

Technical Note: Q1005 – How do I Setup an Ethernet Connection on the HPGL Controller in Windows XP?

August 18, 2003
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Overview:

This document describes how to setup an Ethernet connection with a HP3 controller. It is assumed that the HP3 is Ethernet enabled. Basic understanding of TCP/IP and Microsoft Networking is not required but helpful.

Requirements:

HP3 Controller with Ethernet Capability – Controllers with Ethernet will have an internal Ethernet connection inside the controller in the front of the HPGL board stack. This connector is located on the bottom board. The location of this plug varies depending on the model and revision of the board. The connector is a black CAT 5 connection. Note: The Ethernet option is not officially released. When Ethernet is officially released there will be an Ethernet port on the back of the controller.

Network Setups:

Network setups can be very simple or complex. If you have a network administrator it will be advisable to seek their expertise. There are a number of ways to attach the HPGL controller to a network. The first setup uses a hub or switch. Every connection made on the network connects directly to the hub or switch. The wiring to the hub or switch is straight through CAT 5 network cable. The diagram below will illustrate this.

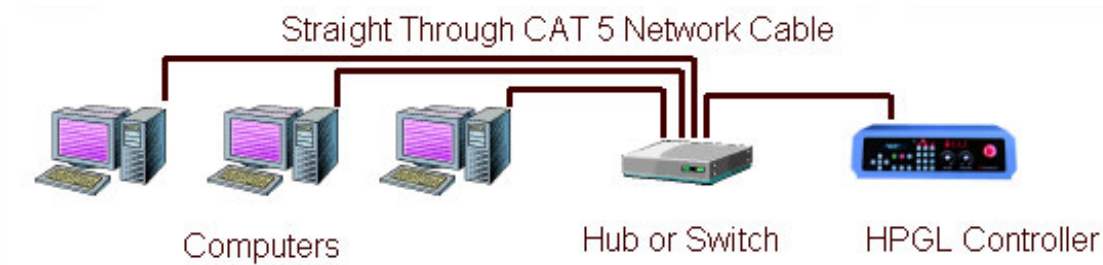


Figure 1 (Using a Hub or Switch)

If a network is not present at the location an indirect connection from the computer to the HPGL controller is possible. This involves one network interface card in the computer or laptop and a special network cable called a crossover cable that plugs directly into the HPGL controller. A crossover cable is necessary if you connect two network devices without the use of a hub or switch. The diagram below will illustrate this:

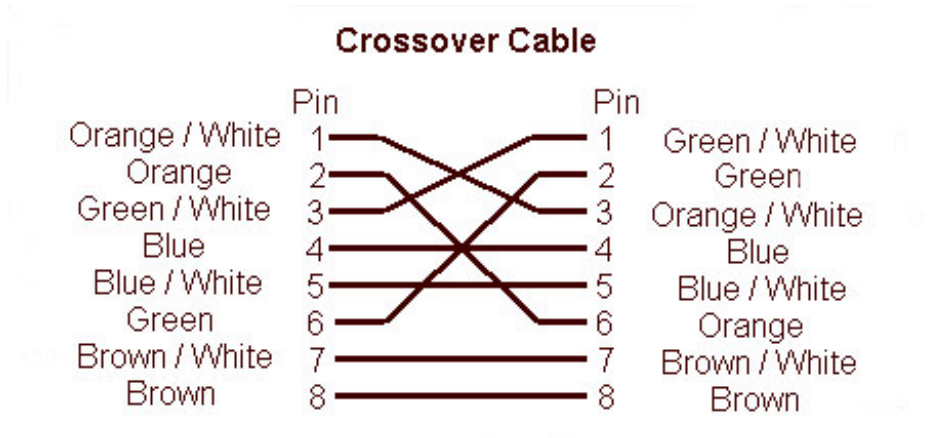


Figure 2 (Direct Connection)

Cable Wiring:

Both types of network cables (crossover & straight though) can be purchased at computer supply locations. It is also possible to create your own cables if you have the supplies and equipment.

Below are the pin outs for the crossover & straight through cables:



Notes:

Hold the RJ45 connector with the clip on the bottom.

Have the opening facing you.

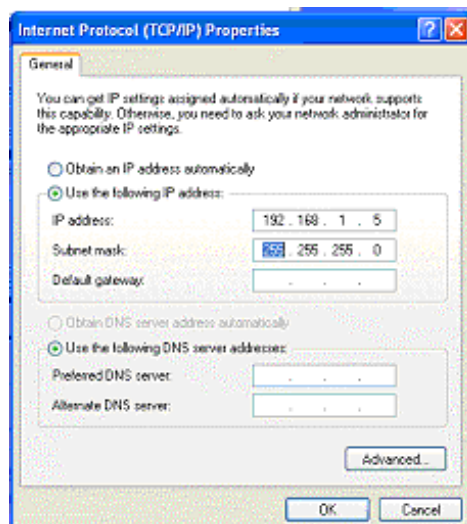
Standard Patch Cable

1	Orange / White	1
2	Orange	2
3	Green / White	3
4	Blue	4
5	Blue / White	5
6	Green	6
7	Brown / White	7
8	Brown	8

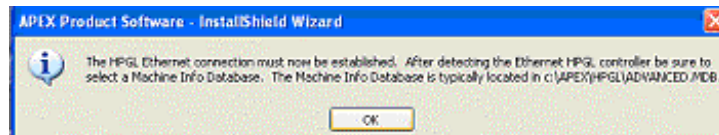
Software Setup:

Once the HPGL controller is physically connected to a HUB or directly to the controller using a crossover cable the software environment must be set.

1. Turn on the Computer and HPGL controller. Verify the Link light is on the PC or HUB.
2. Configure the network interface on the computer. Note: If you have network administrators seek his expertise.
3. Open the Control Panel.
4. Select the Network and Internet Connections link located in the control panel.
5. Next select Network Connections.
6. Right click Local Area Connection and select properties.
7. Double click TCP/IP in the text box.
8. Enter the following settings. These settings are generic and can not support every possible configuration: IP Address = 192.168.1.5 Subnet mask = 255.255.255.0

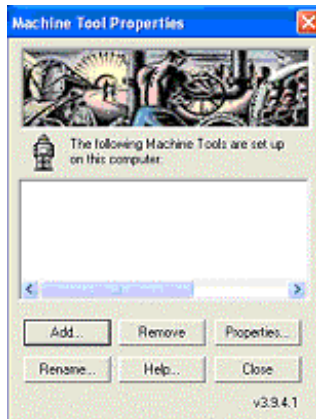


9. Press ok to dismiss the dialog box and save the settings.
10. Install APEX Product Software and Select the Ethernet Connection under HP3. (If APEX Product Software is already installed open the Machine Tools applet in the control panel to setup a machine connection.)
11. At the very end of the installation a dialog box will pop up reminding you to select a DBI database once the Ethernet connection is made.

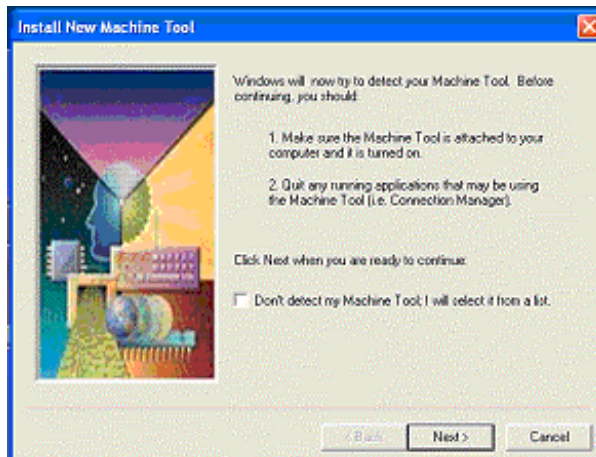


12. Press ok to dismiss the popup.

13. Press Add to add a new Ethernet connection.

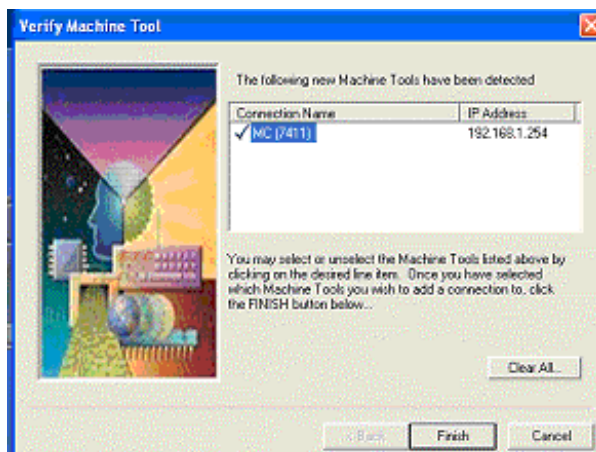


14. After you select Add a search dialog box will popup.

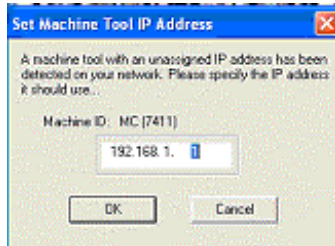


Press Next to discover the HPGL controller.

15. After scanning the network it will display the HGPL controllers located on the network.



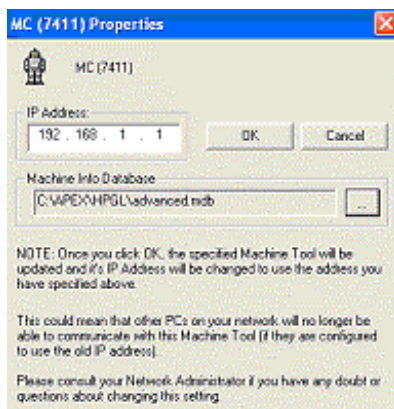
16. Highlight the controller and press Finish. Note: Every controller has a unique number.
17. A dialog box popup is displayed wanting to set the IP address for that particular controller. Accept the default parameter by pressing OK.



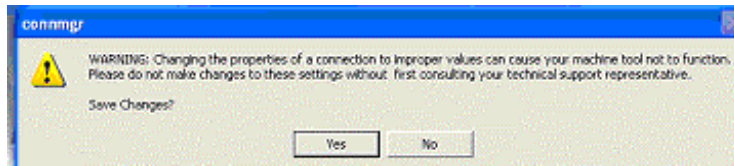
18. Highlight the newly made connection and select properties.



19. Select the Machine Info Database for this connection. The Machine Info Database is called advanced.mdb and is typically located c:\apex\hpgl.



20. A dialog box will prompt you if you want to save changes – select Yes.



21. The HPGL controller is now configured with an IP address and now is ready to be used by Job Server. For information regarding Job Server consult the online help.