MYNAH℠

ChemView Application

Programmable Serial Interface Card

USER MANUAL

Rev. 1.0

October, 2000

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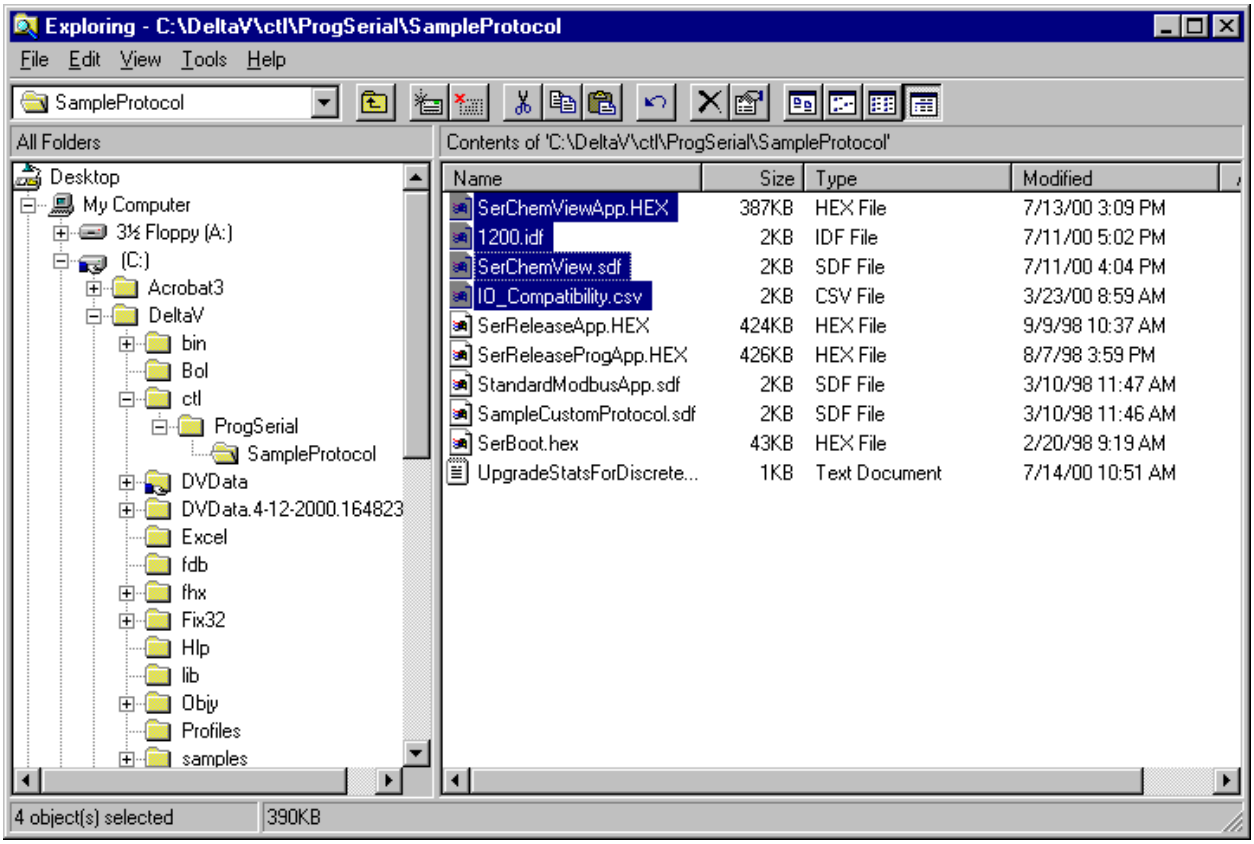
ChemView Application
Release Notes

Driver Installation

The driver software comprises 4 files, distributed on a 3.5” diskette. These files must be copied to the DeltaV directory on your ProPlus Workstation. The path is:

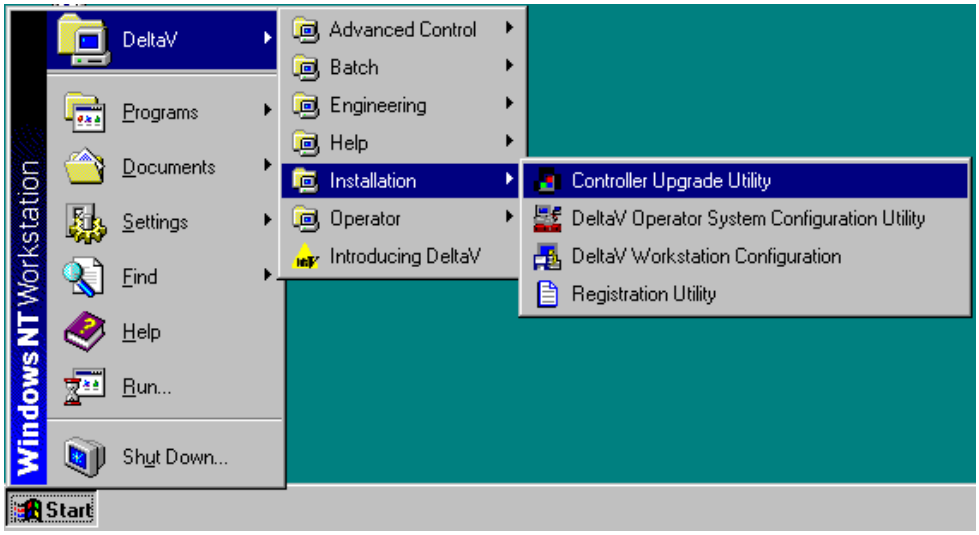
\DeltaV\ctl\ProgSerial\SampleProtocol

The following shows a completed copy operation:

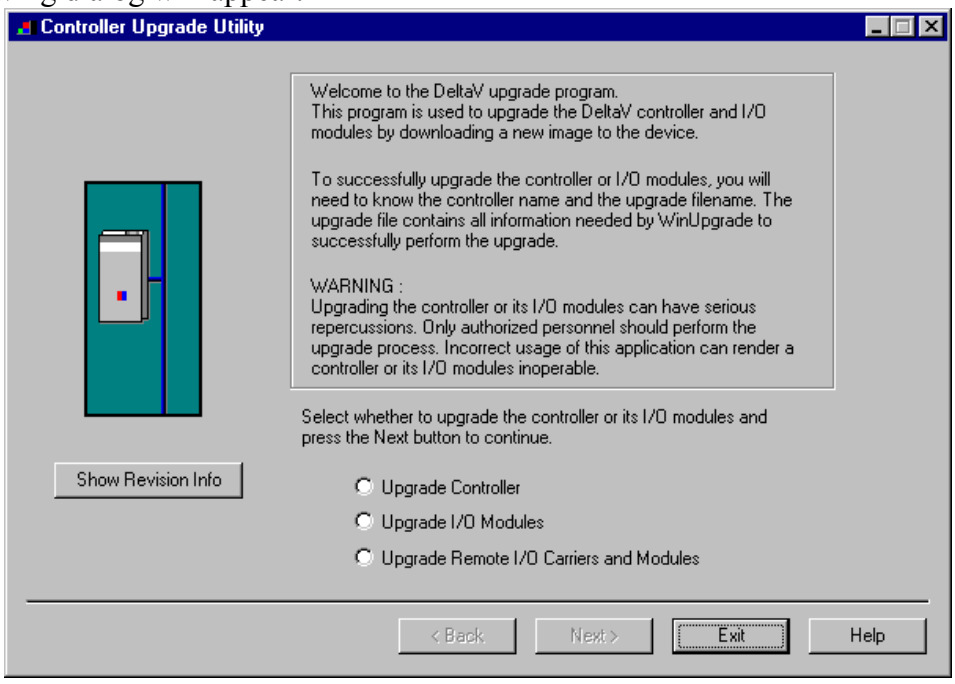


After copy completion, you are ready to program (or upgrade) the Programmable Serial Card with the supplied custom driver software. The steps are as follows:

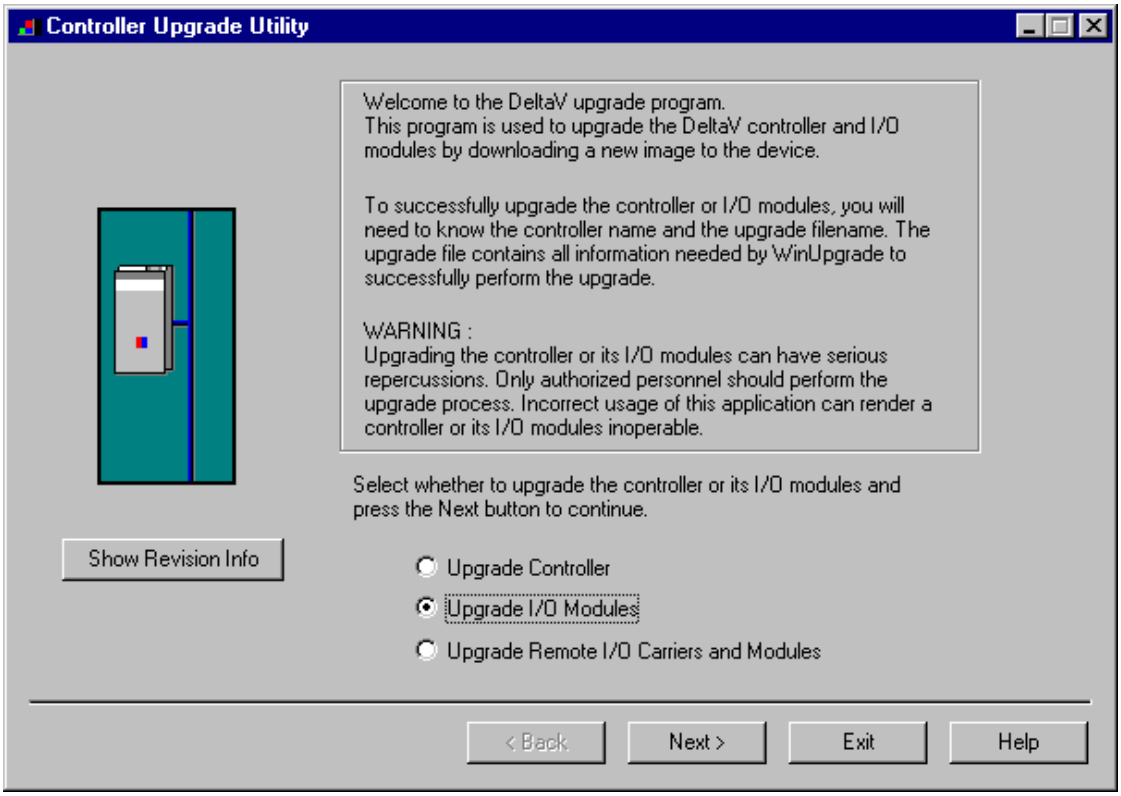
1. Click on the Start button and select DeltaV, Installation, and Controller Upgrade Utility as shown below.

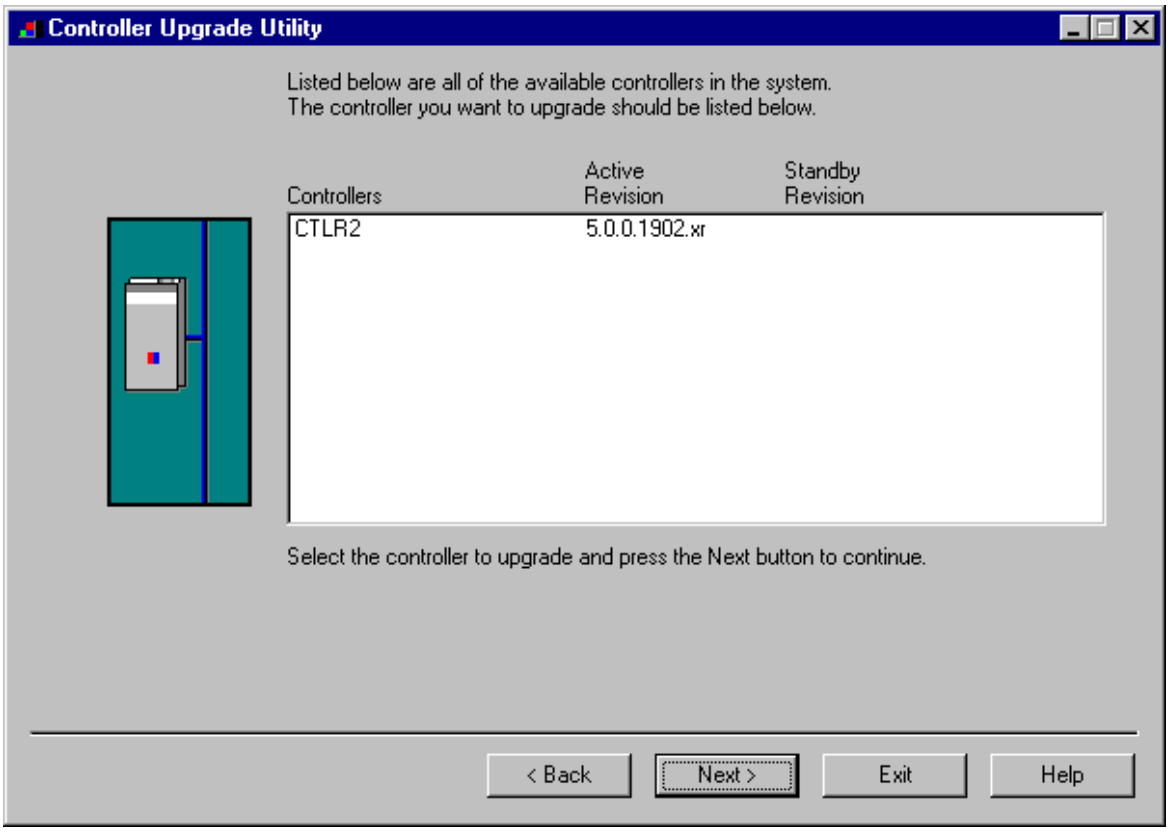


The following dialog will appear:

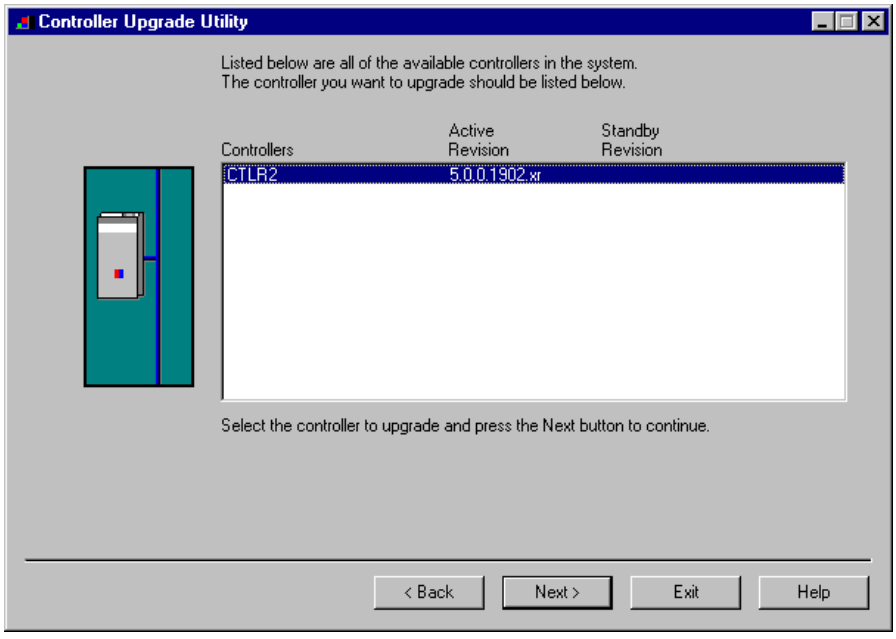


Click on the Upgrade I/O Modules radio button, and then click Next.

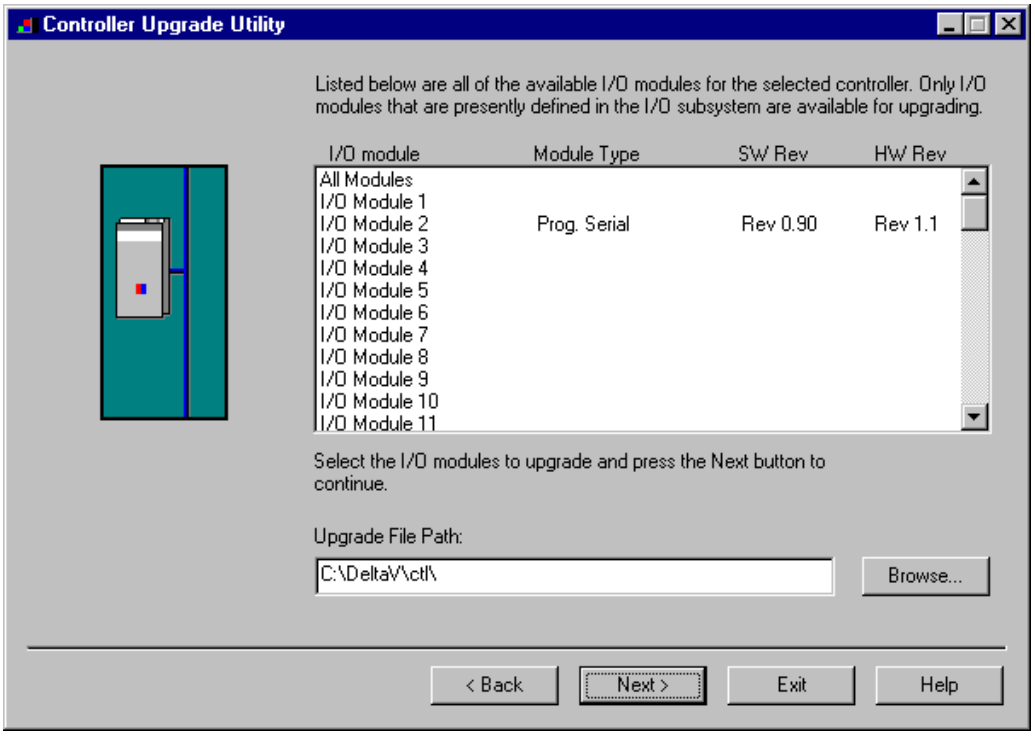




The above dialog will appear, listing all the available Controllers in your network. From this dialog, select the appropriate Controller and then Click Next as shown below.



After you Click Next, the following dialog will appear, listing all the I/O modules in your selected Controller. The shown list of I/O modules is an example only. Your list will be different.

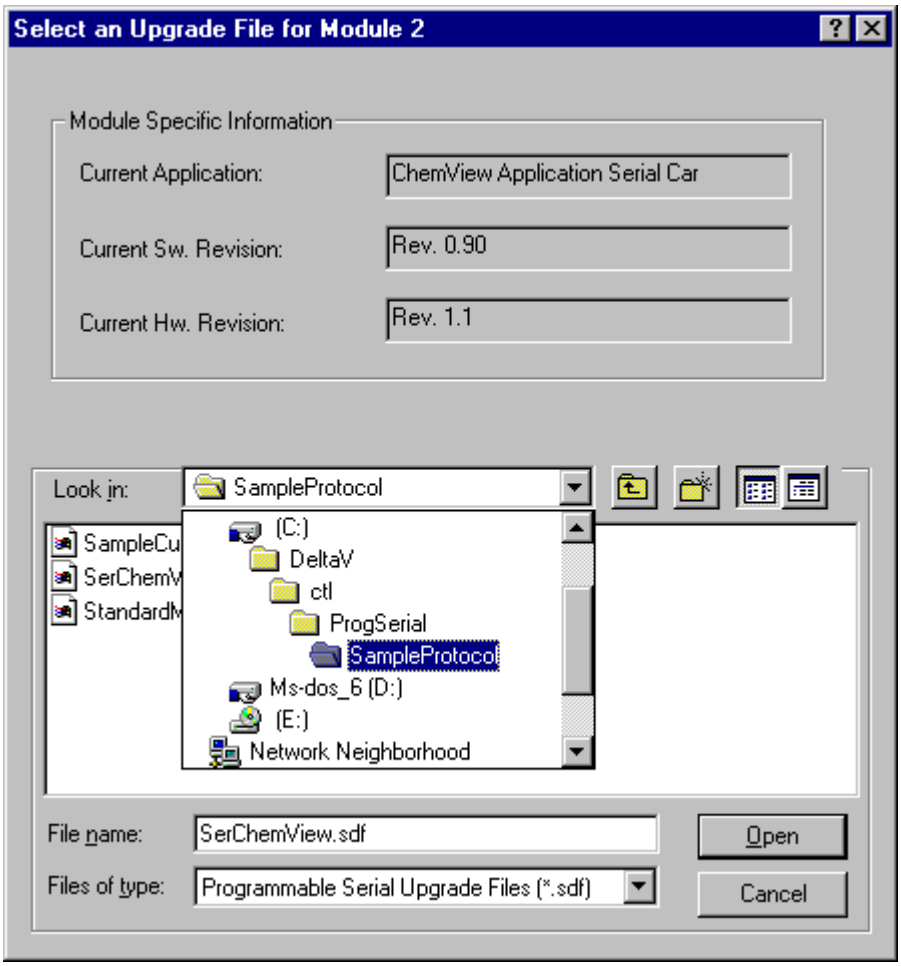


From this dialog, select the Programmable Serial Card I/O Module in the list. For example, we will select I/O Module 2. This will give you the following dialog, from which you will select the file path to where the driver software is located. This will be:

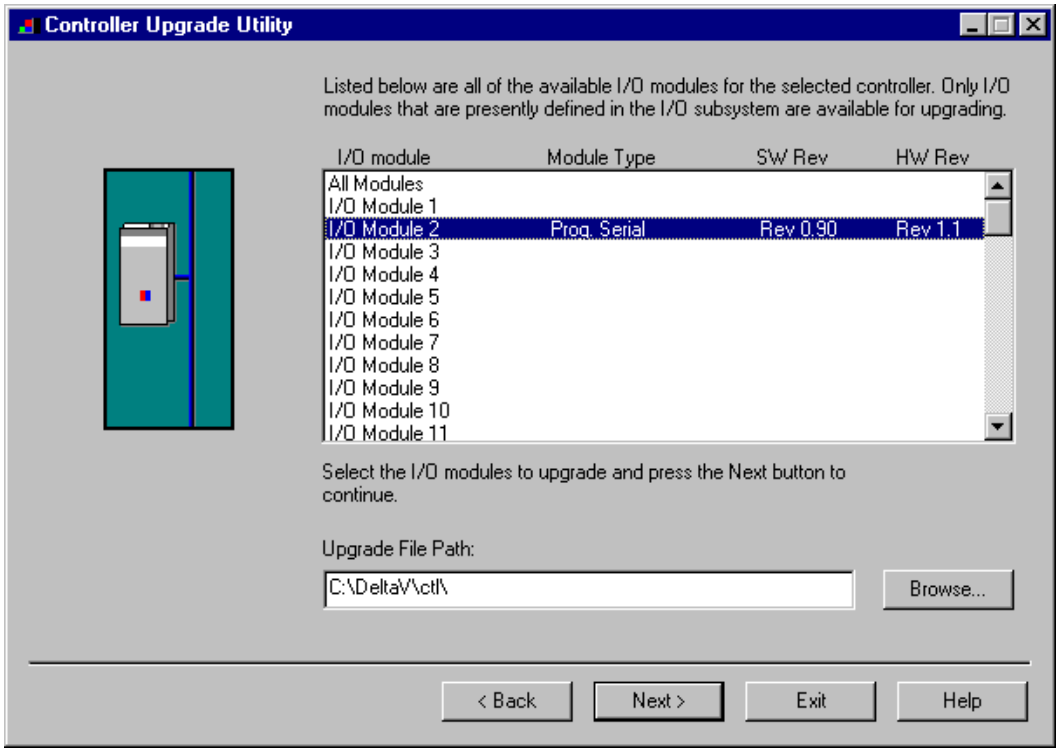
\DeltaV\ctl\ProgSerial\SampleProtocol.

Once you are in the specified directory, you will need to select the following file:

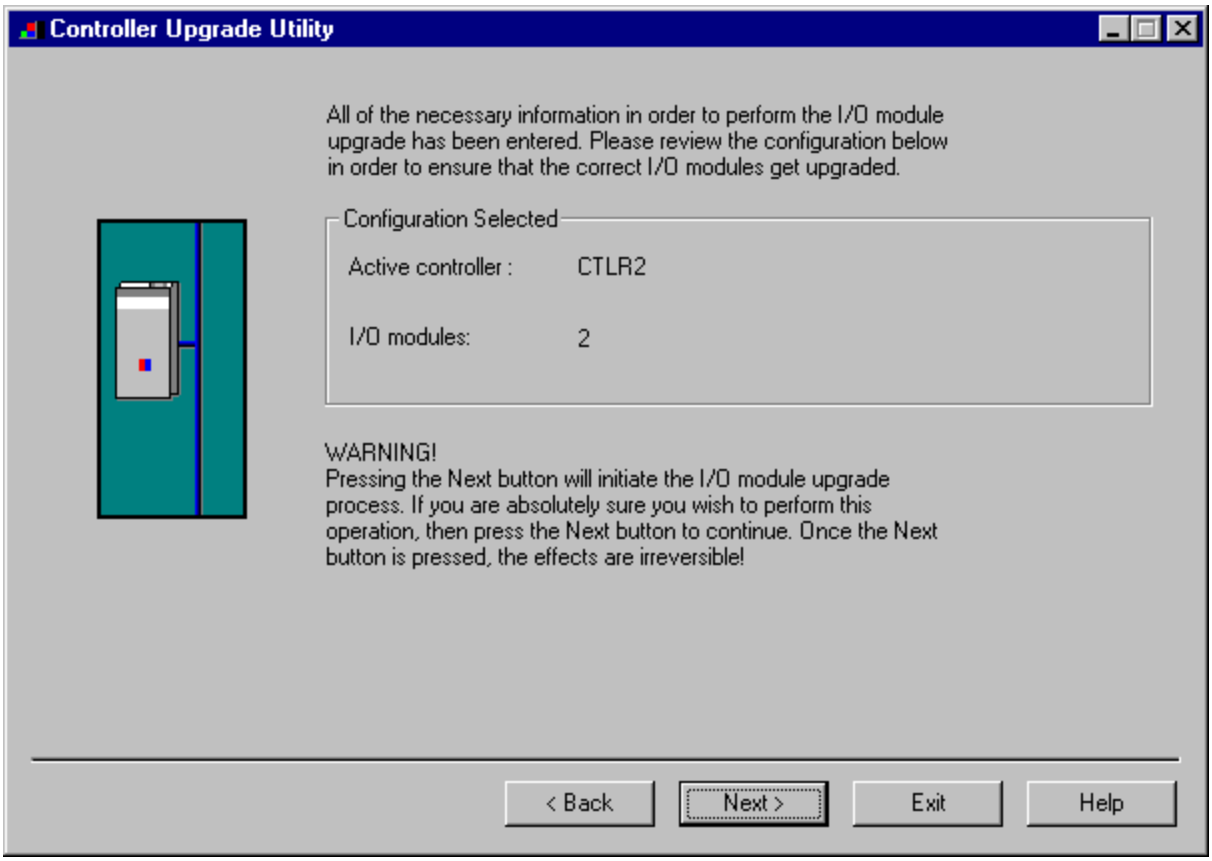
SerChemView.SDF



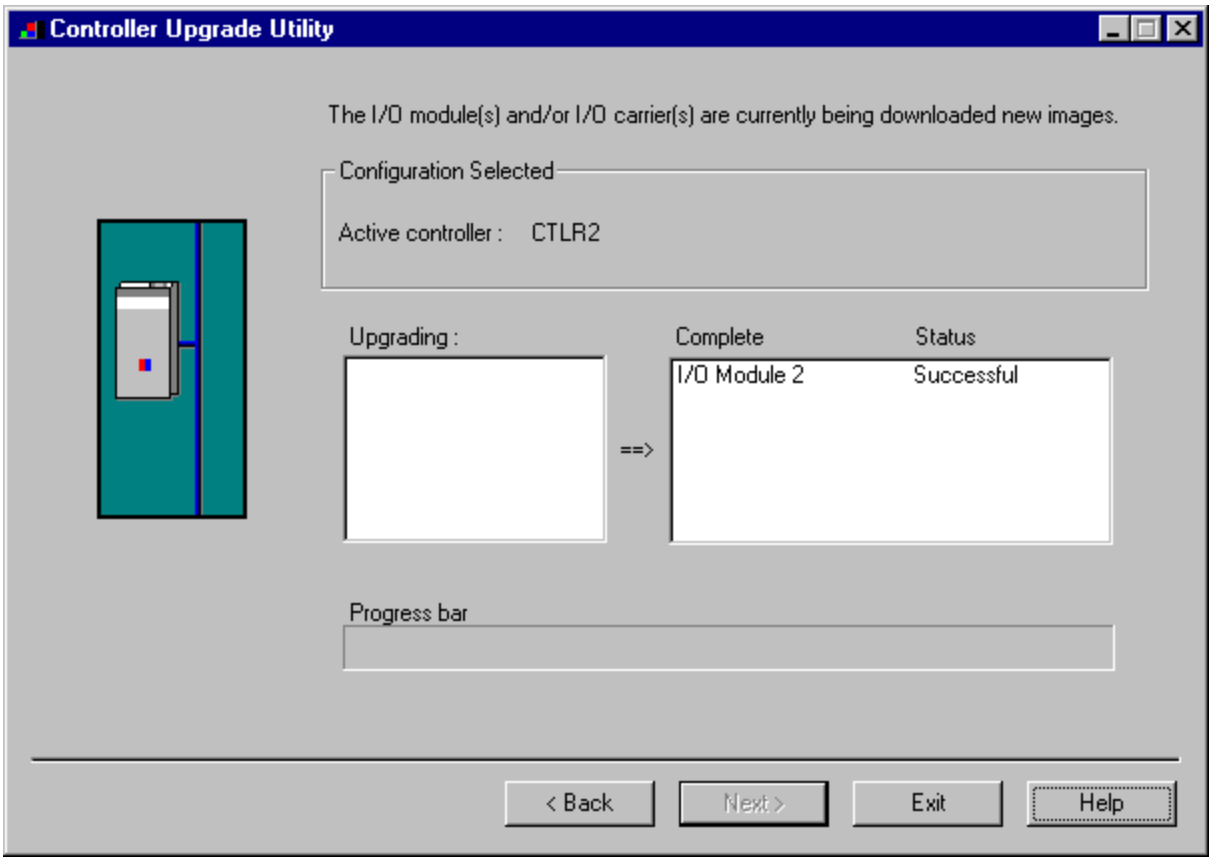
After selecting the .SDF file, Click on Open. This dialog will close and you will be back to the following:



In this dialog, Click Next again. You will get the following dialog, confirming the Controller and I/O Module to program.



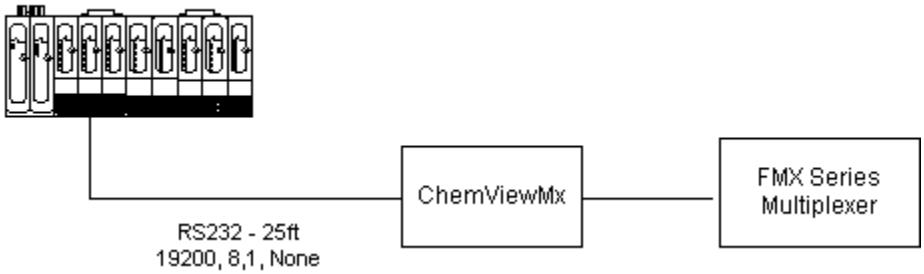
Click Next and the I/O Module upgrade process will begin. After completion, you will receive the following dialog, indicating success.



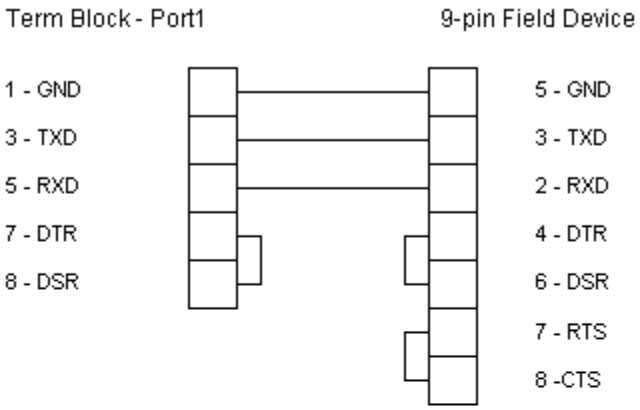
This completes the I/O Module upgrade process.

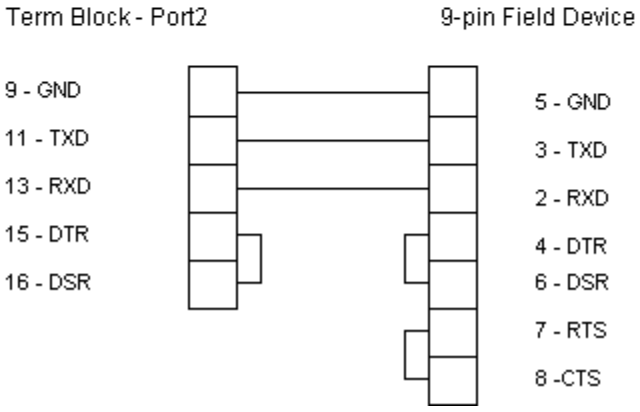
Serial Card Hookup

The Programmable Serial Card supports both RS-232 and RS-485 Half/Full Duplex communications with ChemViewMx devices.

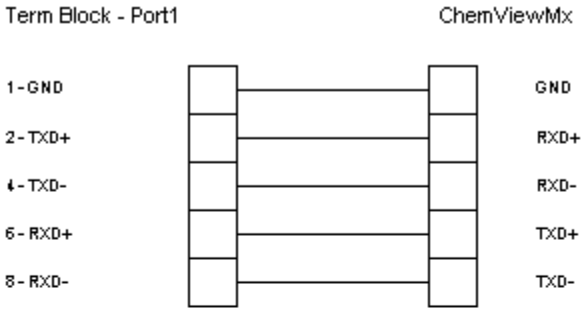


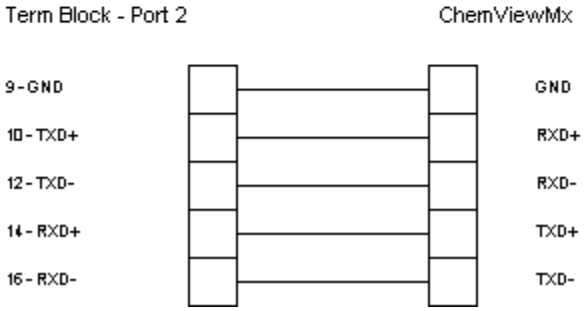
The following is the RS232 cable pinout to use. Note that if a NULL cable is required, swap pins 3 & 5 and 11 & 13 on the term block.



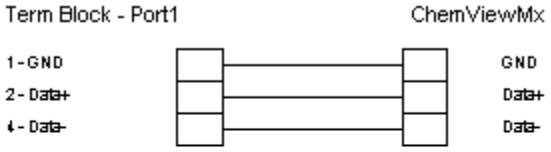


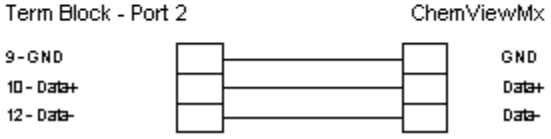
The RS-485 Full Duplex cable pinout is as follows.





The RS-485 Full Duplex cable pinout is as follows.

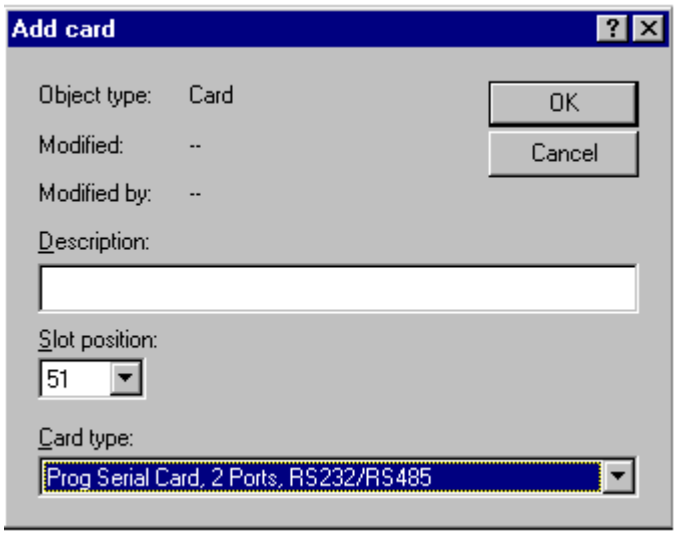




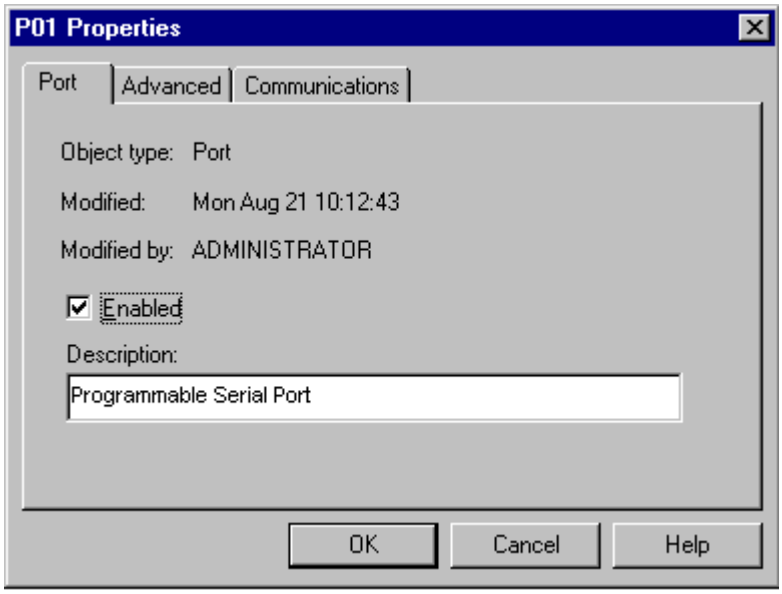
Using the Driver

To have the Serial Card communicate with the ChemView device, follow these steps:

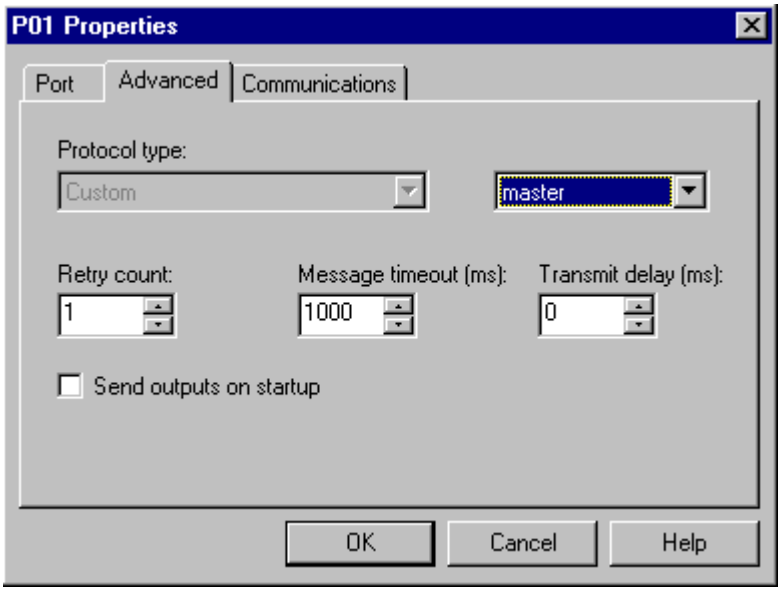
1. In DeltaV, configure the Programmable Serial Card and define port 1 (P01) under it. Port 2 (P02) may also be used. The steps are as follows. In this example, the Programmable Serial Card number is 51.



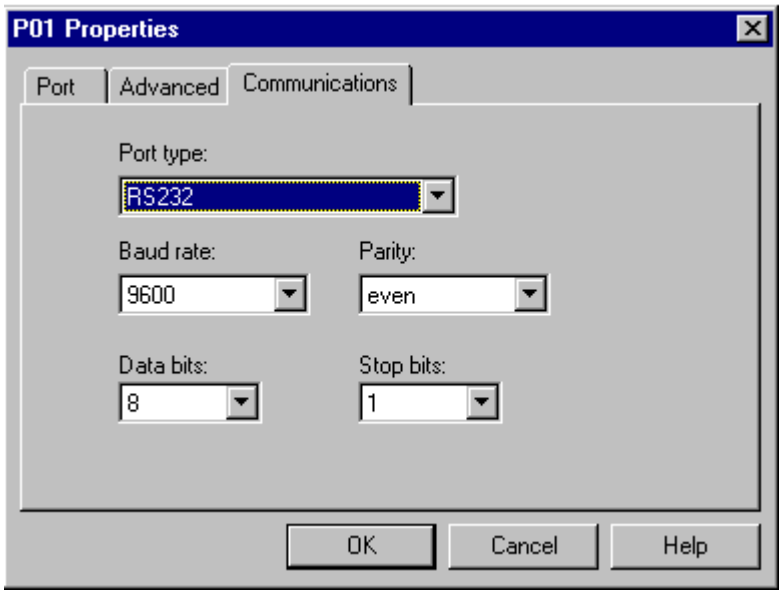
2. Right mouse click on Port 1. The following dialog will appear.



Click on the Enabled checkbox to enable the Port. Next select the Advanced tab. The following dialog will appear.

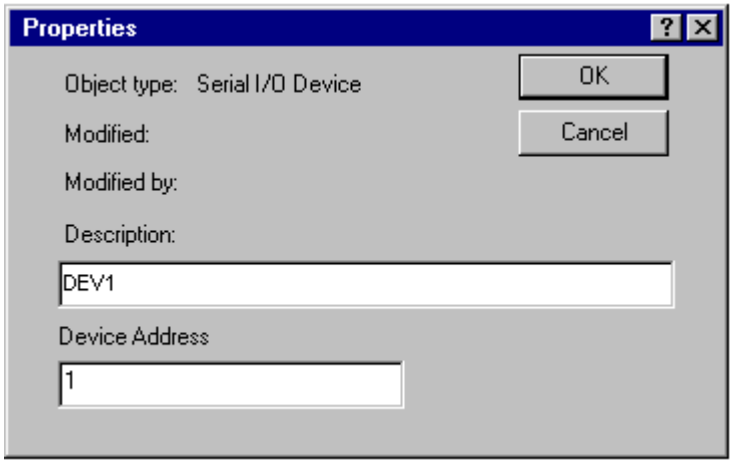


In this dialog, select Master since the card will be the master in communications. Also select the message time parameters. Next click the Communications tab. The following dialog will appear.



Specify Port type and the required baud rate parameters and click OK. The Port type will be RS232 or RS422/RS485 Full Duplex. Using RS422/RS485 allows greater distance between the Serial card and the ChemView device.

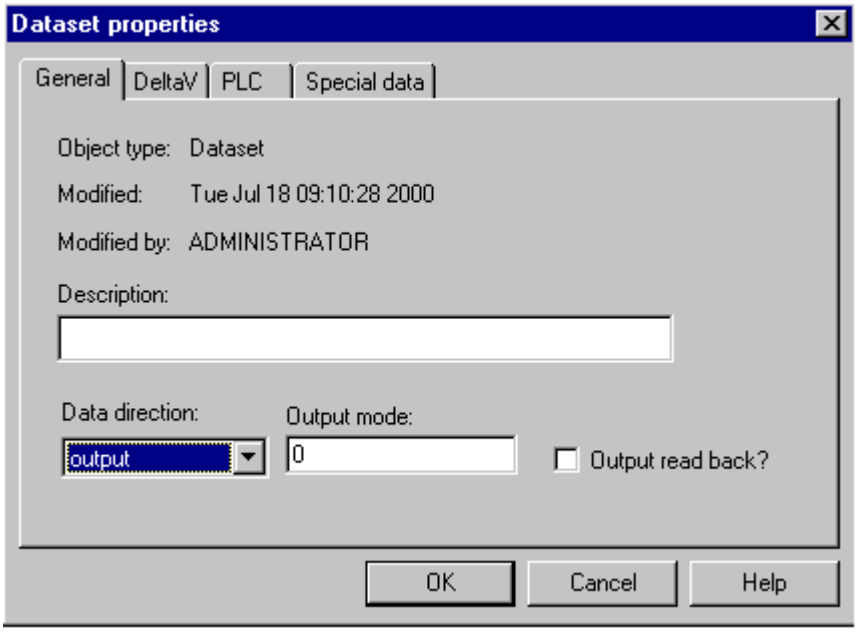
3. Configure a Serial Device under the Port by doing a Right Mouse click and selecting New Serial Device. The following dialog will appear:

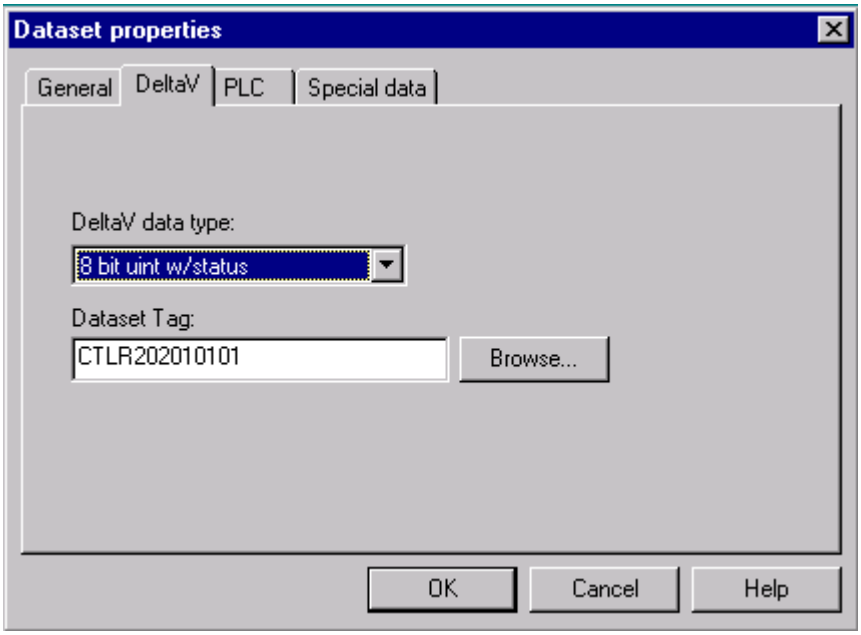


Specify the device address and description. Then click OK. This will add the serial device.

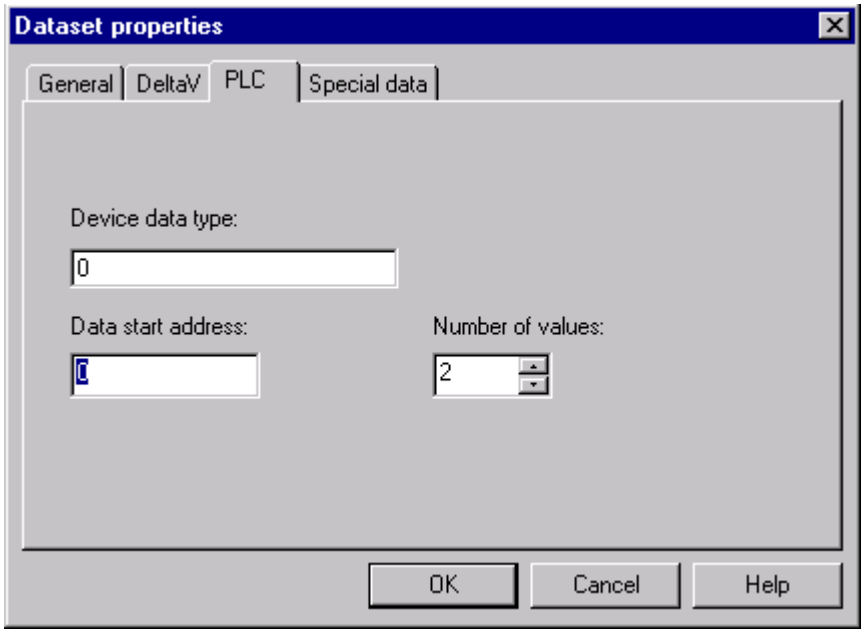
4. Under device DEV1, configure Dataset 1 as shown in the following screen captures.

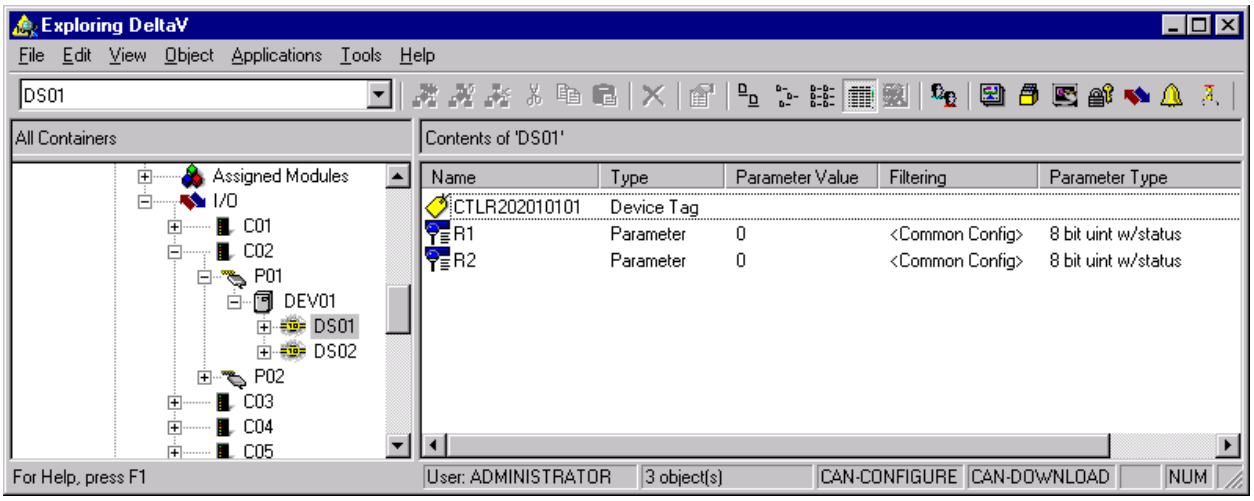
Select Dataset values to be of type **Output**.





Select DeltaV data type to be of type **8 bit uint w/status,** and select Number of values to be **2.** Nothing else needs to be changed. Besides dataset 1, no other datasets are used by the ChemView driver. In dataset 1, only registers 1 and 2 are used. Register 1 is the command register. Register 2 is the status register. The top level view of the dataset is as shown below:





The value values for these registers are as follows:

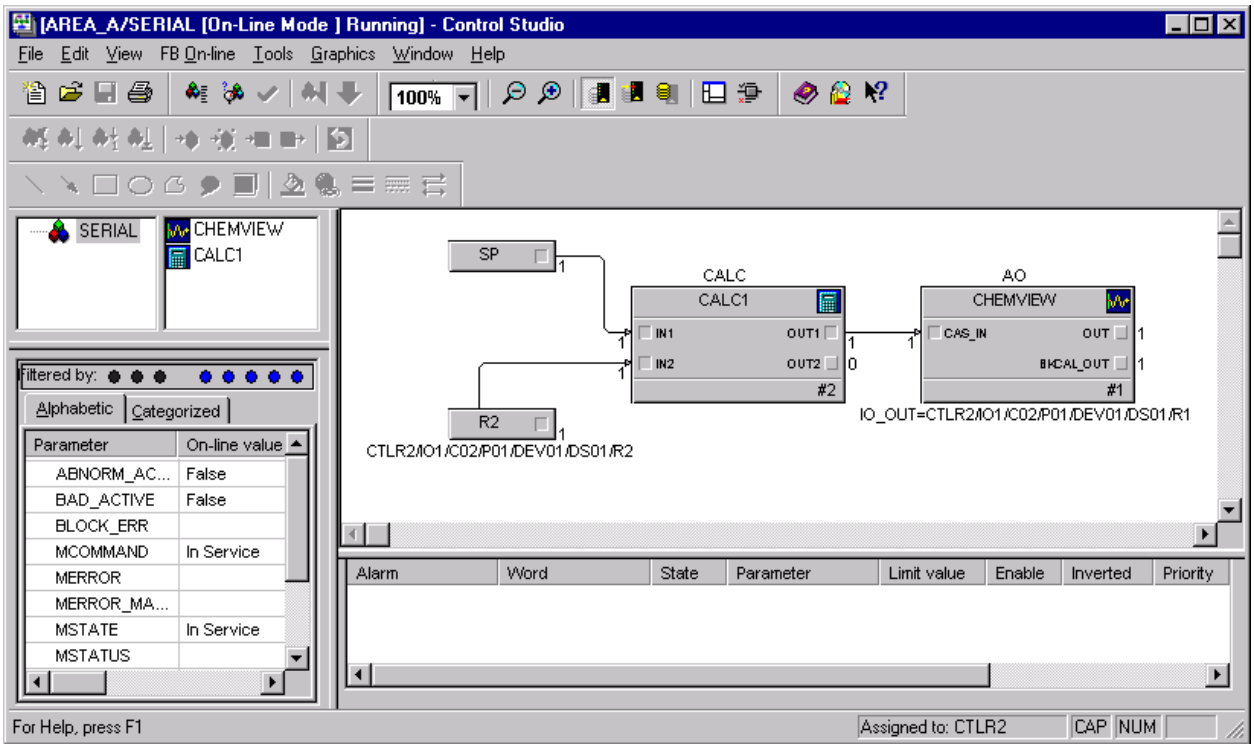
Command Register:

Value	Comment
1-8	Valid ChemView MUX value
0	Invalid ChemView MUX value

Status Register:

Value	Comment
0	Command Active
1	Command Success – AI read OK
2	Error – No Go
4	Error – Unknown MUX
8	Error – Invalid Response from ChemView
16	Error – No response from ChemView
32	Error – Invalid echo of command byte
64	Error – Invalid command byte

As an example, to access the ChemView device, a DeltaV Module can be defined as depicted below:



The Function Blocks are as follows:

Block	Comments
SP	This is configured as an 8 bit unsigned integer Input Parameter. The ChemView MUX number is written to this.
R2	This is configured as an External Reference pointing to Register 2 of the defined Dataset 1.
CALC	This Function Block takes SP and R2 as inputs. It has an internal script which passes the SP through to OUT1 (tied to Register 1 of the defined Dataset 1). Further, the script does timing to ensure that the status back (R2) is valid before the Analog Input from ChemView is read.
AO	This is configured as an Analog Out, tied to Register 1 of the defined Dataset 1.

Technical Support

For technical support or to report a defect, please give MYNAH Technologies a call at (636) 681-1555. If a defect is discovered, please document it in as much detail as possible and then fax your report to us at (636) 681-1660.

For Product functionality questions, ask for the people in the following order:

1. Nobin William
2. Dean Cook

For Commercial issues, ask for people in the following order:

1. Martin Berutti
2. Jane Wagner

For all other driver and related questions, ask for Nobin William.

You can also send us your questions via e-mail. Our addresses are:

mailto:support@mynah.com

Thank you for using DeltaV.