Test Script 5003_5003.stn

Computer A ->
     COM-5003 USB / TCP-IP Gateway ->
        COM-5003 USB / TCP-IP Gateway ->
           Computer B.

Objective: Illustrate the COM-5003 initial IP configuration and the data transmission from one computer to another via two COM-5003s back to back.

Note: This test can also be conducted with a single computer and a LAN switch or Hub.

Step 1: LAN cables connections
Connect Computer A to the left COM-5003 (assuming the RJ-45 connection facing you.)
Connect Computer B to the right COM-5003.
Use a cross-over LAN cable for a direct connection, of a regular LAN cable if connecting through a LAN Hub or Switch.
Power up the ComBlock assembly. The green LAN Link LEDs (close to the RJ-45 connector on the COM-5003) should be on.
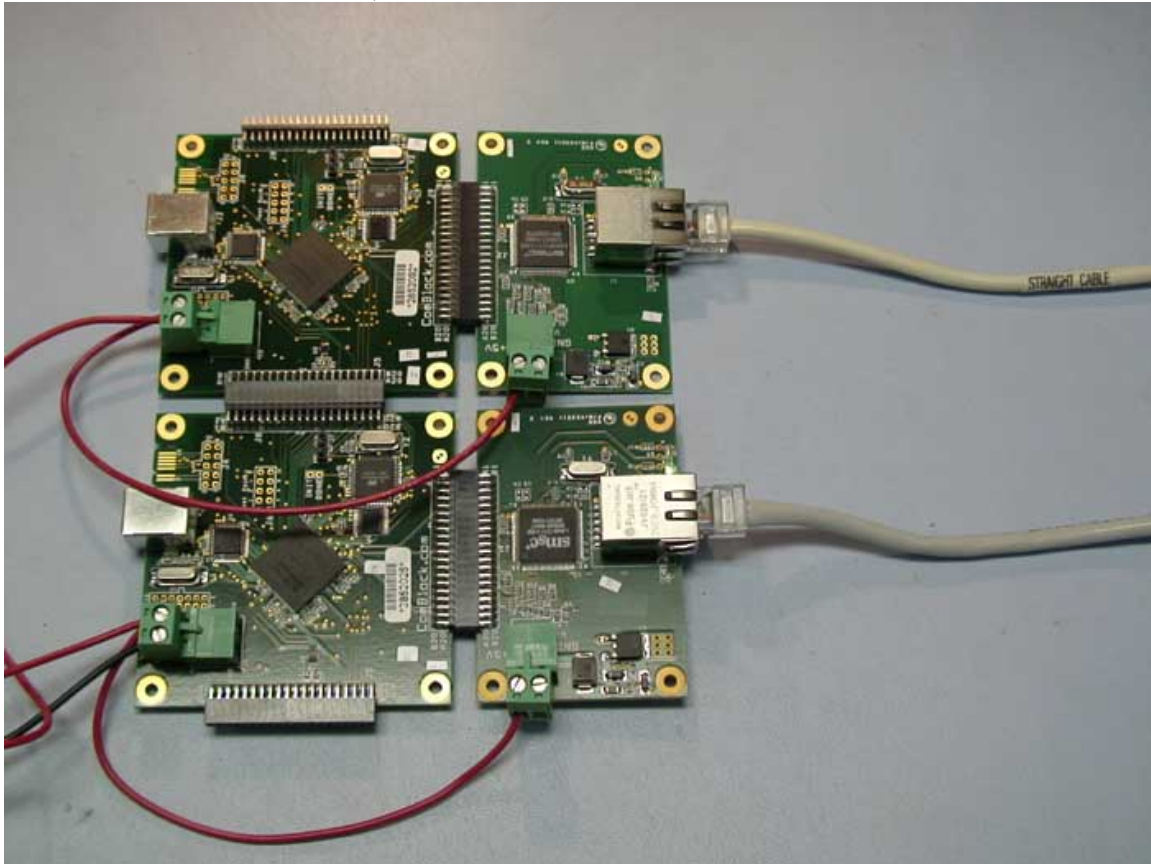
Step 2: IP Addresses configuration
If the COM-5003 IP address has previously been configured, this step can be skipped.

Each COM-5003 must be assigned a unique static IP address. Generally, if your computer's IP address is w.x.y.z1, the COM-5003 IP address should be selected to be w.x.y.z2, where z2 is a unique number in the range 1 – 254.

In order to access the COM-5003 for the first time, a USB connection is needed. (The COM-5003 is initially configured as USB gateway).

Start the ComBlock Control Center software (supplied on the ComBlock CD).
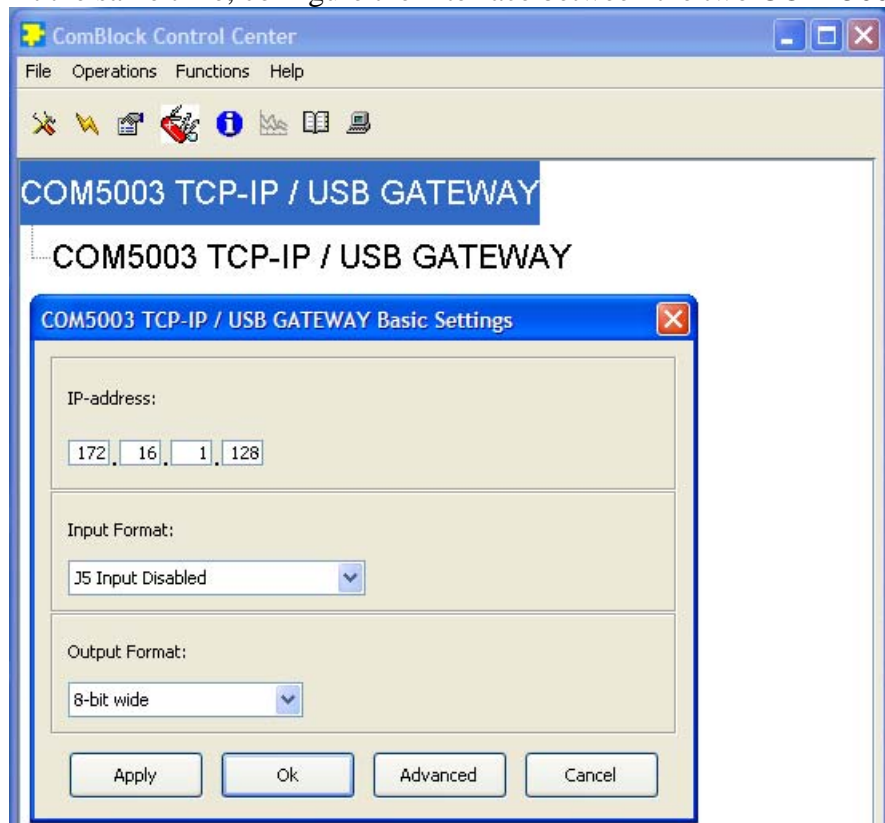Connect to the COM-5003 over the USB connection.
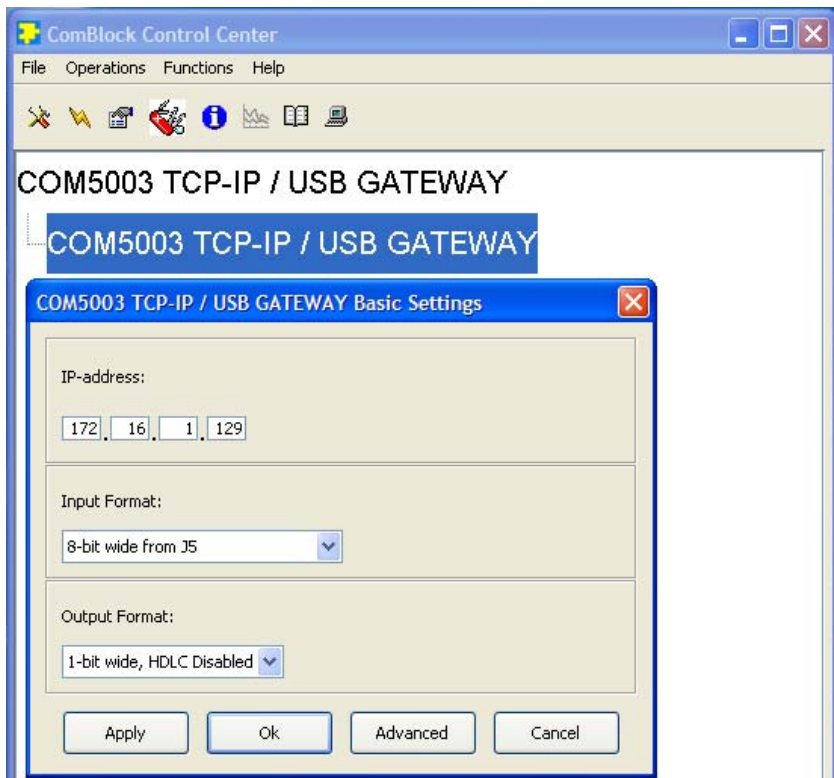Enumerate (click on the 2nd button from the left).
Highlight the COM-5003.
Open the settings window (click on the 3rd button from the left).
Enter the IP configuration as shown below.
At the same time, configure the interface between the two COM-5003 to be 8-bit parallel.


Configuring the first COM-5003 in the transmission link. Press OK when done.

Configuring the second COM-5003 in the transmission link. Press OK when done. The IP addresses are configured.

Next, switch the COM-5003 from USB gateway to TCP-IP gateway. To do this, click on the swiss army knife button and change the configuration index from 2 to 3 and press the Set Default button as shown below:
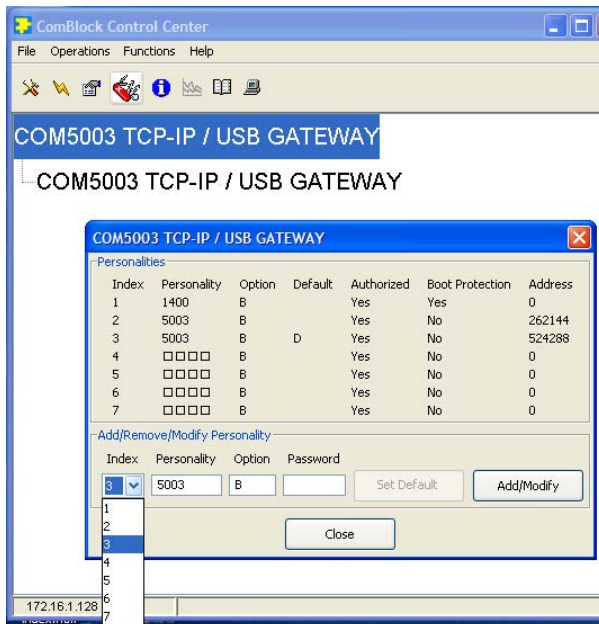
Do not reboot now, as the other COM-5003 must also be switched from USB to TCP-IP gateway. Once both COM-5003 are configured as TCP-IP gateways with new IP addresses, recycle power on the ComBlock assembly to enact the IP address changes.

Switch the ComBlock Control connection from USB to TCP-IP: click on the left-most button and select the IP address of the first COM-5003 in the link. Pinging the IP address should be successful.
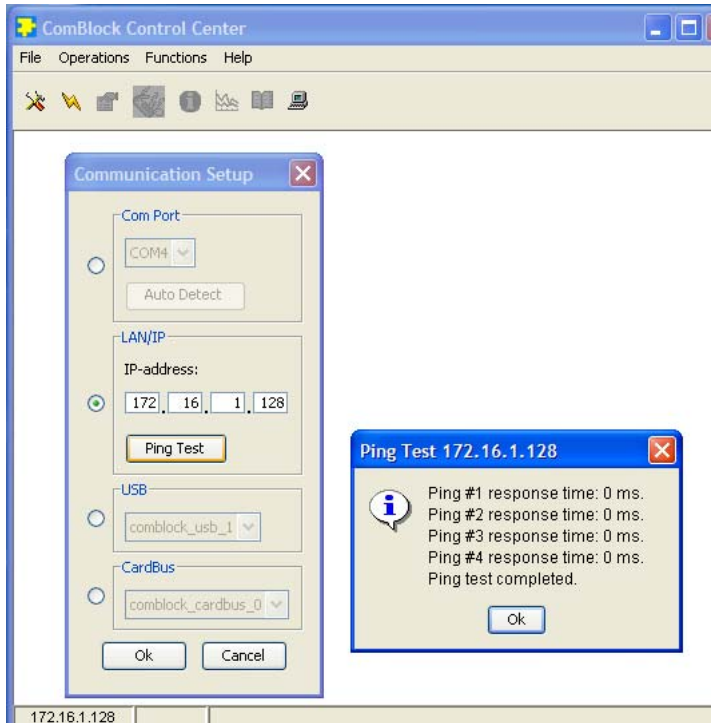

Step 3: Hyperterminal configuration
At this stage, data can be transmitted from end to end using custom applications, or ready-to-use programs such as Hyperterminal (available on Windows OS computers) or the Send/Receive utilities available under the ComBlock Control Center Functions menu.

Let's start with Hyperterminal. Two hyperterminal applications should be configured: one for sending, one for receiving. Hyperterminal is generally found under Start | All Programs | Accessories | Communications | Hyperterminal.
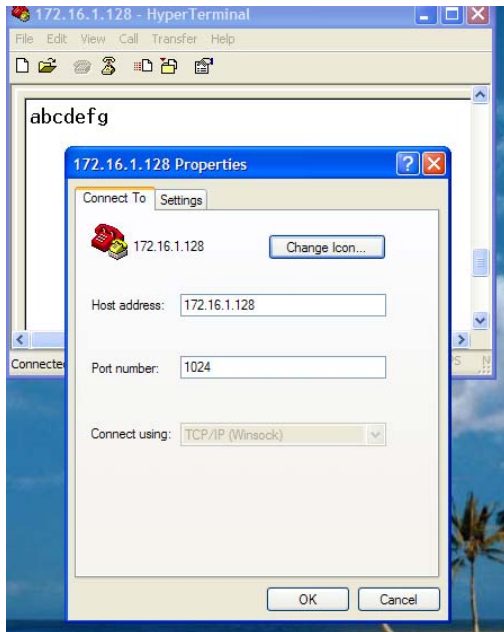
Configure the sending Hyperterminal with "TCP-IP (Winsock)" connection, IP address as the first COM-5003 IP address, port number 1024. Then configure the settings as shown below:
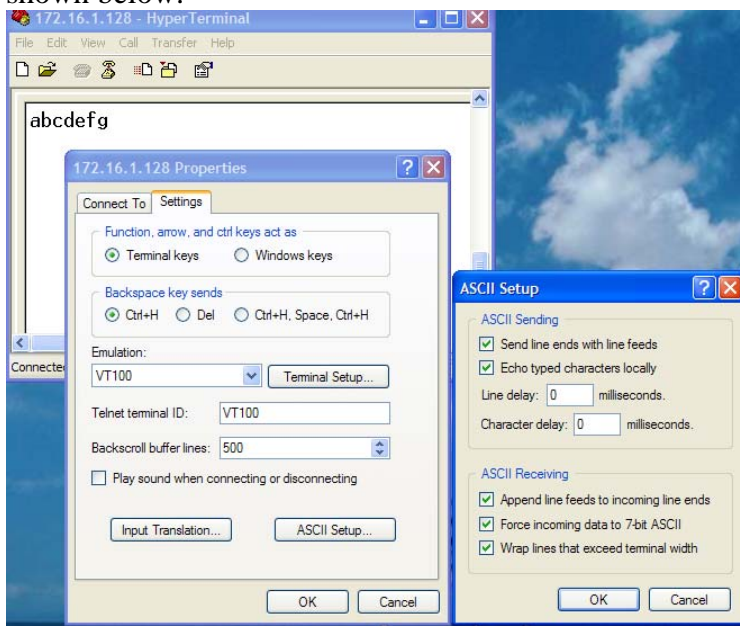

Once finished, save. Create another Hyperterminal for the receive functions, then save.

Power up the ComBlock assembly. Press the "Call" button on each Hyperterminal. The lower-left message should show "Connected".

At this point, the user can type text from the sending Hyperterminal and verify that the same text is received at the other end. One can also check that the number of bytes transmitted is the same as the number of bytes received by comparing status registers SREG1 through 4 on the transmit side with SREG 5 through 8 on the receive side. The

status registers are displayed by highlighting the COM-5003 of interest, then clicking on the 5th button from the left (blue I information button).
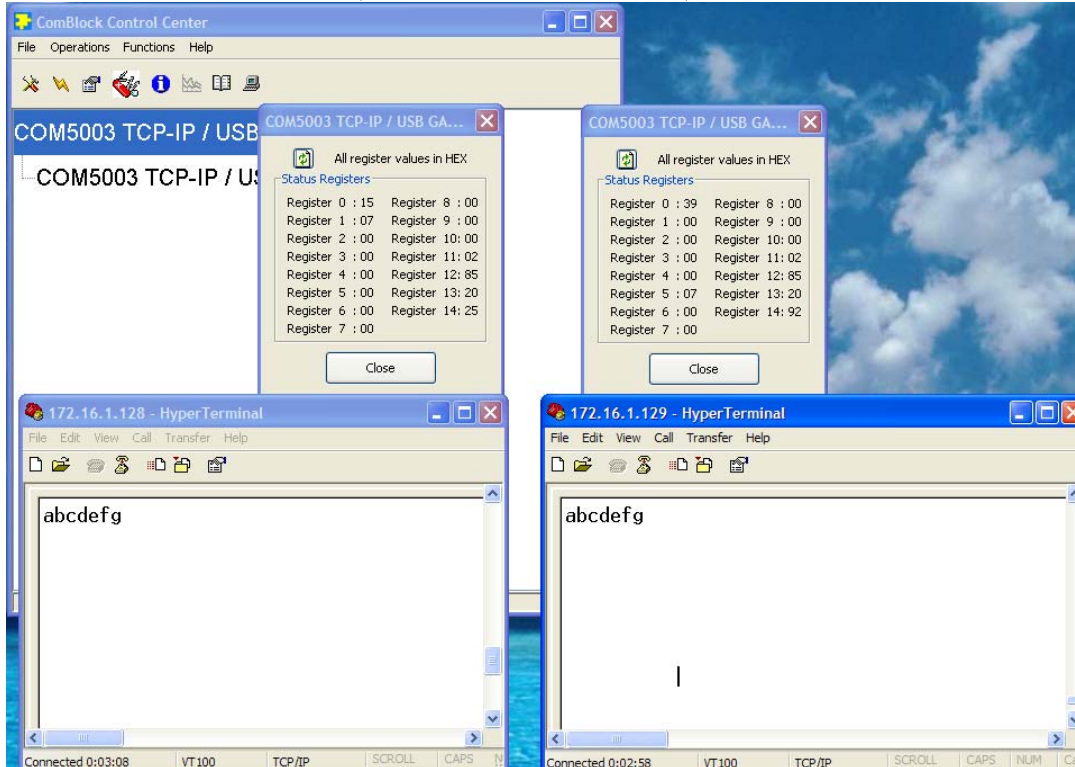
If an oscilloscope is handy, the user can verify that a 25ns pulse is sent between the two COM-5003s on the 40-pin connector pin B1 for each byte being transmitted.

Step 4: Send text file from the ComBlock Control Center
A utility to send a file is available within the ComBlock Control Center, under the "Functions" menu. But first, make sure to close the sending Hyperterminal to release the IP port. Highlight the first COM-5003 and send a text file. The file should be received by the Hyperterminal at the other end of the link.

Note: make sure the file you are sending is composed of visible characters. A .txt file generally is.