



TOTALFLOW

Technical Bulletin 148

Connecting NGC over TCPI/P Ethernet to PCCU/NGC Software

Totalflow Technical Bulletin
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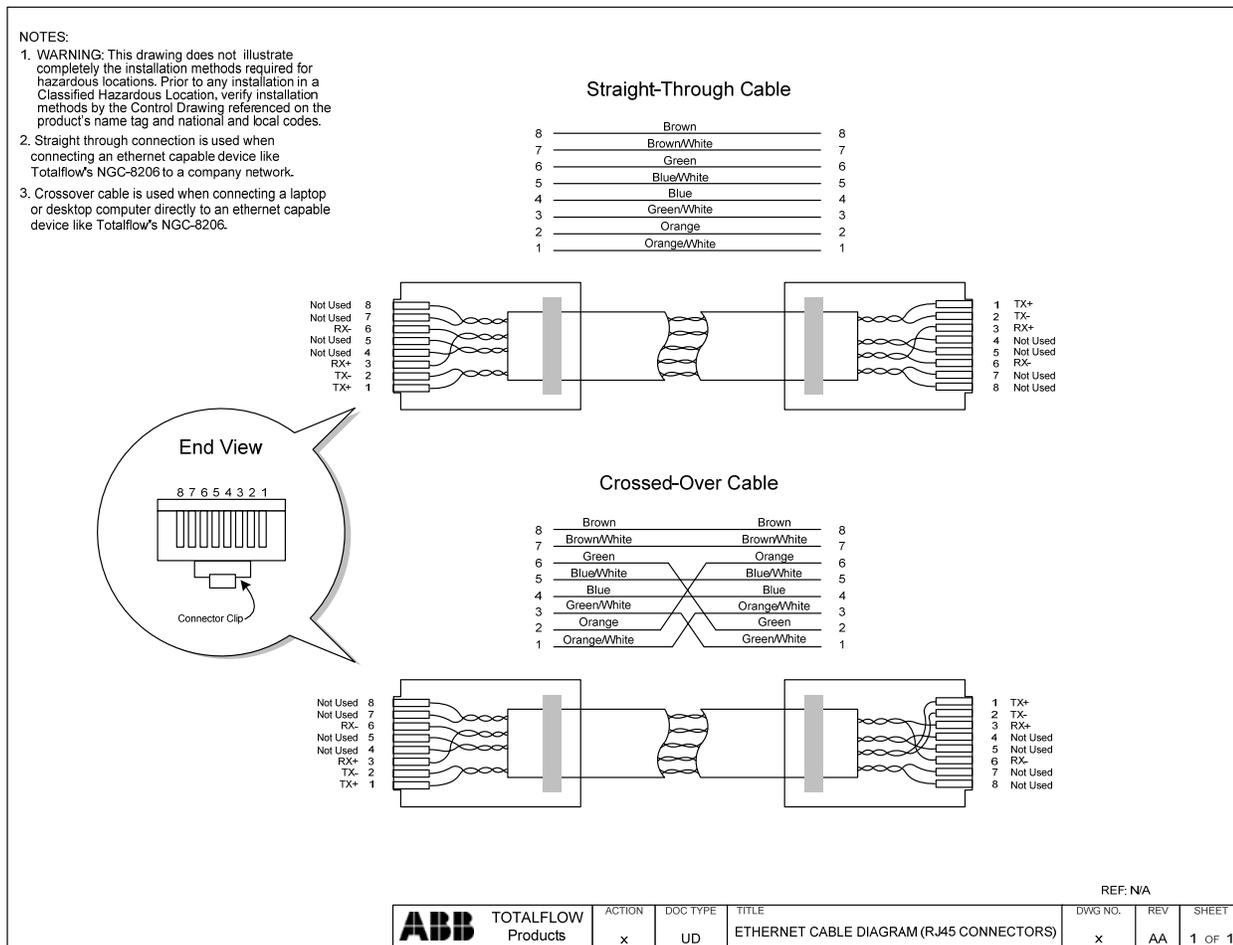


Purpose

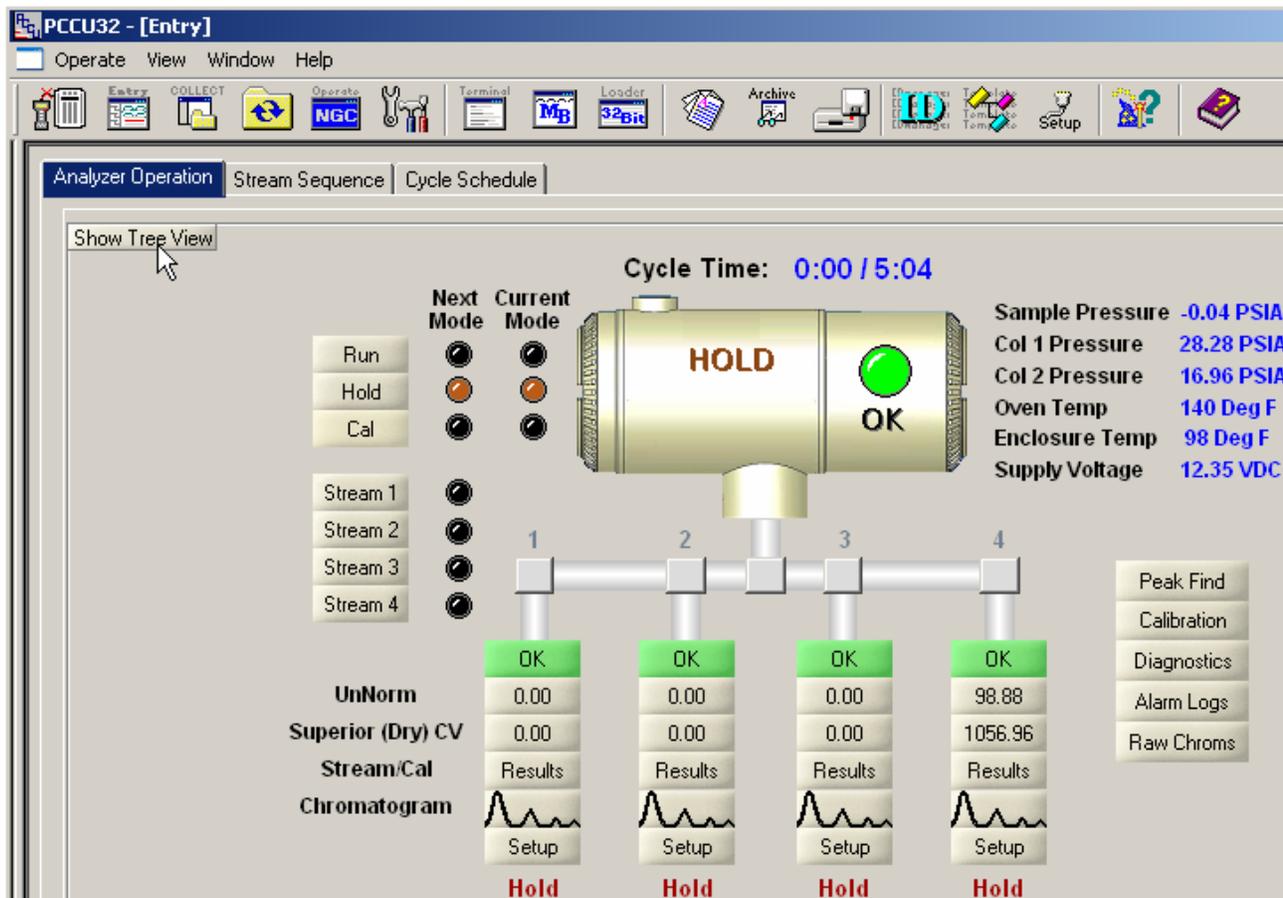
To describe the appropriate hardware wiring and software settings when connecting the NGC-8206 via Ethernet (locally and over a Local Area Network) to PCCU/NGC man machine interface (MMI) application.

Direct connection between laptop or desktop computer running PCCU/NGC MMI to NGC-8206 Gas Chromatograph

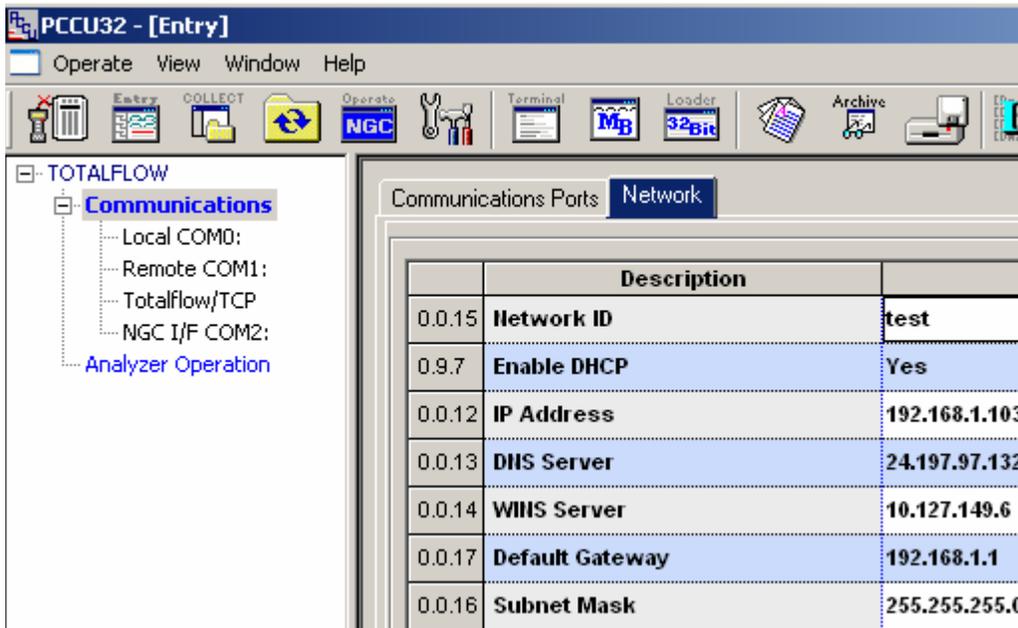
Acquire an Ethernet crossover cable (for direct connection) from a computer cable supplier or build one using the drawing below



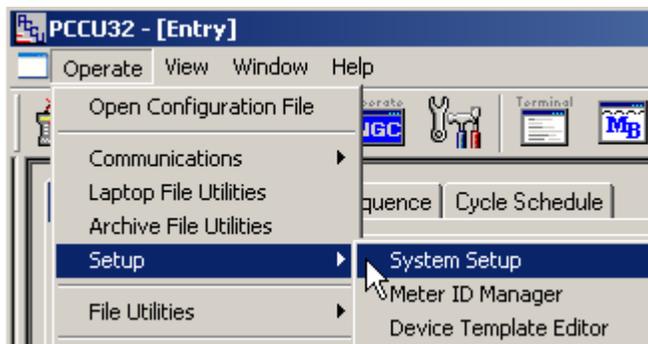
1. Connect locally to the NGC using the local PCCU communications port (RS-232 or USB depending on option supplied from factory)
2. Select "entry" and view the NGC "analyzer operation" screen
3. Select "show tree view" from the analyzer operation screen (see screen below)



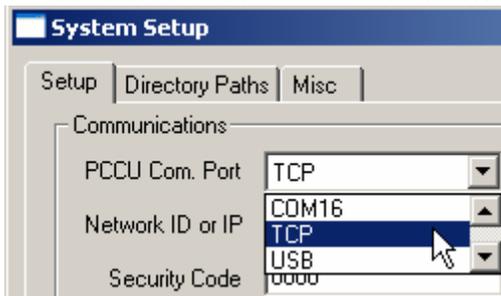
4. Under the “network” tab write down the “IP Address” to be used later when setting the IP address within PCCU/NGC application. You also have the option to change the IP address.
5. Send changes and note new IP address.
NOTE: If the NGC’s IP address or any other network parameters are changed the unit MUST be reset (using the reset button on the termination board) before the settings will become active within the NGC.



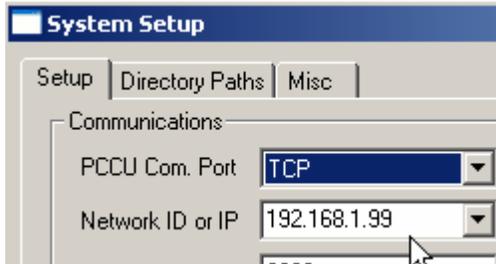
6. Disconnect local communications port from the NGC (either RS-232 or USB depending on option purchased)
7. Connect crossover Ethernet cable between laptop or desktop computer and NGC-8206
Using PCCU/NGC software select “operate”, “setup” and “system setup”



8. Select TCP as the “network ID or IP” hardware protocol



9. Enter the IP address previously programmed into the NGC-8206. IP address must match the address previously programmed in the NGC.



10. Close out setup screen and select “entry mode” and validate TCPI/P communications

Received communication link failed error message while attempting to connect using TCPI/P

Possible Causes:

- Verify a crossover Ethernet is being used and not a straight through Ethernet cable
- If using a network hub or network, verify firewall is not blocking the IP address
- If laptop is connected to a network, verify a Virtual Private Network (VPN) is not being used to access a corporate network. The VPN may need to be disconnected before a local Ethernet connection is possible.

Network connection between laptop or desktop computer running PCCU/NGC MMI to NGC-8206 Gas Chromatograph

Acquire an Ethernet straight through cable (Network) from a computer cable supplier or build one using the drawing supplied above.

Network Connection: Other network changes will need to be made when connecting the MMI over a Local Area Network (LAN). These include:

- Subnet Mask
- Default gateway
- DNS Server (only required when using DHCP)
- DHCP enabled?
- WINS Server

Contact your IT consultant for appropriate network settings.

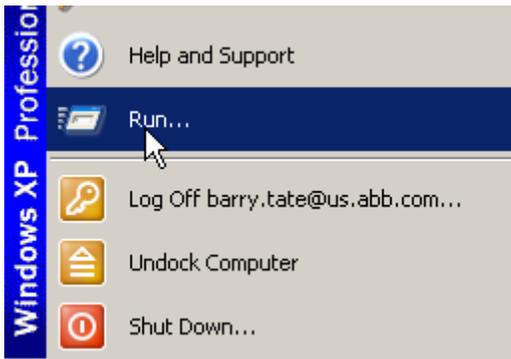
LAN Network Setting Help:

Determine the IP address to be used by the NGC and note for later entry into the NGC network parameters

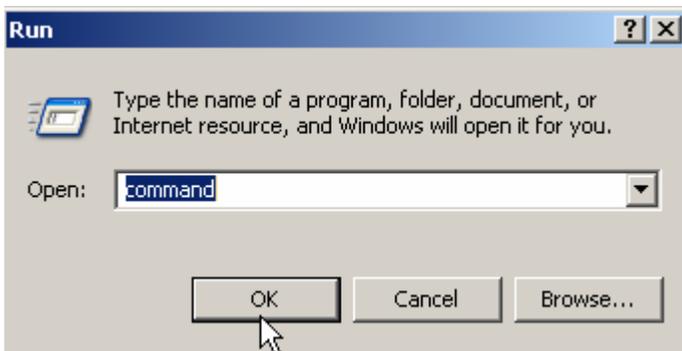
Acquiring TCPI/P Network Settings:

Using a PC that is currently attached to the same TCPI/P LAN shared by the NGC

1. Select “start” “run”



2. Type “command” without the “” and then press the OK button



3. Once you see the command prompt, type “ipconfig /all” without the “” and a space between the letter g and /.

```

C:\WINNT\system32\command.com
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.
H:\>ipconfig /all
  
```

4. The following PC and LAN network settings will be displayed. The actual values have been removed from this example. Note the *subnet mask*, *default gateway*, *DHCP server* and *DNS server*. This information will need to be programmed into the NGC’s network section. The IP address will be unique and provided by your IT consultant.

```

Dhcp Enabled. . . . .
Autoconfiguration Enabled . . . . .
IP Address. . . . .
Subnet Mask . . . . .
Default Gateway . . . . .
DHCP Server . . . . .
DNS Servers . . . . .
  
```

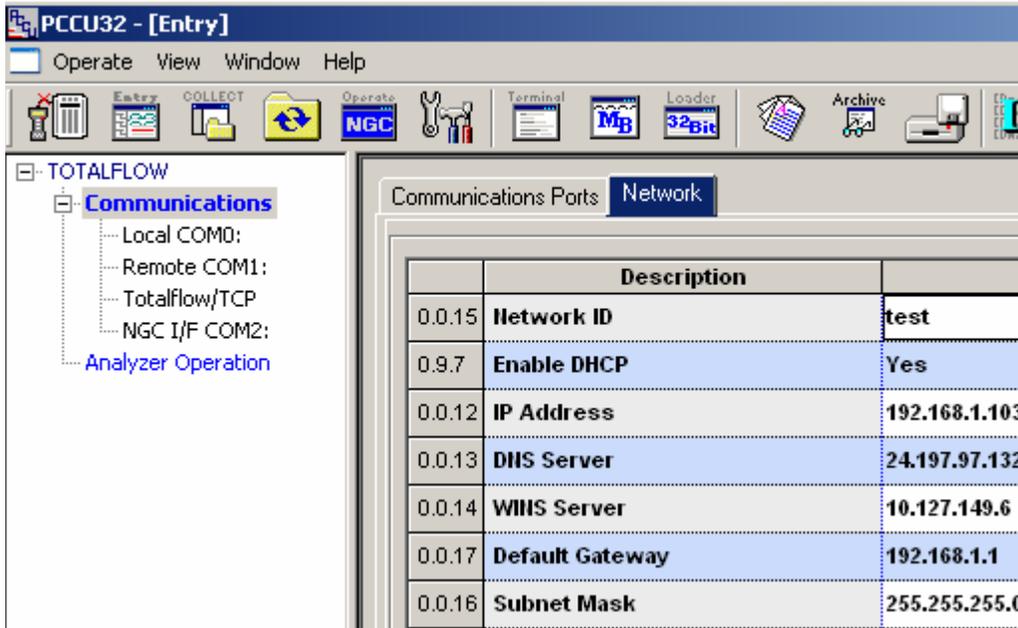
5. Again, the NGC network settings are located under “communications”, “Network” tab (see picture below)

Caution: A new Dynamic IP address may be automatically assigned to the NGC if the unit’s power is cycled. For this reason, it may be desirable to disable DHCP and enter a static IP address.

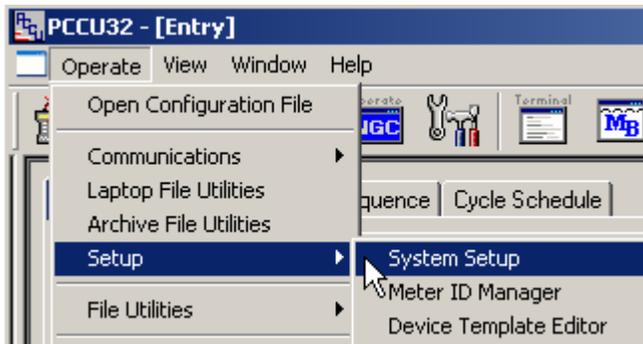
Programming NGC Network Parameters:

1. Connect locally to the NGC using the local PCCU communications port (RS-232 or USB depending on option supplied from factory)
2. Select “entry” and view the NGC “analyzer operation” screen
3. Select “show tree view” from the analyzer operation screen (see screen below)
4. Enter the following network parameters that were previously acquired from the network PC including:
 - Subnet Mask
 - Default gateway
 - DNS Server (only required when using DHCP)
 - DHCP enabled?
 - WINS Server
5. Enter the IP address if DHCP disabled (this will be provided by the IT department)
6. Send changes and note new IP address.

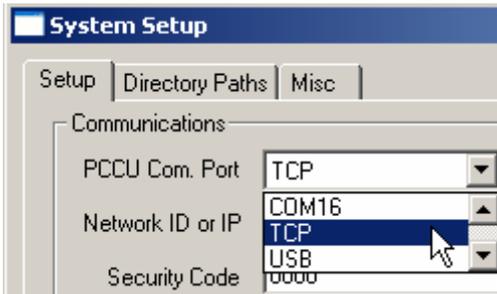
NOTE: If the NGC’s IP address or any other network parameters are changed the unit MUST be reset (using the reset button on the termination board) before the settings will become active within the NGC.



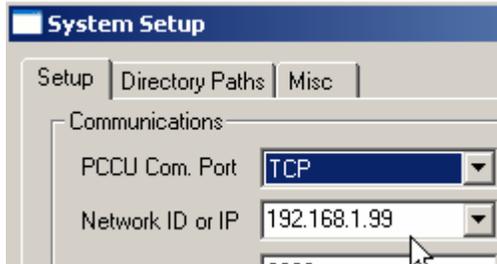
7. Disconnect local communications port from the NGC (either RS-232 or USB depending on option purchased)
Connect straight through Ethernet cable between NGC-8206 and TCPI/P LAN
Using PCCU/NGC software select “operate”, “setup” and “system setup”



Select TCP as the “network ID or IP” hardware protocol



Enter the IP address previously programmed into the NGC-8206. IP address must match the address previously programmed in the NGC.



Close out setup screen and select “entry mode” and validate TCPI/P communications

2. Conclusion

The above steps should have allowed you to successfully connect the PCCU/NGC software to the NGC-8206 over a local or LAN TCPI/O Ethernet connection. If you still encounter issues please contact Totalflow Technical Support at (800) 442-3097 option #2.