# Using OPC90 with DBDOC / Bailey WinCAD

DBDOC by G. Michaels Consulting Ltd - contact 866.438.2101 from the United States and Canada or Phone (+1) 780.438.2101 - can use the OPC90 MUXCIU block (see MUXCIU for more details) to gain access to all Bailey interface types. It is especially well suited for the SCSI and RS232 port of the INICI03 (INICT03A / IMMPI01 cards). This document provides a general overview on how to set up OPC90 and DBDOC to accomplish this task. Note a second MUXCIU block is often added to support simultaneous communication with ABB Composer or WinCAD software along with DBDOC.

Let's setup OPC90 first. Run OPC90 and select File->Open. Select the file called DBDOC.CFG found in the CFG subdirectory. Current users of OPC90 just need to add a MUXCIU block (named DBDOC for this example) to their existing database. The OPC90 program window will look something like:
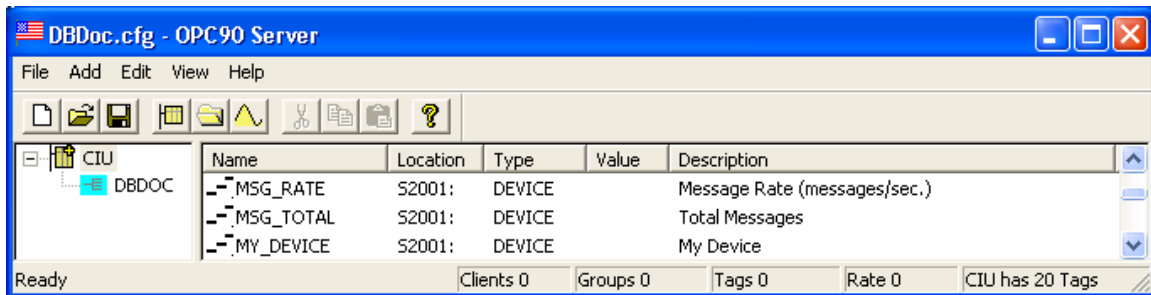

Next right click on the CIU block and select properties. The following dialog will be displayed:
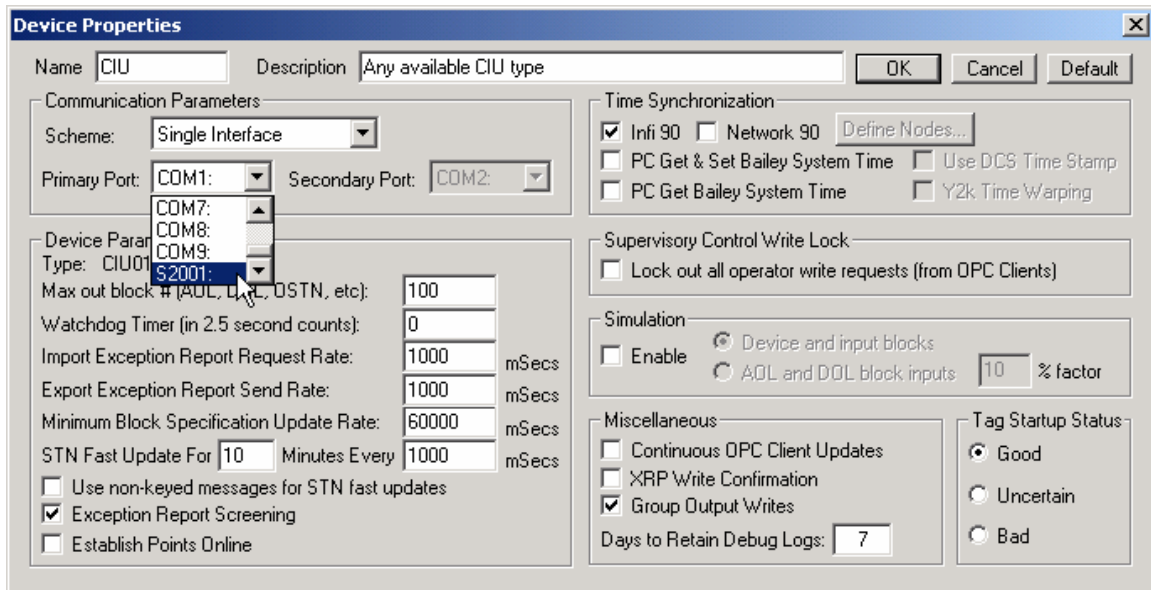
This dialog allows selection of the communication port OPC90 uses to communicate with the ABB Bailey interface (CIU). Currently it is set for COM1: and needs to be changed to match the PC port currently cabled to the CIU. This example shows the port setting about to be changed to S2001: which represents SCSI ID 1. Note that the SCSI port selections are only included in the list box when OPC90 is started after the Bailey SCSI interface is powered up and attached to a PC SCSI card (see the sections on "Add" devices and DEVICE block for more information). Click on OK to save the port selection.

If the selected port is a PC COM port, the baud rate setting for that port must be set to match the setting of the CIU port. If the selected PC port is SCSI, this step is not required. For maximum throughput, RoviSys recommends setting the CIU port to its maximum available rate which is typically 19200 baud. If your CIU speed is less than 19200, it may be that you have long or poor communication lines, so do not change the speed.

Select Edit->Ports which brings up the following dialog:
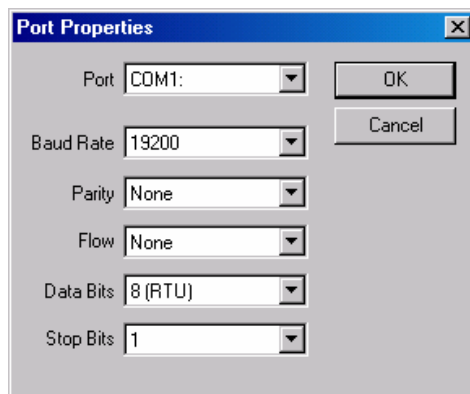
Use this dialog to match the PC COM port settings to the CIU port settings. Generally only the baud rate setting needs to be adjusted.

Next verify the OPC90 "Run as Service" and "Startup In Runtime" option are selected. Existing users that have OPC clients attached to OPC90 do not need to enable these options. Select View and verify a check mark is next to this option:
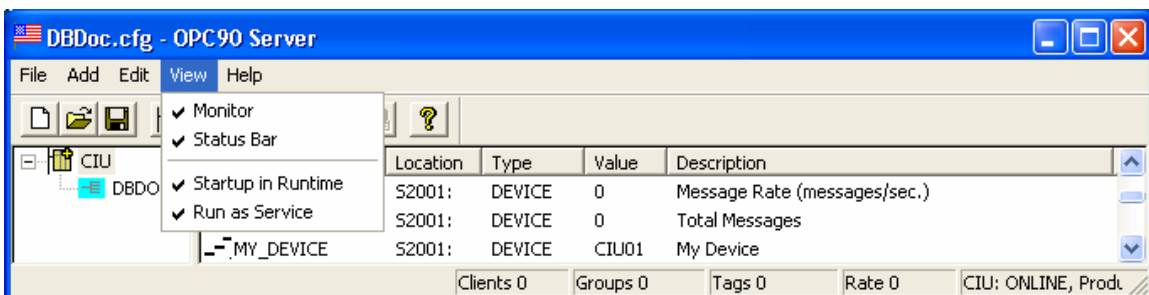
The last step is to configure the MUXCIU block, (called DBDOC in our example) to select a PC COM port that will be used to communicate with the DBDOC CIUMON program. This port will respond to CIUMON as if it were the actual ABB Bailey CIU. Right click on the OPC90 block named DBDOC and select properties to see the following dialog:
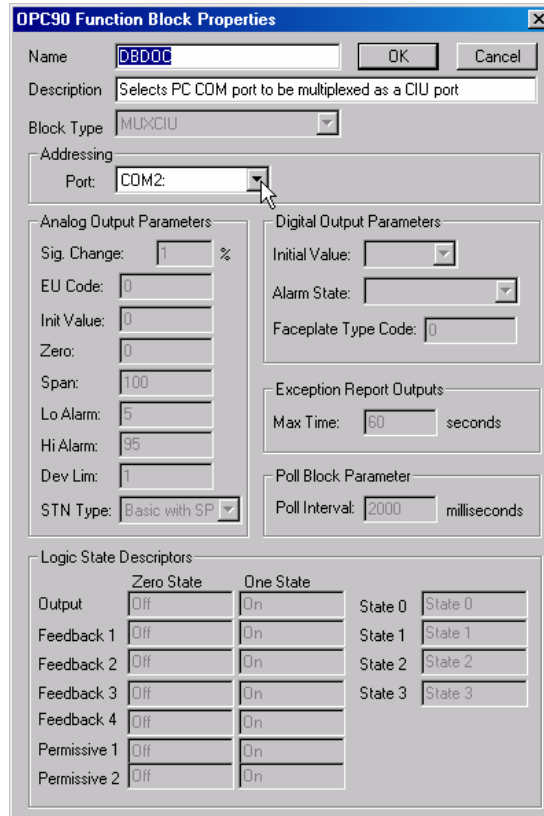

As can be seen by this dialog, the block name is DBDOC and it is of the type MUXCIU which is associated with PC COM2 port. Unless there is a specific reason to utilize a different PC COM port this setup can be left as is. Select the Edit->Ports menu item and verify COM2 is set for 115200 baud. The dialog should appear as:
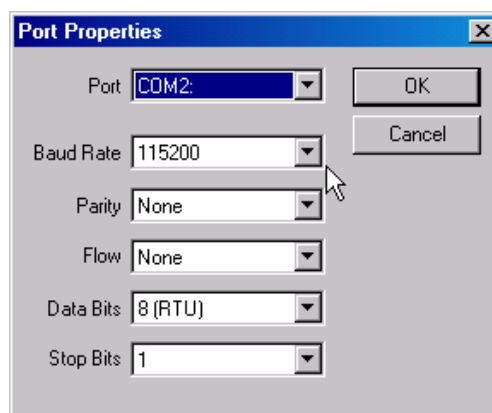
Save any changes by selecting File->Save. Select View->Monitor which instructs OPC90 to begin communicating with the ABB Bailey interface or just exit OPC90 and run it again. See the section 5.4 entitled "View" for a more detailed explanation of OPC90 monitor mode and the startup in runtime feature.

Now it is time to setup the DBDOC CIUMON program. Run CIUMON by selecting Start->Programs->GMCL DBDOC->Start CIUMON Online Data Server. Select Options->CIUMON Options->Configuration and the following configuration dialogs will be displayed:
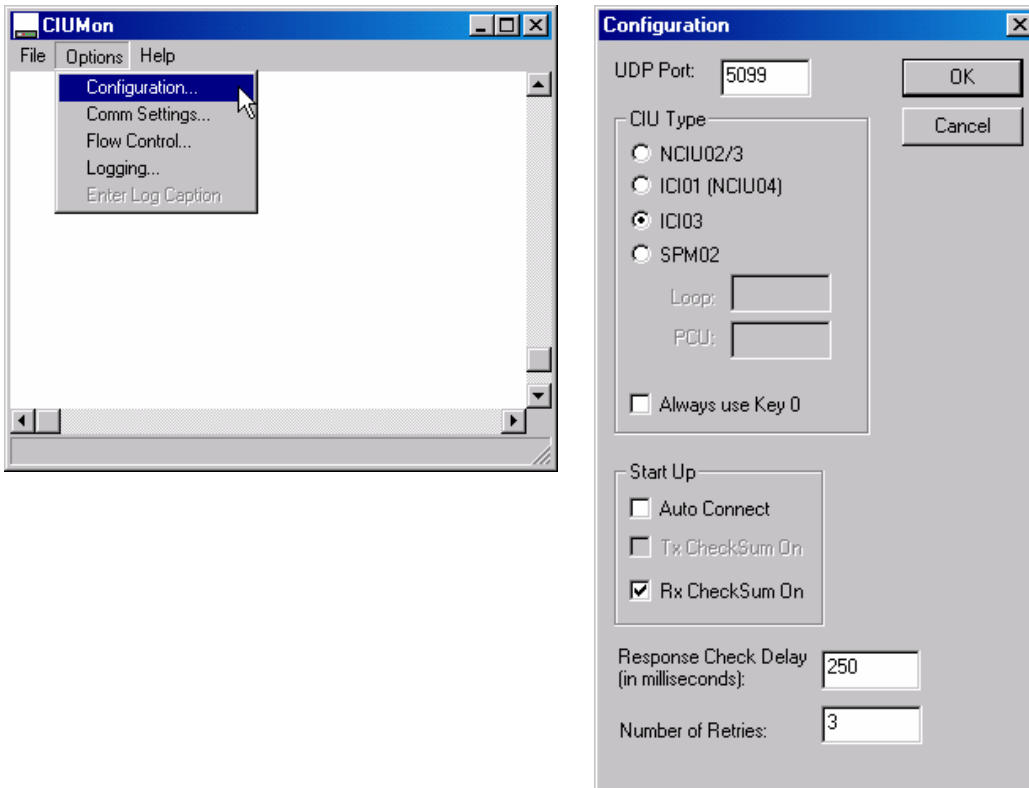
Fill in the UDP port (consult DBDOC documentation) and select the CIU type that best fits the type attached to OPC90. If the system is Network 90 the selected type is NCIU02/03. If the system is Infi 90 the selected type is ICI03 (SCSI CIU) or ICI01. Fill in the other fields as shown. Next select Options->Comm Settings.. which will bring up the following dialog:
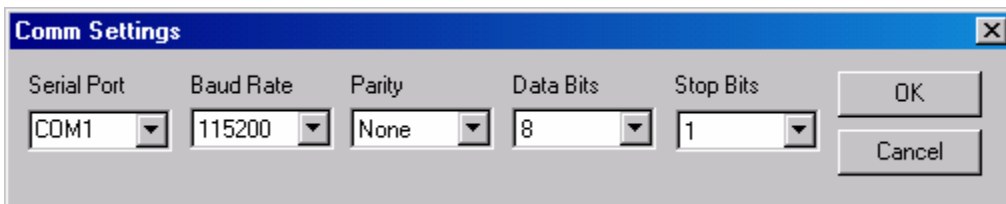
Set the data characteristics shown by this example which concludes setup of CIUMON.

The very last step is to connect a null modem cable between COM1 and COM2. A null modem cable is simply a straight through cable with the transmit and receive wires crossed and the request to send and clear to send wires crossed. The purpose of this cable is to connect the CIU commands that CIUMON will send out of COM1 to the MUXCIU block looking at COM2. The MUXCIU block transfers those commands to the CIU block driver which sends them to the actual CIU.

Setting up OPC-90 to support Composer or WinCAD is just as easy. You must use a pair of serial ports and keep the speed limited to 19200 baud, as that is all they can manage. Also, note that both Composer and WinCAD only can work with COM1 through COM4.