



**M Y N A H<sup>SM</sup>**

**Interface to Rolfes Sys-4 Scancenter  
Programmable Serial Interface Card**

**USER MANUAL**

**Rev. P1.0**

**September 2001**

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Printed in the U.S.A.

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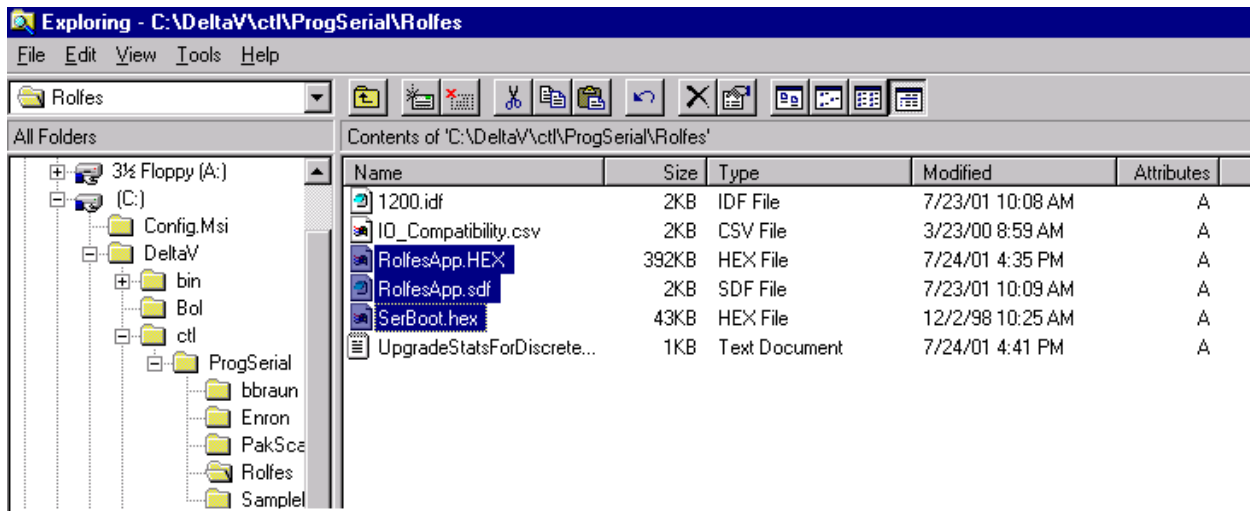
## Release Notes

## Driver Installation

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

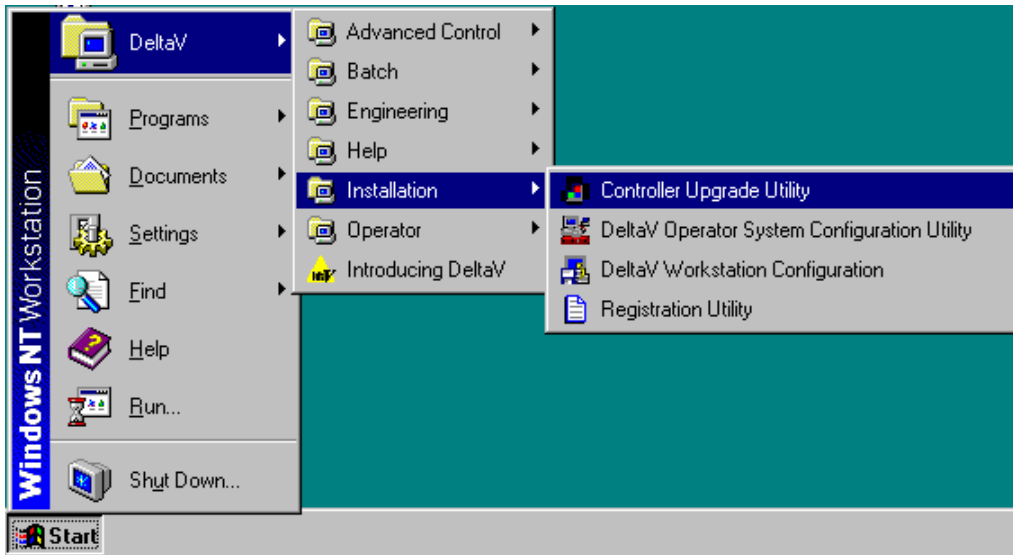
**\DeltaV\ctl\ProgSerial\SampleProtocol\Rolfes**

The following shows a completed copy operation:

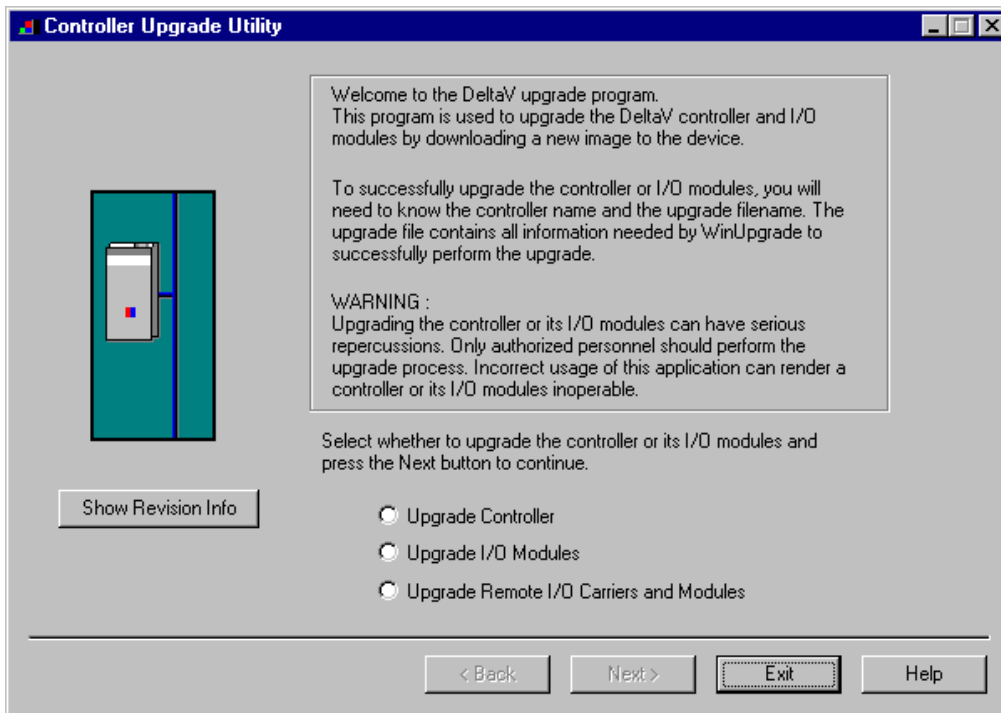


After copy completion, you are ready to program (or upgrade) the Programmable Serial Card with the supplied custom driver software. The steps are as follows:

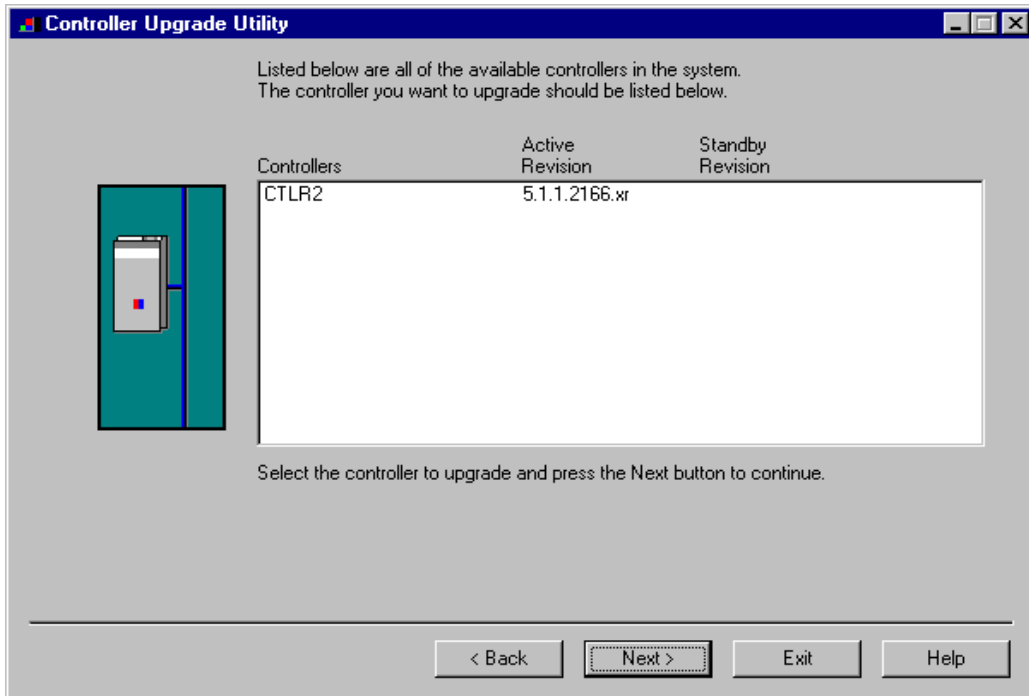
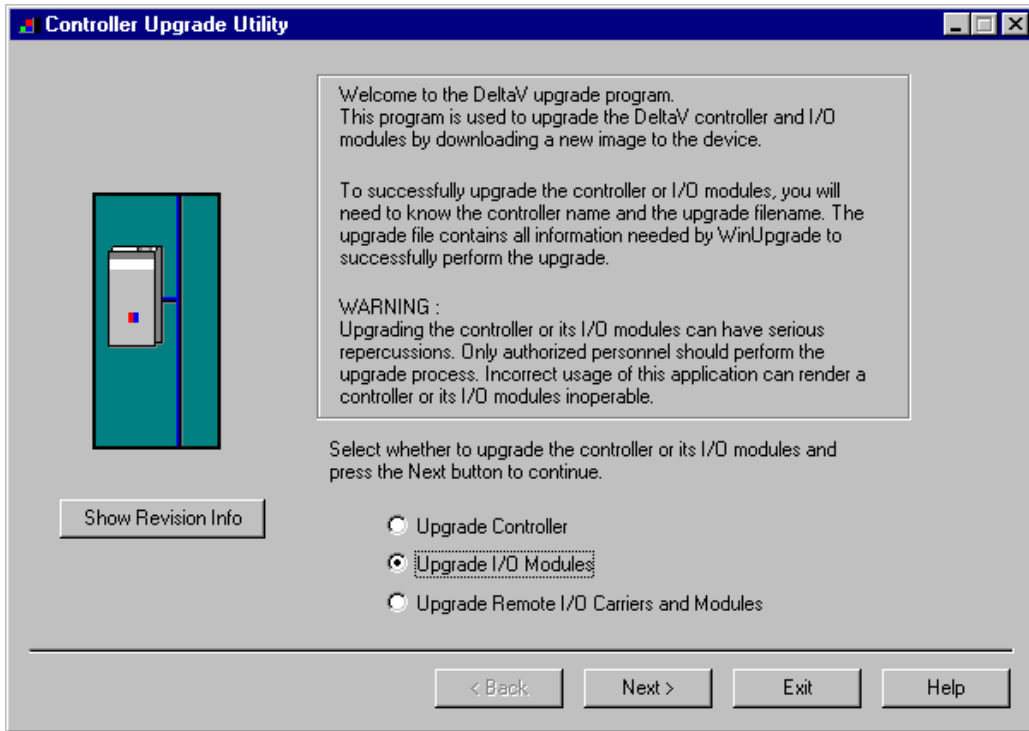
1. Click on the Start button and select DeltaV, Installation, Controller Upgrade Utility as shown below:



The following dialog will appear:

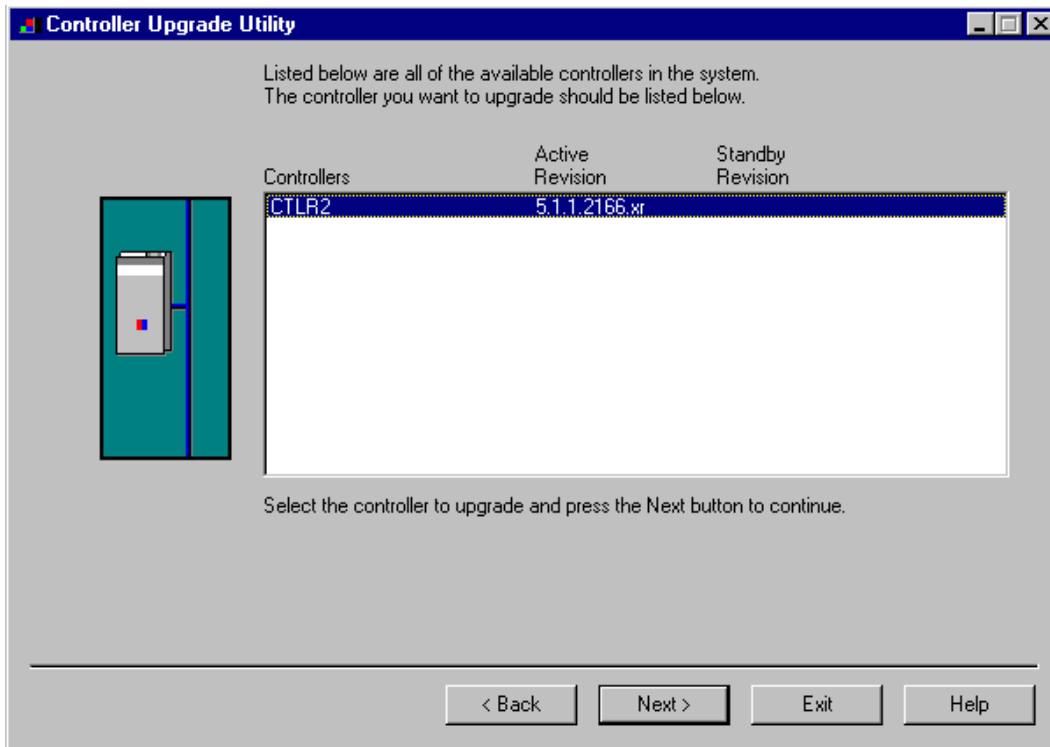


Click on the Upgrade I/O Modules radio button, and then click Next.

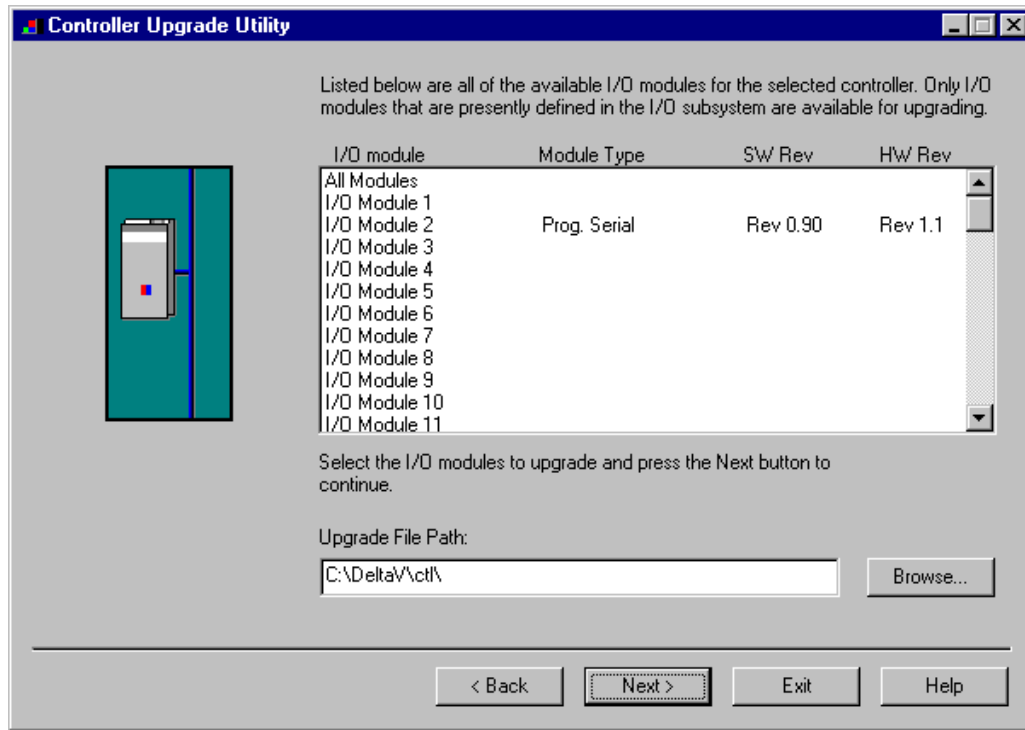




The above dialog will appear, listing all the available Controllers in your network. From this dialog, select the appropriate Controller and then Click Next as shown below.



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. If this is the first flash upgrade for the Serial Card, it will be listed as Serial and not Prog. Serial, as shown below. In this case, you must click the Browse button to specify the path for the new firmware file.



If this is the first upgrade of the Serial card, select the card and then click Browse to select the DeltaV path.

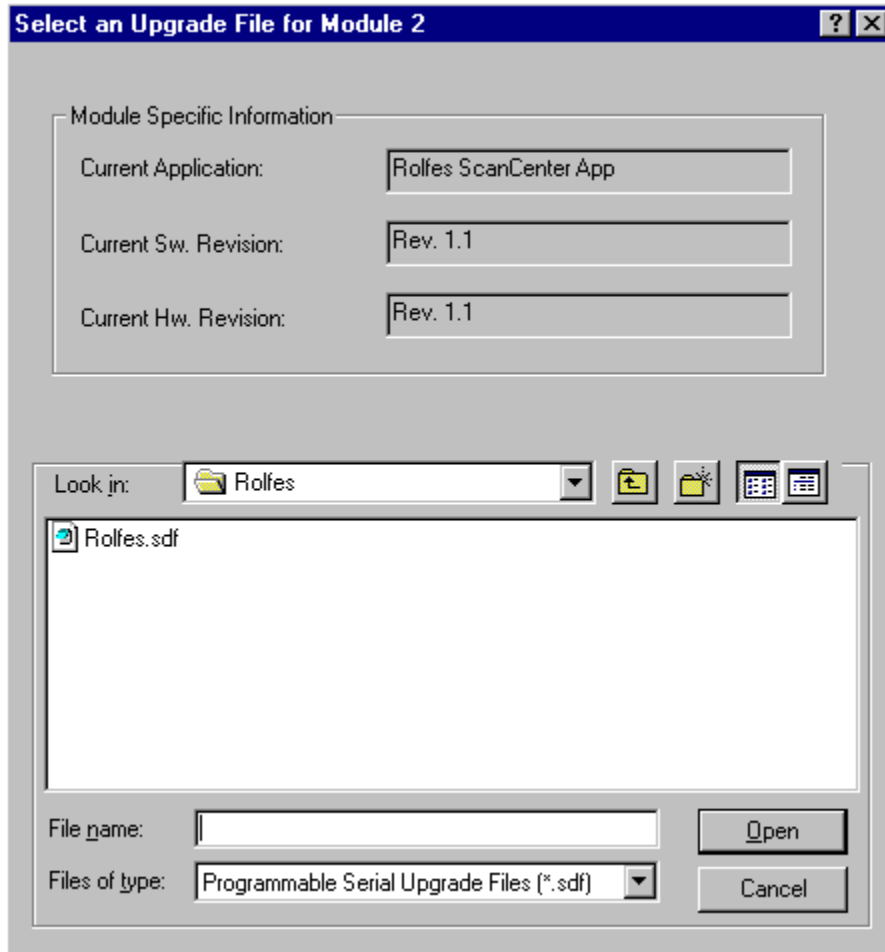
If the card is already of type Programmable Serial (as shown above), simply click on the I/O module. This will give you the following dialog, from which you will select the file path to where the driver software is located.

The path in both cases will be:

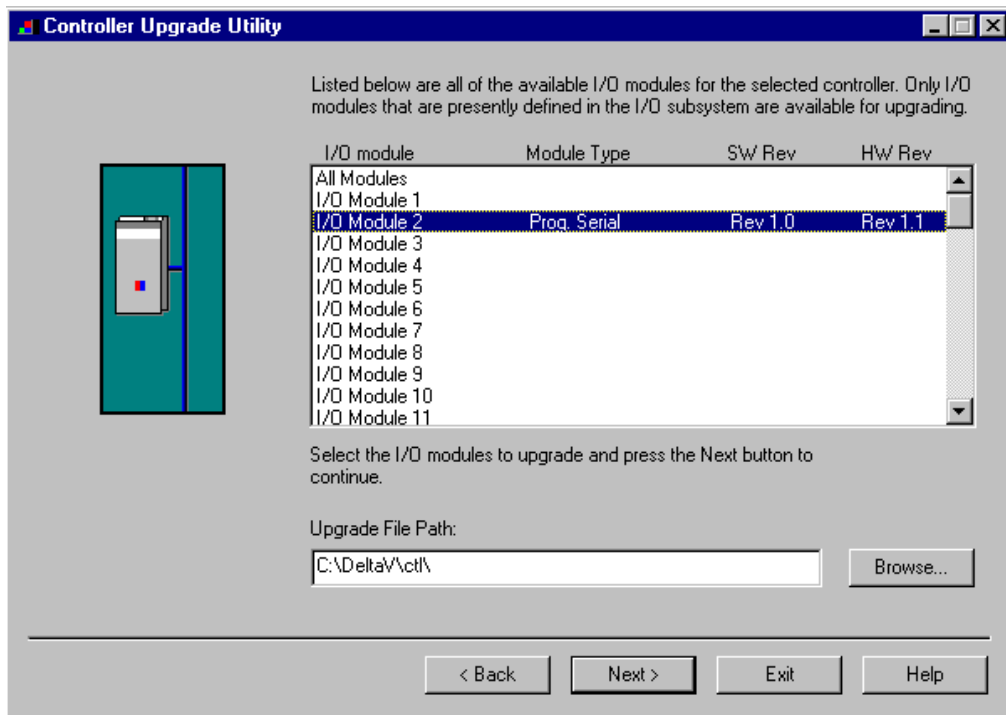
**\Delta\ctl\ProgSerial\SampleProtocol\Rolfes\**

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

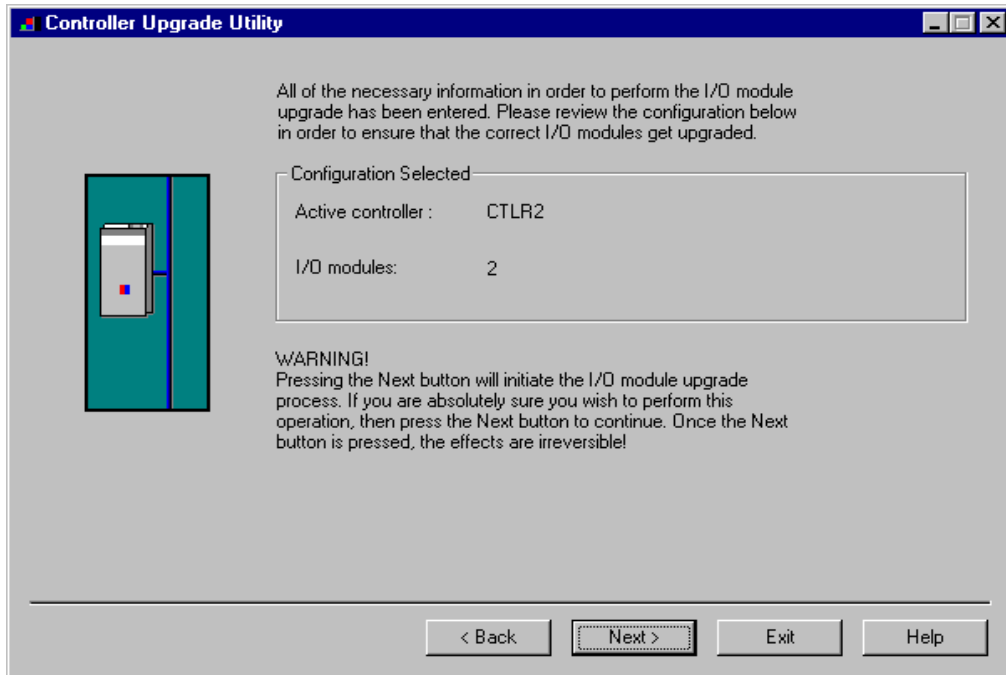
**RolfesApp.SDF**



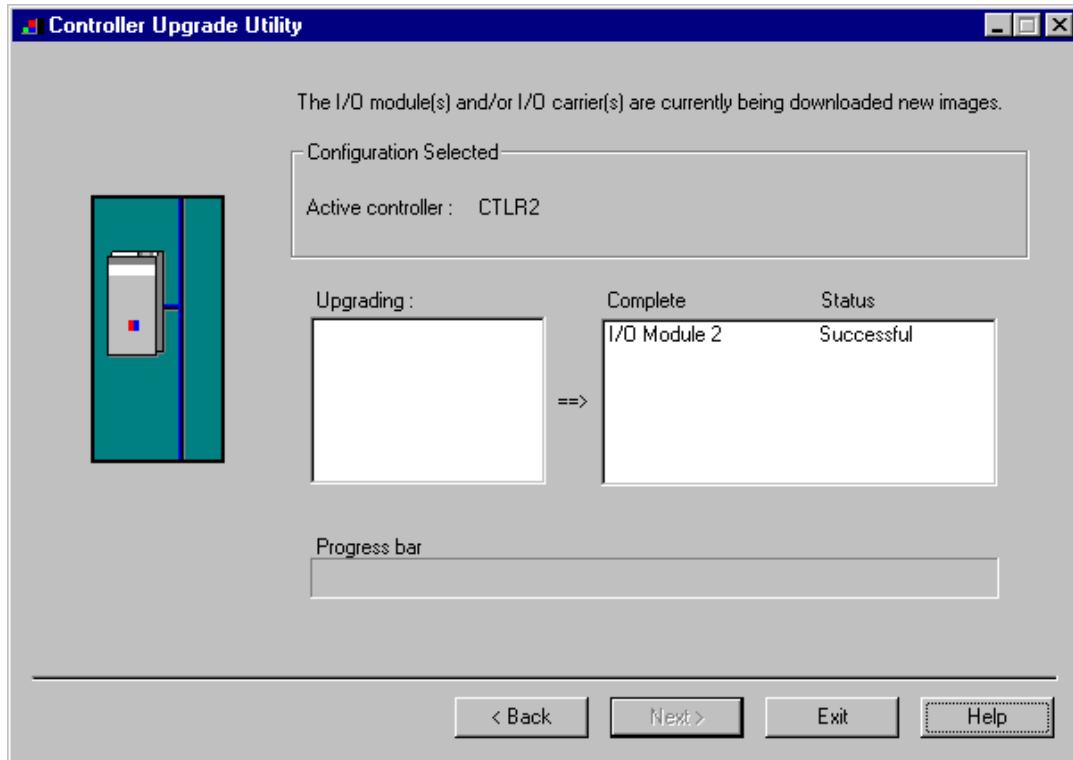
After selecting the .SDF file, Click on Open. This dialog will close and you will be back to the previous dialog where you will have to reselect the I/O Module as follows.



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 – RS-232

The Programmable Serial Card (PSIC) will communicate with the Rolfes SYS-4 Scancenter using RS-232 only. The PSIC port settings, e.g., baud rate, must match the Scancenter settings. Typically, these will be 19200 baud, 8 data bits, no parity and 1 stop bit. Only Port 1 of the PSIC will be used for communications. However both ports must be enabled and configured. This will allow the driver to use all 32 datasets (16 in each port) to store data received from the Scancenter. The following table gives the RS-232 pin out for the PSIC term block:

Terminal Number	Signal Description
1	Port 1 – Isolated GND
2	Unused
3	Port 1 – Transmit Data (TXD)
4	Unused
5	Port 1 – Receive Data (RXD)
6	Unused
7	Port 1 – Data Terminal Ready (DTR)
8	Port 1 – Data Set Ready (DSR)

Terminal Number	Signal Description
9	Port 2 – Isolated GND
10	Unused
11	Port 2 – Transmit Data (TXD)
12	Unused
13	Port 2 – Receive Data (RXD)
14	Unused
15	Port 2 – Data Terminal Ready (DTR)
16	Port 2 – Data Set Ready (DSR)

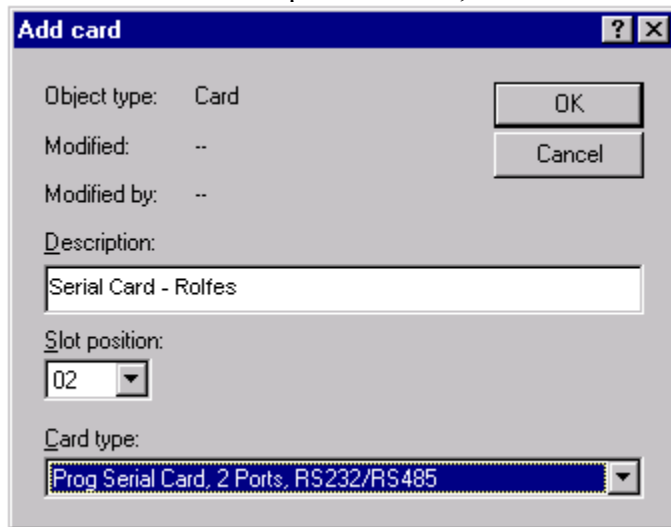
Note: You can use a 3-wire cable for communications. This cable comprises GND, TXD and RXD. The signals DTR and DSR on Port 1 (7 and 8) should be connected together. Similarly, signals DTR and DSR on Port 2 (15 and 16) should be connected together.



## Using the Driver

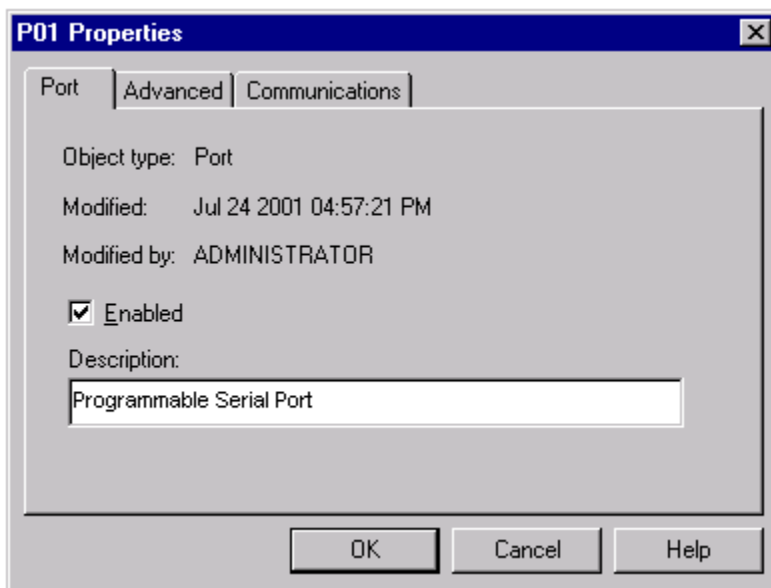
To have the Programmable Serial Card communicate with the Rolfes SYS-4 Scancenter, follow these steps to configure both Ports, and all Datasets as described in the following steps:

1. In DeltaV, configure the Programmable Serial card. This will create a Programmable Serial Card and define 2 ports under it, P01 and P02.



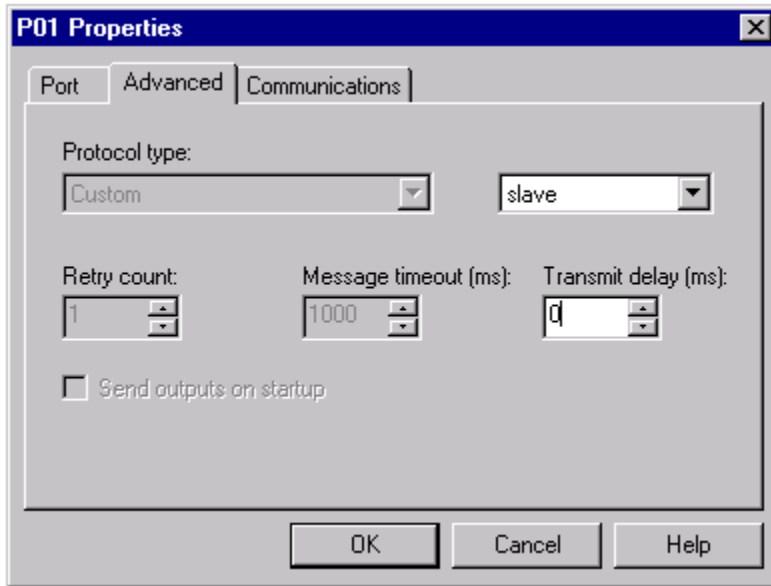
2. Configure both ports P01 and P02 as shown below.

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

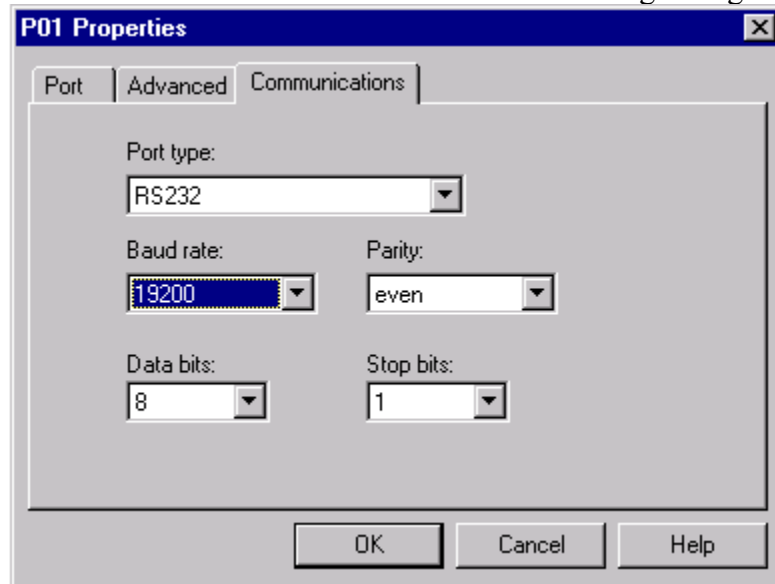




Click on the Enabled checkbox to enable the Port. Next select the Advanced tab. The following dialog will appear.

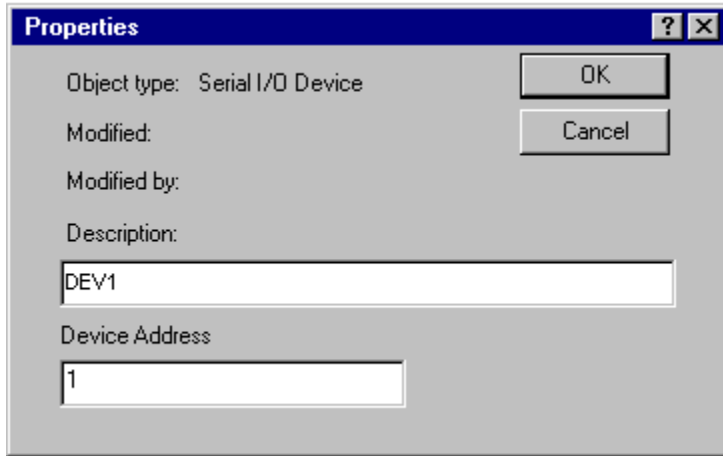


In this dialog, select Slave since the card will only receive messages from the Rolfes Scancenter. Next click the Communications tab. The following dialog will appear.



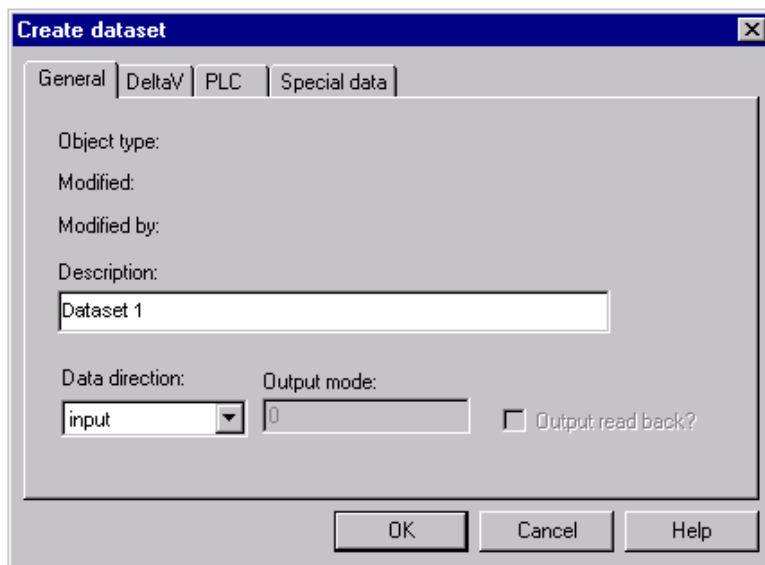
Specify Port type and the required baud rate parameters and click OK. The Port type will always be RS232.

3. Under both ports, configure a single Serial Device by doing a Right Mouse click and selecting New Serial Device. The following dialog will appear:

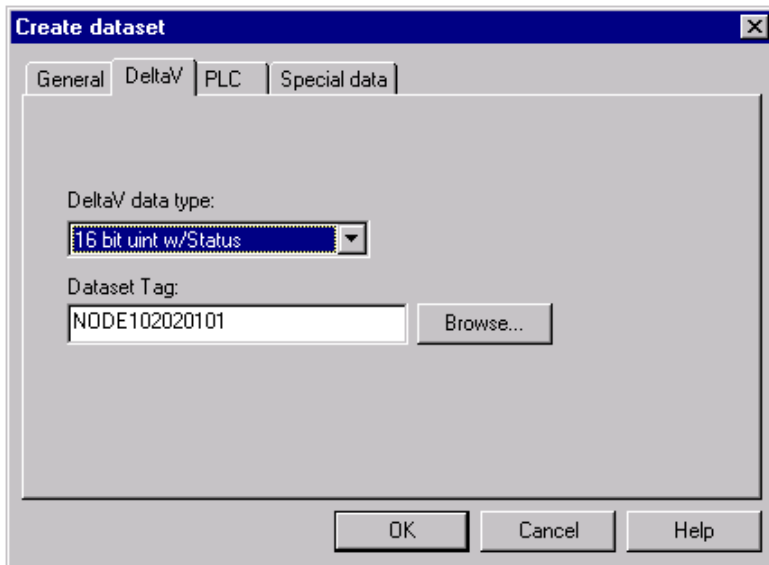


Specify the device address and description. The device can be any number. Then click OK. This will add the serial device.

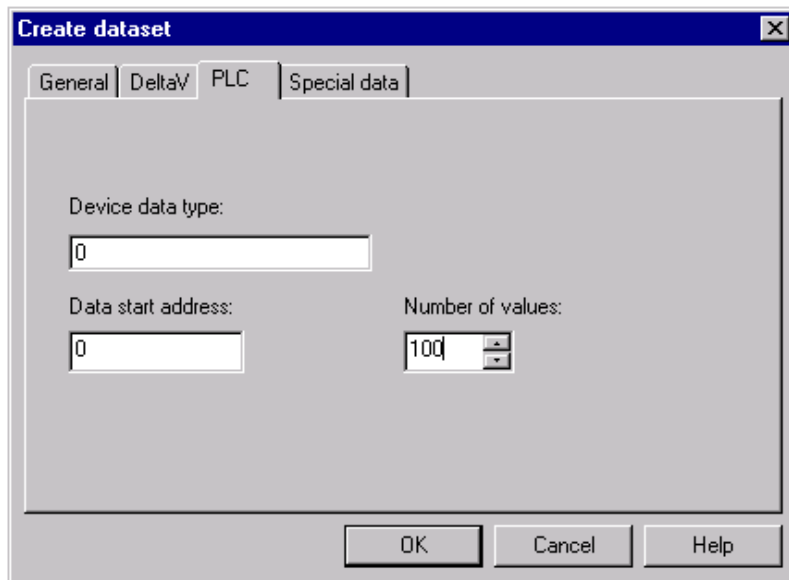
- Next, configure datasets in the Serial Device. For this application, each device must have 16 datasets under it. The dataset will be of type Input and 16 bit unsigned integers. The following dialog will appear. Note that all 32 datasets (16 in each port) will be identical.



Configure the data direction to be input. Next click on the DeltaV tab. The following dialog will appear.



In this dialog, configure the data type needed for DeltaV as shown. You can see the available types by clicking on the drop down list. Remember for this application, the dataset data type is 16 bit uint. Next click the PLC tab. The following dialog will appear. Select Number of values parameter as shown. For Data start address, select 0 for DS1, 100 for DS2, 200 for DS3, etc. DS16 will have starting address of 1500. The datasets in both ports are identical.



No parameters are defined under the Special data tab.



The image shows a software dialog box titled "Create dataset". It has four tabs: "General", "DeltaV", "PLC", and "Special data". The "Special data" tab is selected. Inside the dialog, there are five rows, each labeled "Special data 1" through "Special data 5". Each row has a small input field containing the number "0". At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Click OK to complete dataset definition.



**Driver Communications**

The driver will receive data messages from the Scancenter. The received messages will be parsed and the values written to the dataset registers. The following table describes the register assignments.

Temp Cable Location	Temp Cable Number	Rolfes Mux Number	Data Start Location	Data End Location	Number of Sensor Points	PSIC Port Number	PSIC Dataset Number	PSIC Starting Register
BearingsA	1	1	1	20	20	1	1	1
BearingsB	2	1	22	37	16	1	1	26
Spare		1	43	63	21	1	1	51
Spare		1	64	84	21	1	1	76
BearingsC	1	2	1	20	20	1	2	1
BearingsD	2	2	22	41	20	1	2	26
BearingsE	3	2	43	60	18	1	2	51
BearingsF	4	2	64	79	16	1	2	76
BearingsG	5	2	85	96	12	1	3	1
Spare		2	106	126	21	1	3	26
Spare		2	107	127	21	1	3	51
BIN 1	1	3	1	18	18	1	3	76
BIN 2	1	3	22	39	18	1	4	1
BIN 4	1	3	43	60	18	1	4	26
BIN 5	1	3	64	81	18	1	4	51
BIN 303	1	3	85	100	16	1	4	76
Spare		3	106	126	21	1	5	1
Spare		3	127	147	21	1	5	26
Spare		3	148	168	21	1	5	51
Spare		3	169	189	21	1	5	76
BIN 6A	1	4	1	17	17	1	6	1
BIN 6A	2	4	22	37	16	1	6	26
BIN 6A	3	4	43	58	16	1	6	51
BIN 6A	4	4	64	79	16	1	6	76
BIN 6A	5	4	85	100	16	1	7	1
BIN 6A	6	4	106	121	16	1	7	26



Temp Cable Location	Temp Cable Number	Rolfes Mux Number	Data Start Location	Data End Location	Number of Sensor Points	PSIC Port Number	PSIC Dataset Number	PSIC Starting Register
BIN 6A	7	4	127	142	16	1	7	51
BIN 6A	8	4	148	161	14	1	7	76
BIN 6A	9	4	169	182	14	1	8	1
BIN 6A	10	4	190	203	14	1	8	26
BIN 6A	11	4	211	224	14	1	8	51
BIN 6A	12	4	232	245	14	1	8	76
BIN 6A	13	4	253	266	14	1	9	1
BIN 6A	14	4	274	287	14	1	9	26
BIN 6A	15	4	295	308	14	1	9	51
BIN 6A	16	4	316	329	14	1	9	76
BIN 6A	17	5	1	14	14	1	10	1
BIN 6A	18	5	22	35	14	1	10	26
BIN 6A	19	5	43	55	13	1	10	51
BIN 6A	20	5	64	76	13	1	10	76
BIN 6A	21	5	85	97	13	1	11	1
BIN 6A	22	5	106	118	13	1	11	26
BIN 6A	23	5	127	139	13	1	11	51
BIN 6A	24	5	148	160	13	1	11	76
BIN 6A	25	5	169	181	13	1	12	1
BIN 6A	26	5	190	202	13	1	12	26
BIN 6A	27	5	211	223	13	1	12	51
BIN 6A	28	5	232	244	13	1	12	76
BIN 6A	29	5	253	265	13	1	13	1
BIN 6A	30	5	274	286	13	1	13	26
BIN 6A	31	5	295	307	13	1	13	51
BIN 6A	32	5	316	328	13	1	13	76
BIN 6A	33	6	1	13	13	1	14	1
BIN 6A	34	6	22	34	13	1	14	26
BIN 6A	35	6	43	55	13	1	14	51
BIN 6A	36	6	64	76	13	1	14	76
Spare		6	85	105	21	1	15	1
Spare		6	106	126	21	1	15	26
Spare		6	127	147	21	1	15	51
Spare		6	148	168	21	1	15	76
Spare		6	169	189	21	1	16	1



Temp Cable	Temp Cable	Rolfes Mux	Data Start	Data End	Number of Sensor	PSIC Port	PSIC Dataset	PSIC Starting Register
Location	Number	Number	Location	Location	Points	Number	Number	Register
BIN 6B	1	7	1	17	17	2	1	1
BIN 6B	2	7	22	37	16	2	1	26
BIN 6B	3	7	43	58	16	2	1	51
BIN 6B	4	7	64	79	16	2	1	76
BIN 6B	5	7	85	100	16	2	2	1
BIN 6B	6	7	106	121	16	2	2	26
BIN 6B	7	7	127	142	16	2	2	51
BIN 6B	8	7	148	161	14	2	2	76
BIN 6B	9	7	169	182	14	2	3	1
BIN 6B	10	7	190	203	14	2	3	26
BIN 6B	11	7	211	224	14	2	3	51
BIN 6B	12	7	232	245	14	2	3	76
BIN 6B	13	7	253	266	14	2	4	1
BIN 6B	14	7	274	287	14	2	4	26
BIN 6B	15	7	295	308	14	2	4	51
BIN 6B	16	7	316	329	14	2	4	76
BIN 6B	17	8	1	14	14	2	5	1
BIN 6B	18	8	22	35	14	2	5	26
BIN 6B	19	8	43	55	13	2	5	51
BIN 6B	20	8	64	76	13	2	5	76
BIN 6B	21	8	85	97	13	2	6	1
BIN 6B	22	8	106	118	13	2	6	26
BIN 6B	23	8	127	139	13	2	6	51
BIN 6B	24	8	148	160	13	2	6	76
BIN 6B	25	8	169	181	13	2	7	1
BIN 6B	26	8	190	202	13	2	7	26
BIN 6B	27	8	211	223	13	2	7	51
BIN 6B	28	8	232	244	13	2	7	76
BIN 6B	29	8	253	265	13	2	8	1
BIN 6B	30	8	274	286	13	2	8	26
BIN 6B	31	8	295	307	13	2	8	51
BIN 6B	32	8	316	328	13	2	8	76
BIN 6B	33	9	1	13	13	2	9	1
BIN 6B	34	9	22	34	13	2	9	26
BIN 6B	35	9	43	55	13	2	9	51



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Temp	Temp	Rolfes	Data	Data	Number	PSIC	PSIC	PSIC
Cable	Cable	Mux	Start	End	of Sensor	Port	Dataset	Starting
Location	Number	Number	Location	Location	Points	Number	Number	Register
BIN 6B	36	9	64	76	13	2	9	76
Spare		9	85	105	21	2	10	1
Spare		9	106	126	21	2	10	26
Spare		9	127	147	21	2	10	51
Spare		9	148	168	21	2	10	76
Spare		9	169	189	21	2	11	1



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## **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, or e-mail to the addresses below.

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

1. Nobin William
2. Martin Berutti

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:  
[support@mynah.com](mailto:support@mynah.com)

Thank you for using DeltaV.