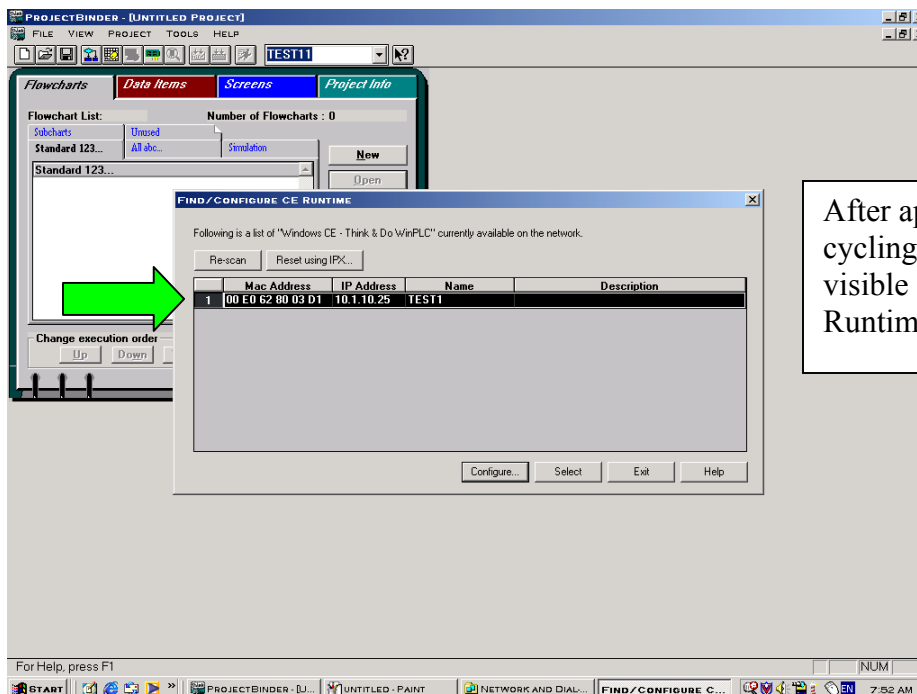
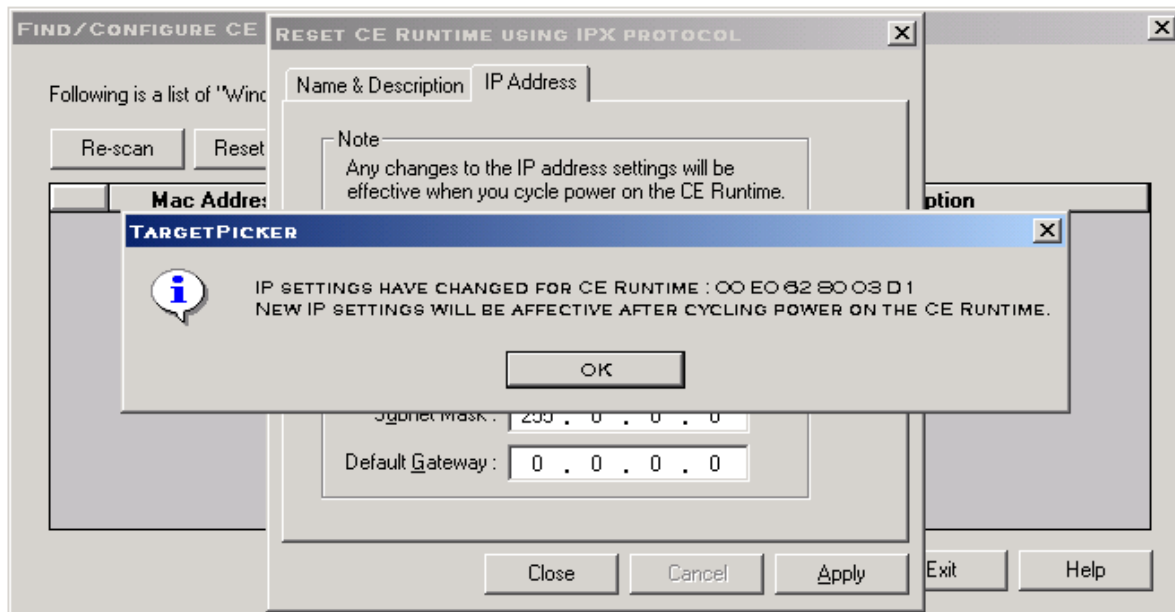
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After applying the changes and cycling power, the WinPLC will be visible on the "Find/Configure CE Runtime" window.

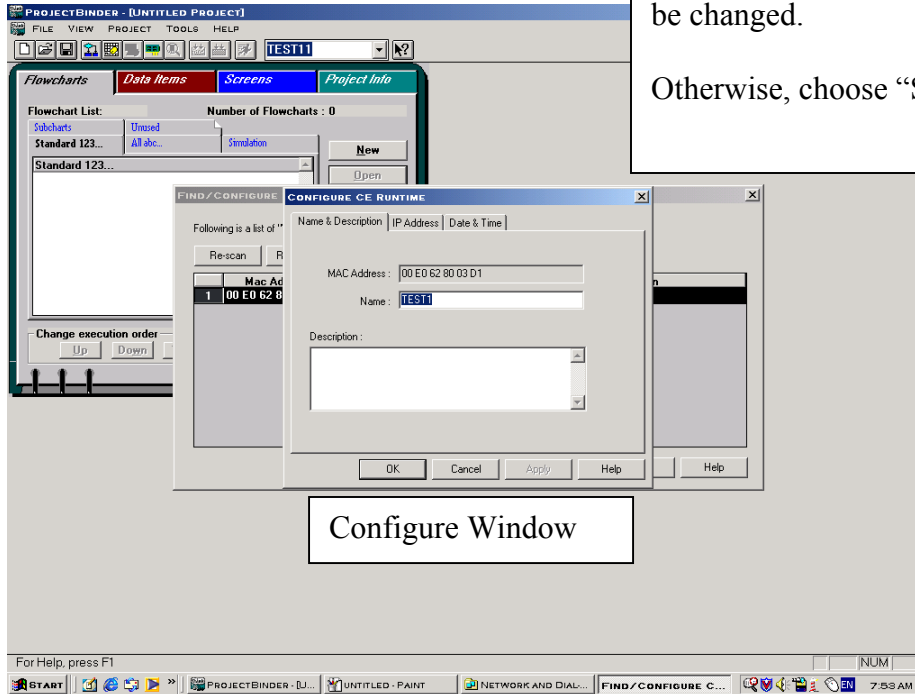


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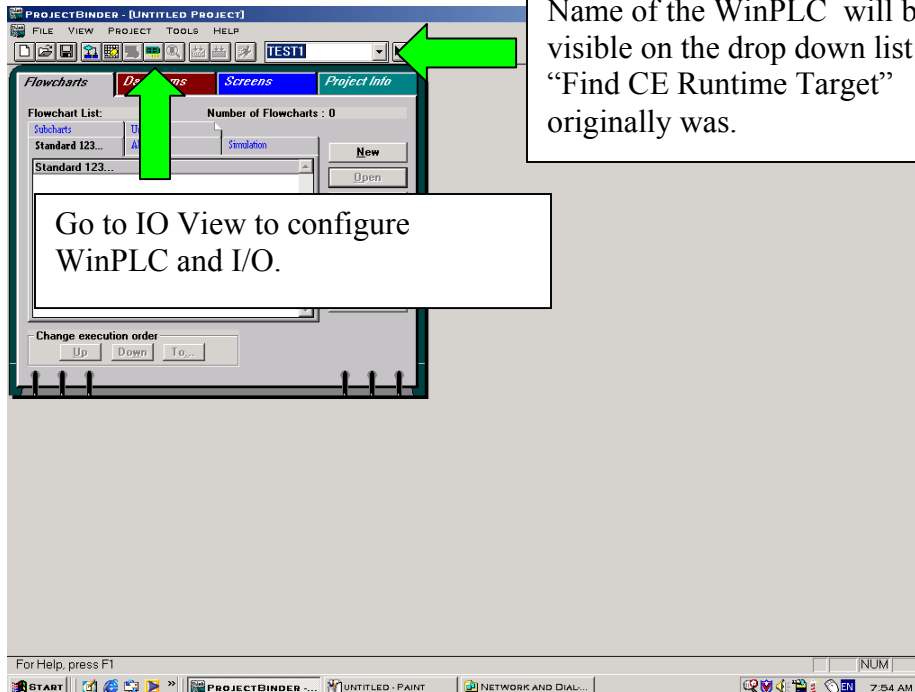
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Highlight and go to "Configure" if Name, address, or date/time information has to be changed.

Otherwise, choose "Select."



Configure Window



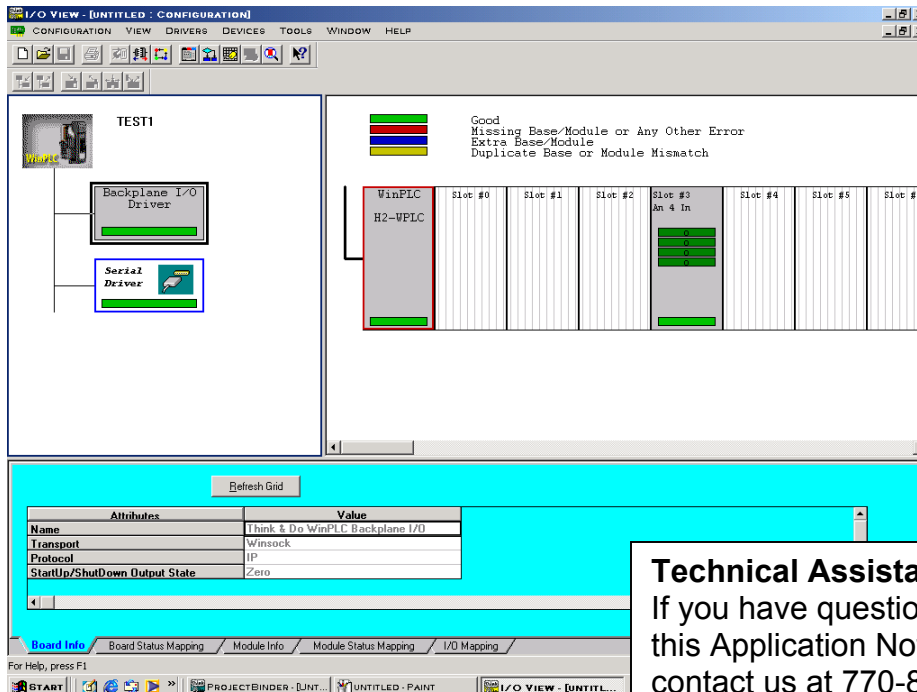
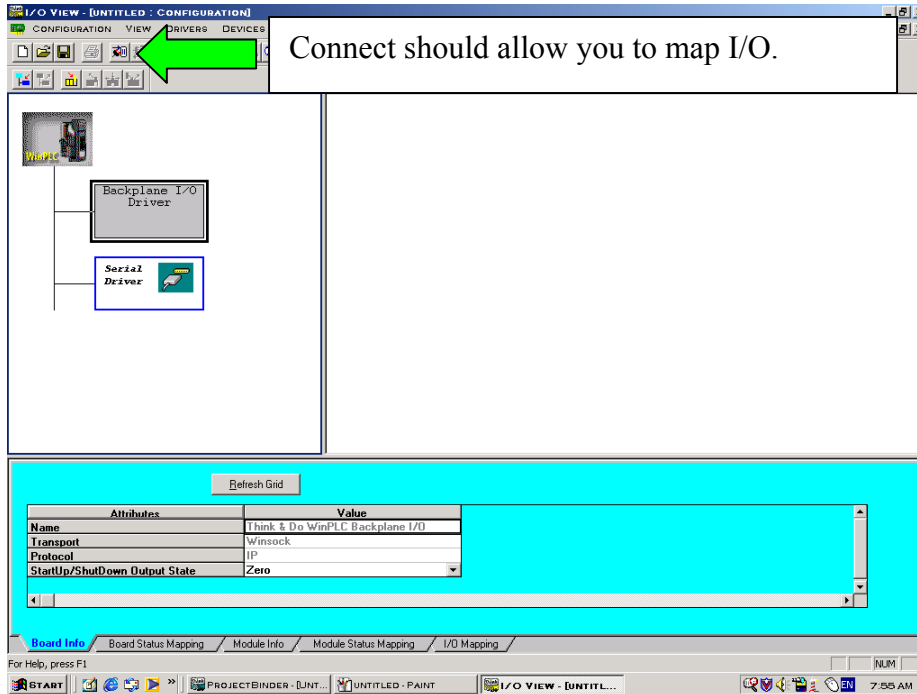
After "Select" is left clicked, the Name of the WinPLC will be visible on the drop down list where "Find CE Runtime Target" originally was.

Go to IO View to configure WinPLC and I/O.



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Technical Assistance:

If you have questions regarding this Application Note, please contact us at 770-844-4200 for further assistance.