How To Provide Logging Data to a 3rd Party Device

This “How To” document describes three possible methods for send logging data from an XXT system into a 3rd party Logging Device via a DB9 Serial Port (COM Port) interface.

Some of the various factors that may influence your choice of method include:

1) How many COM Ports do you have on your PC?
2) Do you have an XL50?
3) What kind of cables do you want to use to interconnect things?

With the release of xxMWD/PC™ Program Suite V02.10, the default setting for xxNETserver’s “Serial Port Type” parameter was changed from “Network” to “Gateway”. This change was made to ensure that Toolbus communications remain robust (as the system continues to evolve and packet counts increase) by removing extraneous packets from the Toolbus.

“Gateway” means that the only packets which come out of the PC COM Port(s) are packets relevant to the XL50 and any nodes actually connected to that XL50 (“Serial Device 3” is a special case as noted later) – this is what we want when connected to a Tool via an XL50.

“Network” means that any and every packet seen by xxNETserver will come out of the PC COM Port(s) – this is what we want when connected to 3rd Party logging devices.

Because the default setting of xxNETserver’s “Serial Port Type” has changed from “Network” to “Gateway”, the data packets used for logging to a 3rd Party device may not be present in the same way that they were before, resulting in the possible need for users to make a slight change in the way things get configured for logging data to a 3rd Party device.

The bottom line is: Whenever a Tool is connected to a PC via an XL50, xxNETserver on that PC must have its “Serial Port Type” set to “Gateway”. When a Tool is not connected, the “Serial Port Type” can then be set to “Network” if so desired.

As will be demonstrated in the three methods that follow, the two primary settings of interest when configuring a system for 3rd Party logging are:

1) xxNETserver ➔ Setup ➔ Serial Port Type (“Gateway” or “Network”)
2) xxNETserver ➔ Connections ➔ Configure COM Ports (“Serial Device 3, Output-Only”)

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Method #1  (Not Recommended)

Equipment Required: "Straight-Through" Male/Female DB9 Serial Cable  
XL50 with 6-Pin KPT Toolbus Connector  
6-Pin KPT to DB9 Female Adapter Cable  
6-Pin KPT Tool Cable

This method uses the same equipment and cabling that most customers have already been using to date. Method #1 is not the recommended solution, but it may be the most practical one. Connect the XL50 to the PC’s COM Port in the usual manner, using the “Straight-Through” Male/Female DB9 Serial Cable. Then connect the XL50’s Toolbus Connector to either:

a) A Tool (using a 6-Pin KPT Tool Cable), or
b) The 3rd Party’s COM Port (using the 6-Pin KPT to DB9 Female Adapter Cable)

On the Menu Bar of xxNETserver, click “Connections”, then “Configure COM Ports” then tick the checkbox for “Serial Device 1” and assign the COM Port you’re using as shown below:

The key to successfully using this Method #1 is simply to obey the following two rules:

1) When connecting the XL50’s Toolbus Connector to a Tool, xxNETserver must have its “Serial Port Type” set to “Gateway”.
2) When connecting the XL50’s Toolbus Connector to the 3rd Party COM Port, xxNETserver must have its “Serial Port Type” set to “Network”.

Here’s how to set xxNETserver’s “Serial Port Type” to either “Gateway” or “Network”:
Method #2 (Recommended for PCs with only 1 COM Port)

Equipment Required: A DB9 Female/Female “Crossover” or “Null Modem” Serial Cable

For just connecting up to a 3rd Party device, this is the preferred solution because:

a) It doesn’t require an XL50.
b) The ASCII data stream sent to the 3rd Party is free from the non-readable “polling data” that appears on the Toolbus making the data much easier to view on a monitor.

To use this method, simply connect the PC’s COM Port to the 3rd Party’s COM Port using a DB9 Female/Female “Crossover” Serial Cable (also known as a “Null Modem” Serial Cable). Alternatively, you could use a DB9 “Straight-Through” Serial Cable with a DB9 “Null Modem Adapter” plugged onto one end of the cable.

Now go to the xxNETserver window and click on “Connections” → “Configure COM Ports”

This will open the “Configure COM Ports” window:

In this window, tick the “Serial Device 3” checkbox, select your PC’s COM Port, click the “Output-Only” button and specify the Baud Rate for talking to the 3rd Party device, then click “OK”. If at other times, you wish to use this COM Port to connect to a Tool via an XL50, just unplug your 3rd Party logging cable from the PC’s COM Port and follow the guidance for connecting to a Tool as described in Method #1 on the previous page.
Method #3 (Recommended for PCs with 2 or more COM Ports)

Equipment Required: Two DB9 COM Ports on your PC (native or USB-to-Serial, etc)
A DB9 Female/Female “Crossover” or “Null Modem” Serial Cable
“Straight-Through” Male/Female DB9 Serial Cable
XL50 with 6-Pin KPT Toolbus Connector
6-Pin KPT Tool Cable

You can configure a setup where you can do everything without ever having to plug or unplug anything or change any window settings. Just set everything up once and you’re good to go.

1) Make sure xxNETserver’s “Serial Port Type” is configured as “Gateway”:

![xxNETserver Configuration Screen]

2) Go to xxNETserver “Connections” → “Configure COM Ports” and set things as shown here:

   a) Serial Device 1 is the COM Port (COM1) connected to the XL50
   b) Serial Device 3 is the COM Port (COM2) connected to the 3rd Party’s COM Port

![Configure COM Ports]

In this example, connect the PC’s COM1 to the XL50 using the “Straight-Through” Male/Female DB9 Serial Cable, connect the PC’s COM2 to the COM Port on the 3rd Party device using the DB9 Female/Female “Crossover” or “Null Modem” Serial Cable, and connect the Tool to the XL50’s Toolbus connector, using the 6-Pin KPT Tool Cable.
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