



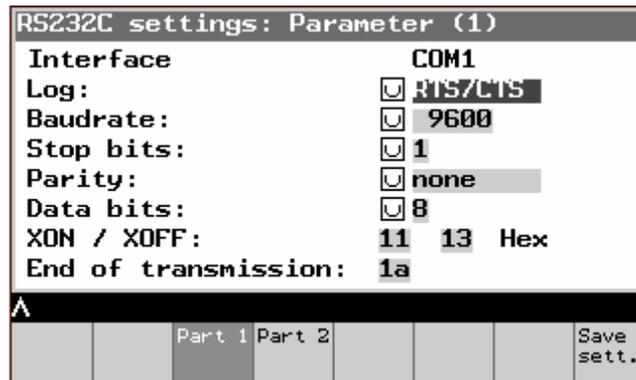
CNC Communications Setup RS-232 or Networked Ethernet Sinumerik 840D PC Based CNC's

Please note! The following information comes from our many years of experience in setting up RS-232 and Ethernet communications with CNC's. However, our experience also has taught us that many times same model CNC's differ from each other. So, please double-check this information in the Operator or Maintenance or Parameter manual that came with your machine.

1 RS-232 Settings

Whenever you enter the dialog for reading in or reading out a program your are given the opportunity to make changes to the RS-232 settings.

- Open Program Manager by pressing Program.
- Press soft keys "Continue" and "Read in" or "Read out" at the bottom of the screen.
- Press softkey RS-232 settings.
- Recommended settings:Log DC codes, Baudrate 9600, Data Bits 8, Parity none, Stop Bits 1



1.1 DNC Parameters

Set the SuiteFactory machine properties as follows:

The protocol is Generic RS-232, the Data Type is ASCII. Communication settings are as follows:

Sending: 9600, 7 bits, Even, 1 stop bit, XON/XOFF Wait.
Receiving 9600, 7 bits, Even, 1 stop bit, XON/XOFF Wait.

If you use the Remote Request feature for requesting files from your CNC control panel see Remote Request Technotes.

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1.2 Wiring – there are 2 possibilities

Use CCI's Modular SuiteCable or 24 AWG stranded, low capacitance computer cable with an overall shield (foil is fine and easier to work with.)

CNC (25 pin plug)	(9 pin socket)	DNC COM port or (25 pin socket)
1-----	shield	shield
2-----	2	3
3-----	3	2
4-----	8	5
5-----	7	4
7-----	5	7
6 -----		
8 -----		
20 -----		

1.3 Sending and Receiving DNC Files

1.3.1 To Get a File from the SuiteDNC database and send it to the Sinumerik 840D

Login to SuiteFactory Runtime and queue up the file to be sent.

At the CNC, open the Program Manager by pressing Program → [Continue] → [Read in] → [Start]. The “Read in” window displays the name of the program being read in and number of transferred bytes. The program is stored in the directory stated in the program header.

1.3.2 To Receive a File from the Sinumerik 840D

Login to SuiteFactory Runtime and queue up the file to be received by entering a unique file name and clicking RECEIVE.

At the CNC, open the Program Manager by pressing Program. Position the cursor on the program you want to send. (If you want to send out all displayed programs press [All files].) Press [Continue] → [Read in] → [Start]. The selected program(s) and subroutines are sent out.

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2 Networked (Ethernet) Setup

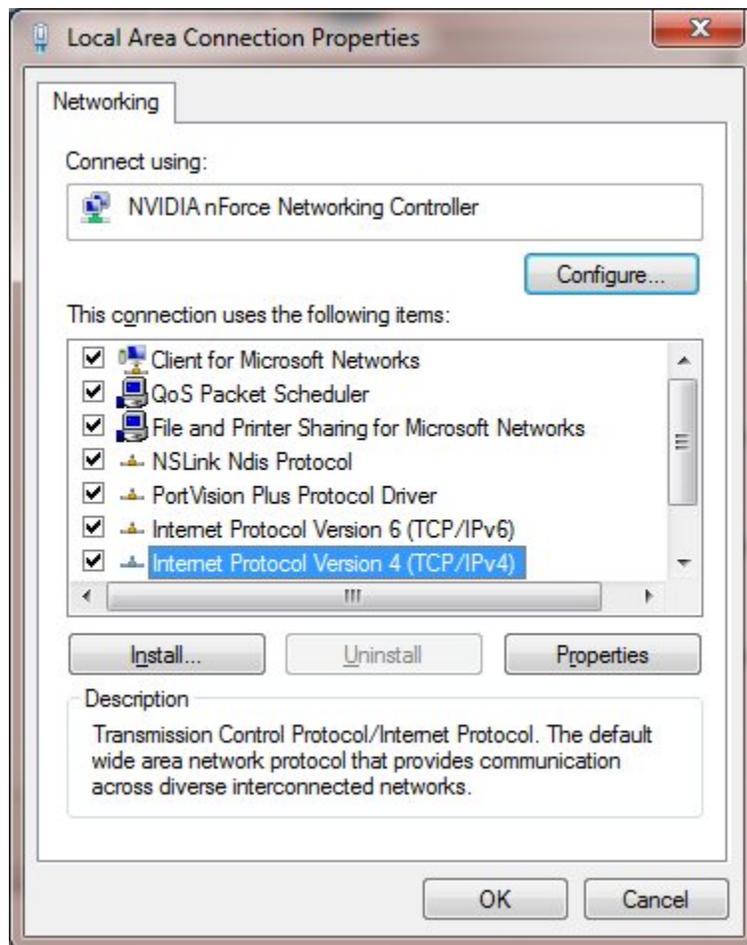
PC based models of Siemens CNC's run Windows XP. The PC has an Ethernet connection that is setup the same way as any PC would be, via the Windows Control Panel "Network Connections" icon. Communications between the CNC and SuiteFactory is done via a shared folder on the CNC's hard drive.

2.1 Accessing Windows on the Sinumerik 840D CNC

Cycle the main power off then on. On power up when you see the PCU version number appear in the lower right corner of the screen, press 3. Password is sunrise. Choose the Service Desktop.

2.1.1 Setting up the TCP/IP address

Go to Settings/Control Panel/Network Connections. Open Network Connections. Right click on Local Area Connections and select Properties. Now you should see the regular Windows Local Area Connections screen.



Scroll down to TCP/IP (Version 4 if there is a choice) and click properties.

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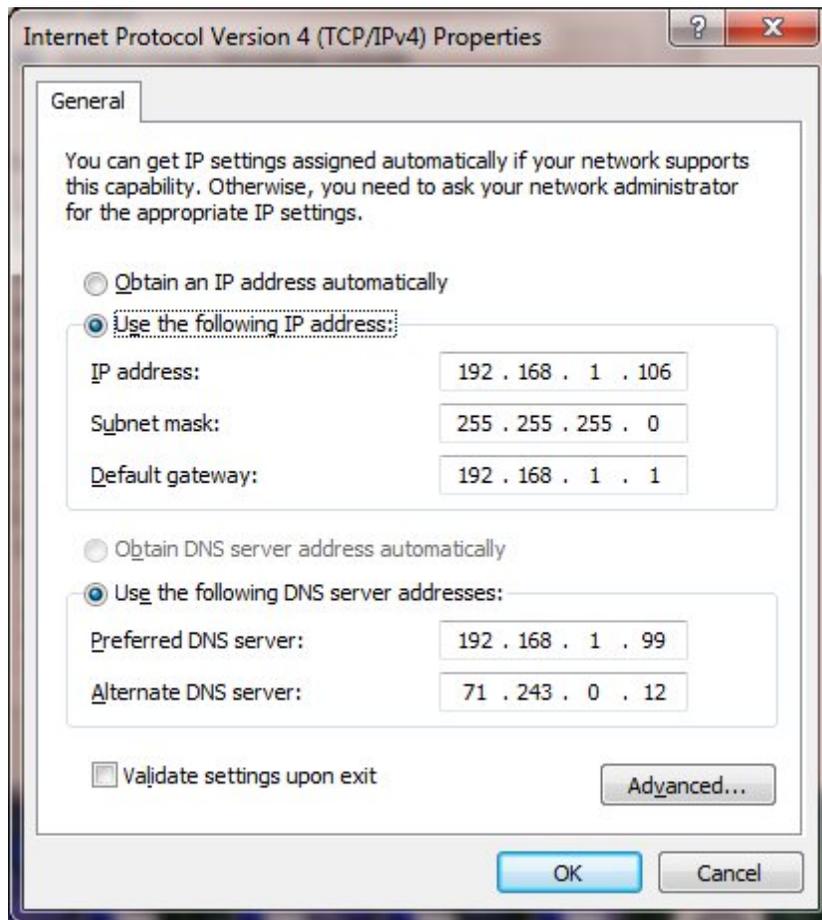
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The above is an example. You must set this up as per the requirements of your own network. It could be setup to obtain an IP address automatically or to use a specifically assigned unique address. We recommend an assigned address. Then you can use that IP address to access the CNC rather than trying to find it by a name.

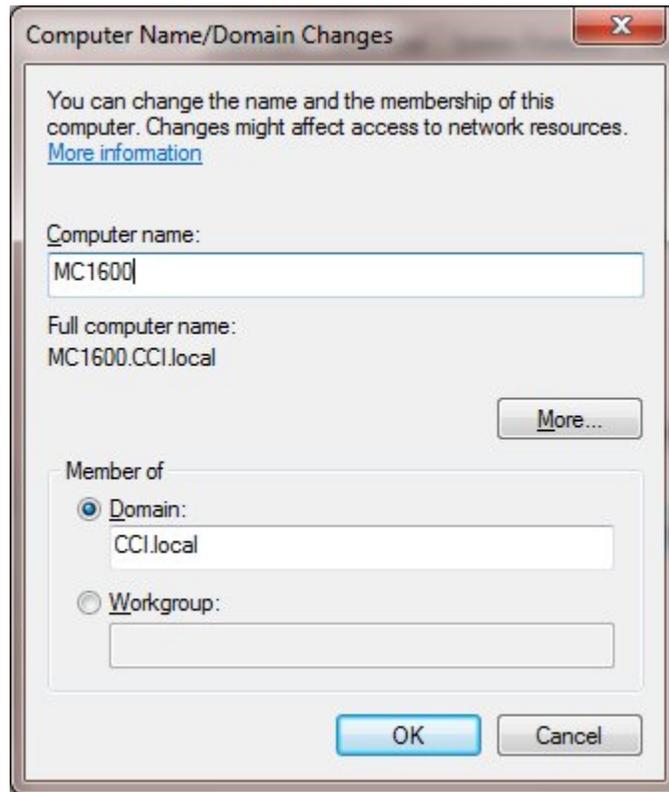
2.1.2 Changing Computer Name

If you wish you can change the default name of the CNC's PC to something meaningful to you. Highlight "My Computer". With the mouse pad right click. Select the Computer Name tab and then touch the "Change" button.

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You can name the CNC computer anything you'd like (no spaces please) so long that it is a unique name in your local area network. You can have your CNC's computer join a Domain or have it just part of a workgroup. It is entirely up to the networking requirements of you facility. You will have to reboot the CNC computer for these changes to take effect. ***Before you do that, complete the next three sections.***

2.1.3 Creating a Network Share

The Sinumerik 840D has predetermined a shared folder where the part programs are stored: F:\dh\mpf.dir. Also shared are arc.dir, spf.dir and wks.dir.

2.1.4 Windows Firewall

Under certain circumstances it might be necessary to disable the Window Firewall on the CNC PC. For example, your CNC is on a different subnet than the computer hosting the SuiteFactory software. This should not be a security problem since it is not common to give the CNC internet access. If you are installing this CNC on a large factory network you will need your IT department to work with you.

2.2 Exit from Windows and power off/on the CNC.

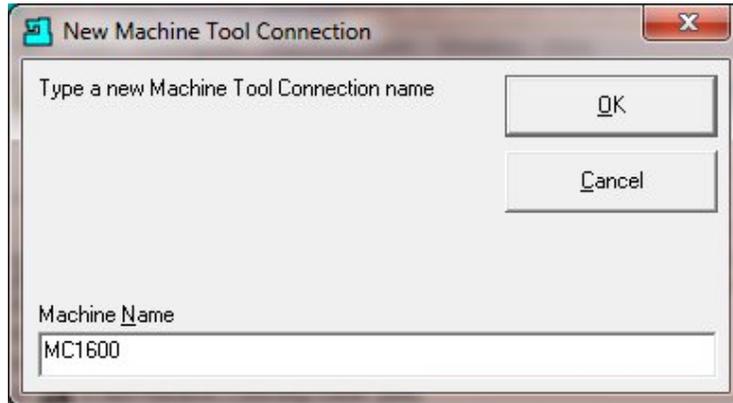
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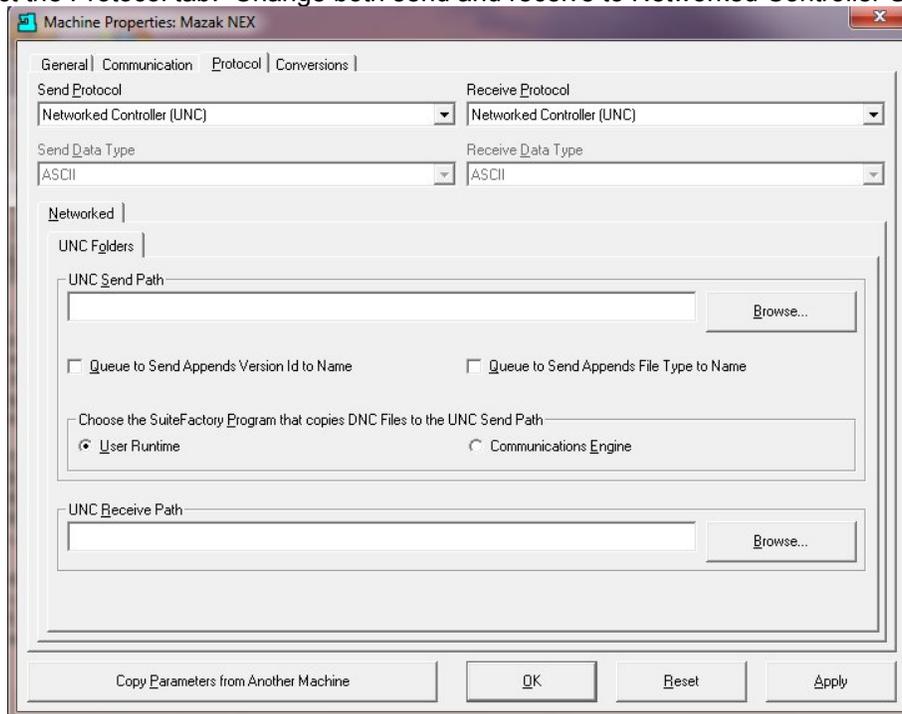
3 Setting up SuiteFactory for the Networked CNC

Login to SuiteFactory as administrator. At the main toolbar, click on Machines or select Configure/Machines. If this is a new machine, select New.



Enter the Machine's name. Click OK.

If not new, select the machine from the tree and click Properties. Now select the Protocol tab. Change both send and receive to Networked Controller UNC.



For both the UNC Send Path and UNC Receive Path click Browse and enter the path to the share folder on the CNC. Using the CNC's IP address is the most direct way to its shared folder. You can use the CNC's computer name if it is on a network with DNS (Domain Name System)

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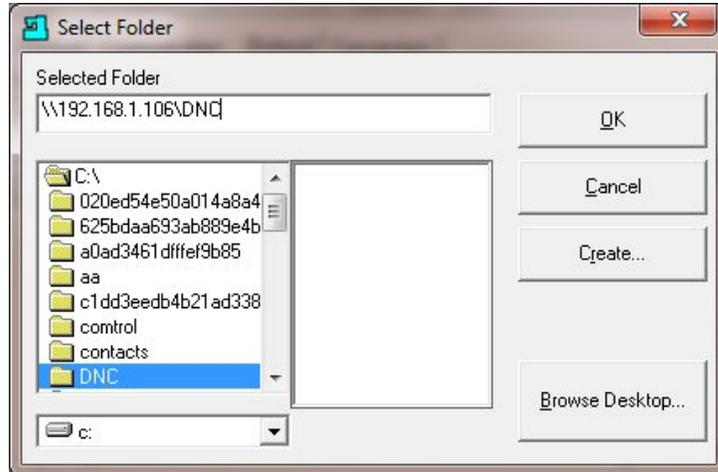
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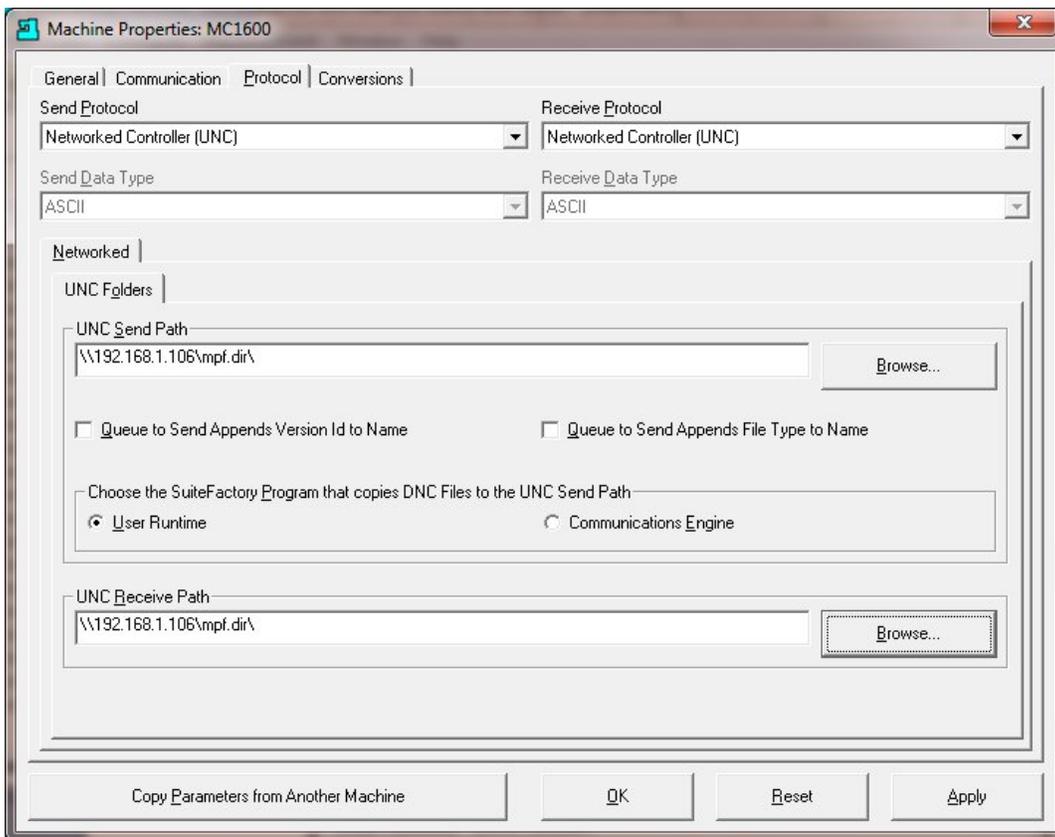
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services. Click Browse and enter the path manually. Note! The OK button will not be enabled unless the path you've entered actually exists and is accessible from the PC you are using.



Click OK.



Select "Queue to Send Appends Version Id to Name" if you have are set up as a multi-version system and you want to differentiate between versions sent to the CNC.

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Select "Queue to Send Appends File Type to Name" if your CNC requires a specific .ext. You can change the file type in the "Manage DNC Files" window.

Select "User Runtime" if you send and receive DNC files manually at a shop floor workstation.

Select "Communications Engine" if you use SuiteFactory's Remote Request feature from your CNC control panel.

Click OK.

3.1 Sending and Receiving Programs

3.1.1 To get a program from the DNC

- At the DNC computer, queue up the program you want to send to the Siemens CNC. If you have the right you can use SuiteFactory's filter function to create a list of files you wish to send. Click Send to send one file. Click Send All Listed DNC Files to send all the files in the list. The file(s) will be copied into the configured shared CNC folder.
- At the Siemens console press Menu Select. Select Part Programs. The list of files stored in the folder \MPF.DIR, including the ones sent from the DNC database, appear. Using the mouse select the program to be run. Select Load HD→ NC. **Note: the part programs sent from the DNC database initially appear with the extension, .MPF and the Type field is blank. After the load HD→ NC is completed, the .MPF is deleted and the Type is shown as MPF with an X in the Loaded field.**

3.1.2 To send a program to save in the DNC database

- At the Siemens CNC console press Menu Select. Select Part Programs. The list of available files stored in the folder \MPF.DIR appears. Unload any files you want to save in the DNC database.
- At the DNC computer, go to Manage DNC files. Select the machine. Enter the program name you to be fetched from the Siemens CNC. Click Receive. The list of available files in the shared CNC folder will appear. Select the program to be saved and click Receive. **Note: Loaded files are not shown in the list. You must unload them first.**

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