

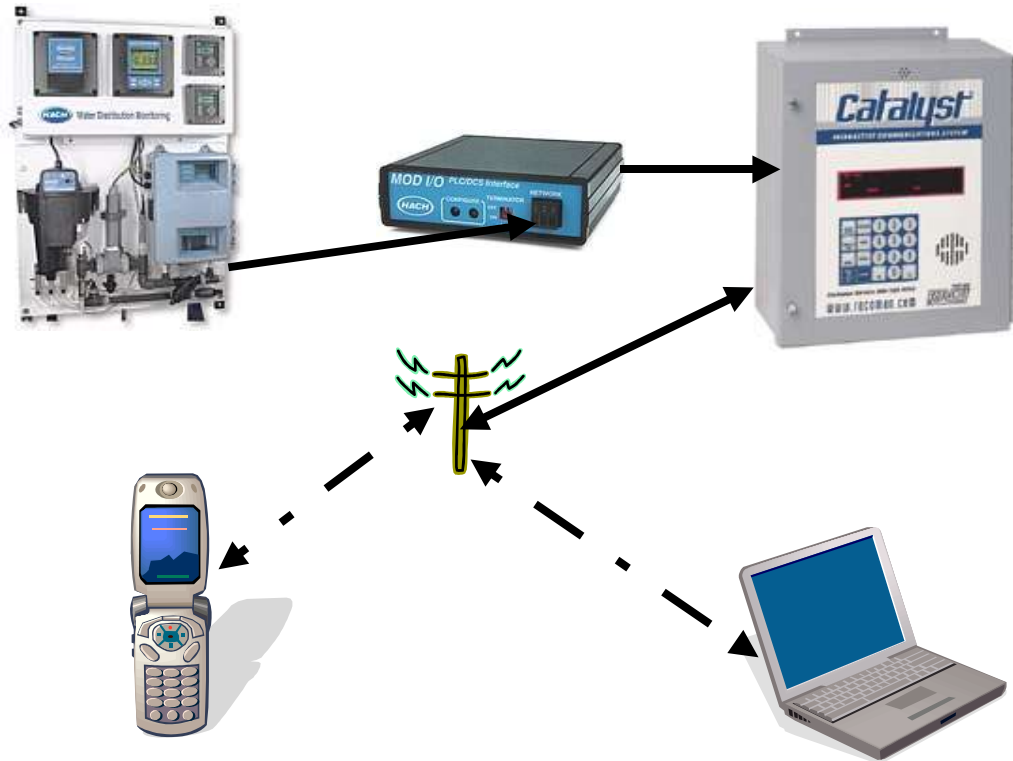


Application Note AN142

Connecting the RACO® Catalyst® RTU to the Hach Water Distribution Panel using the Mod I/O Modbus Interface Module

Purpose

The purpose of this application note is to act as a quick start guide when using the Catalyst RTU (Remote Telemetry Unit) with the Hach WDP (Water Distribution Panel).



System Diagram 1: WDP and Catalyst System

Introduction

¹The Catalyst RTU functions as an auto-dialing remote alarm monitor and data logger. Auto-dialers and RTUs are typically used at remote, unattended locations, to monitor the condition of automatic equipment. The mission of an Autodialer/RTU is to compare inputs against alarm criteria. Then if alarm violations occur, the RTU calls maintenance personnel (or a central station computer) to inform them of the "out of normal" condition at the remote site.

Alarm notification reports are typically made to operators as voice reports. However, data reports to central computers can be made as well.

1) Reference: RACO Catalyst Operators Manual, 2/23/2004, version 1.87

Figure 1 illustrates a WDP/Catalyst system. A Mod I/O Gateway is connected to the WDP (Water Distribution Panel) via the AquaTrend network. The Catalyst RTU is connected to the Mod I/O via a RS232 null modem cable. The Catalyst RTU is connected to a POTS (Plane Old Telephone System) via a RJ11 phone cable. The Catalyst unit monitors the WDP via the Mod I/O Modbus interface and reports to the telephone and/or computer the periodic status of the monitored signals. The Catalyst can also notify both the telephone and computer in the event of user defined Alarm conditions.

System Requirements

Equipment and Software

- Hach Water Distribution Panel #5980000
- Hach Mod I/O #5710000
- “X” feet of AquaTrend Network Cable #5215700
- RACO Catalyst RTU www.racoman.com
- RACO Alarmware Software
- Dedicated POTS (Plane Old Telephone System) Line
- One PC (see minimum requirements for computer)

Minimum Computer Requirements

- Operating System: Windows 2000 or XP
- Internal or External 56k Modem (for Remote PC)
- CD ROM
- 400 MHz or better Processor
- 256 Meg of RAM
- One RS232 Serial Port (for local configuration PC)
- Adequate Program Disk Drive space: ~20 Meg

Hardware Setup

1. Follow the instructions in the Mod I/O instruction manual for connecting the Mod I/O to the AquaTrend network of the Water Distribution Panel.
2. Connect the Mod I/O via the null modem cable that comes with the Mod I/O to the 9 pin Modbus Port of the Catalyst RTU.
3. Connect the local configuration PC RS232 Serial Port to the Catalyst RTU 9 pin Alarmware Port with the RACO Alarmware cable.
4. Make certain that both the Catalyst RTU and Mod I/O are connected to AC power as outlined in the respective instruction manuals.


Software Installation

Install the RACO **Alarmware** software on the local PC being used to configure the Catalyst RTU by inserting the **Alarmware CD** and following the installation instructions.

This software will also be used on the remote PC for downloading data files and for configuration of the Catalyst RTU from a remote site.

The Alarmware CD contains an instruction manual for the Catalyst RTU in .PDF format. This manual contains detailed instructions for software installation, wiring of the Catalyst RTU, and operation of both the Catalyst RTU and the Alarmware software. It is recommended that you review this manual before proceeding with this application note.

Configuring Alarmware Off-Line

1. From the Windows **Start|Programs** menu, open the **Alarmware** program . Click on the **Edit** button in the **Select RTU** dialog..

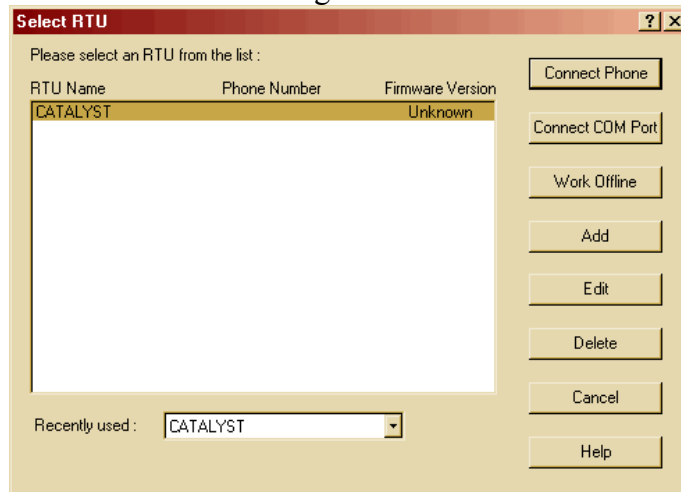


Figure 1: Select RTU Dialog

2. Edit the **Add/Edit RTU** dialog with your appropriate **RTU Name**, **Phone Number** (phone number of the RTU), and select your **RTU Model Number**.

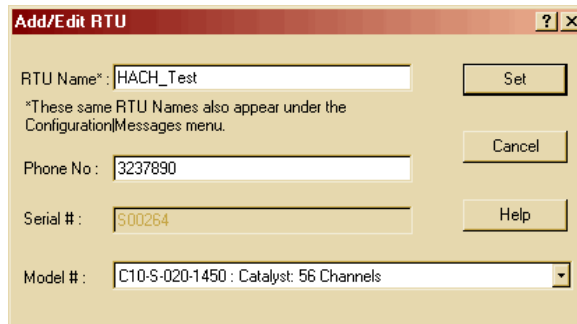


Figure 2: Add/Edit RTU Dialog

3. Click on the **Set** button.

Table 1 outlines the configuration of a Water Distribution Panel AquaTrend network.

Sensor #	AquaTrend Device	AT Display Channels
1	1720D	A = Turbidity (NTU)
2	CL17	B = Cl (ppm)
3	SIMa (pH / Temp)	C = pH D = Temp (° C)
4	SIMa (Conductivity / PSI)	E = Cond (uS) F = PSI
5	SIMa (TOC)	G = TOC (mg/L)

Table 1: WDP AquaTrend Network Configuration

Table 2 has the Mod I/O Modbus addresses for the various sensor readings in IEEE Floating Point format.

Device	AT Display Channels	Modbus Addresses
1720D	A = Turbidity (NTU)	Turbidity = 41001
CL17	B = Cl (ppm)	Chlorine = 41017
SIMa pH / Temp	C = pH D = Temp (° C)	pH = 41033 Temp = 41035
SIMa Conductivity / PSI	E = Cond (uS) F = PSI	Conductivity = 41049 Pressure = 41051
SIMa TOC	G = TOC (mg/L)	TOC = 41065

Table 2: WDP/Mod I/O Modbus Addresses

We will use the Modbus addresses in **Table 2** to configure the **Channel Settings** for the RACO Catalyst RTU.

- Click on the **Work Offline** button in the Select RTU dialog.

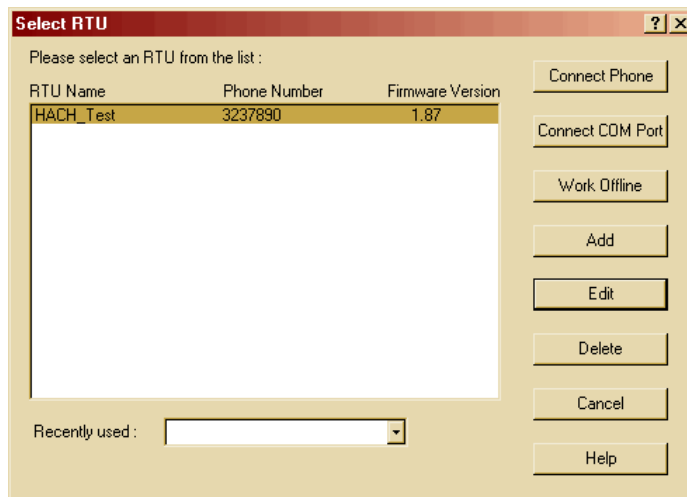


Figure 3: RTU Name Created

- Then click on the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window.

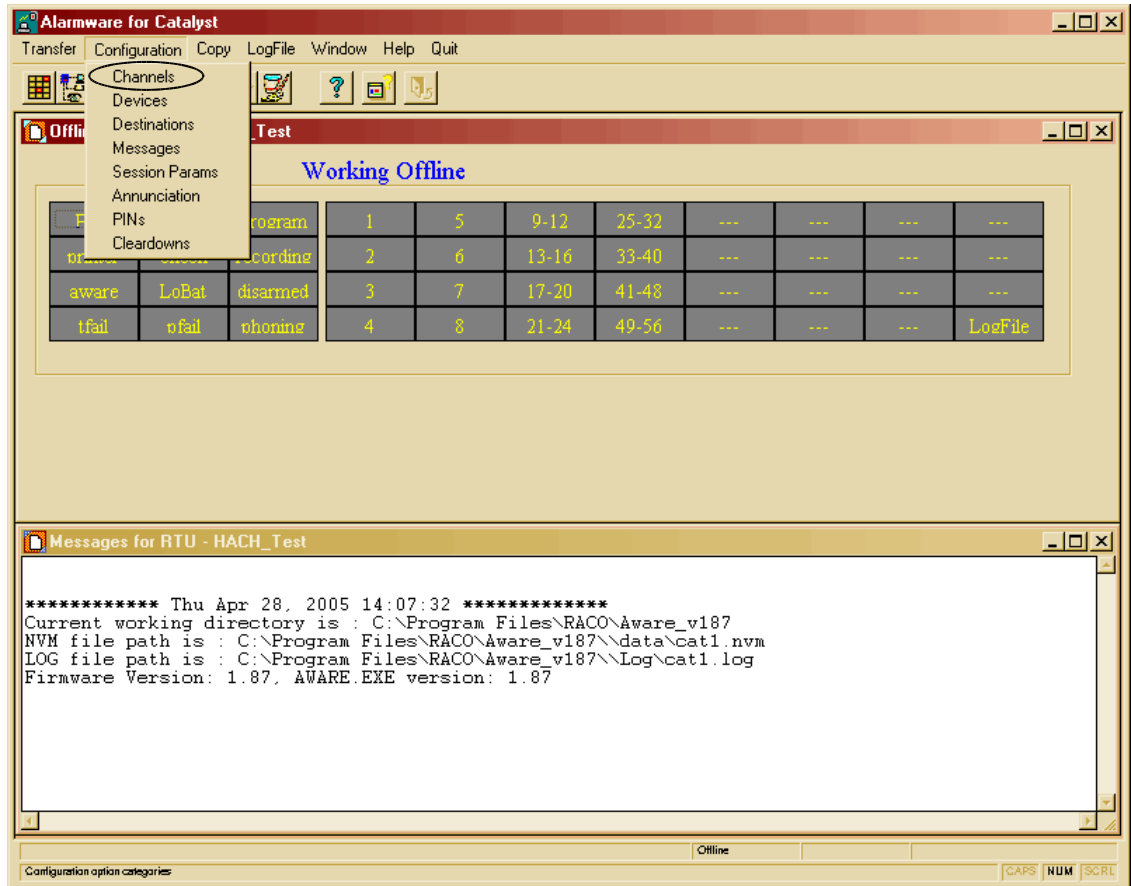


Figure 4: Alarmware for Catalyst Window

6. Select **Channels** from the **Configuration** menu and configure **Channel 1** as shown in **Figure 6** for **Turbidity** by first entering the SNA.

Note that for Modbus Floats, Alarmware uses the Modbus pseudo registers in the 50000 range. For example a Modbus Float register 41001 would be 51001.

The SNA (Source Net Address) has the format of **Net*Node*Address**. Since we are using the Modbus port on the RTU, we will set the **Net = 1**. The **Node** is the **Modbus Address**. In this example our **Mod I/O** has its **Modbus Address** set to **5** so we set the **Node = 5**. The **SNA Address** is the **Modbus Register** we want to collect data from. Our **Turbidity Data Register** is **41001** and it is a Float (made up of Registers 41001 and 41002). Therefore we will set the **SNA Address = 51001**.

>>>>>The end result for **Turbidity** is: <<<<<<
SNA = 1*5*51001.

7. After you enter the SNA field, click on the **Physical Input** button to accept the SNA value.

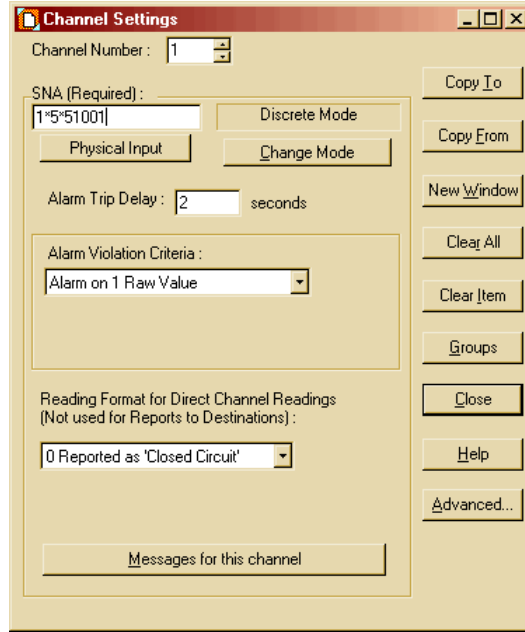


Figure 5: Entering the SNA in the Channel Settings Dialog

The **Alarm Setpoints** in this application note example have been set to assure you will not have an alarm condition unless the turbidity value exceeds the unlikely value of 5 NTU. We recommend that you set the initial alarm setpoints as shown in the examples until you have proven your configurations and communication with the Catalyst RTU. You can then use Alarmware to change the **Setpoint** values to your desired limits.

8. Continue Configuring the remaining **6** Channels as shown. You can select the Channels by using the **Spin Buttons** next the Channel Number at the top of the **Channel Settings** Dialog.

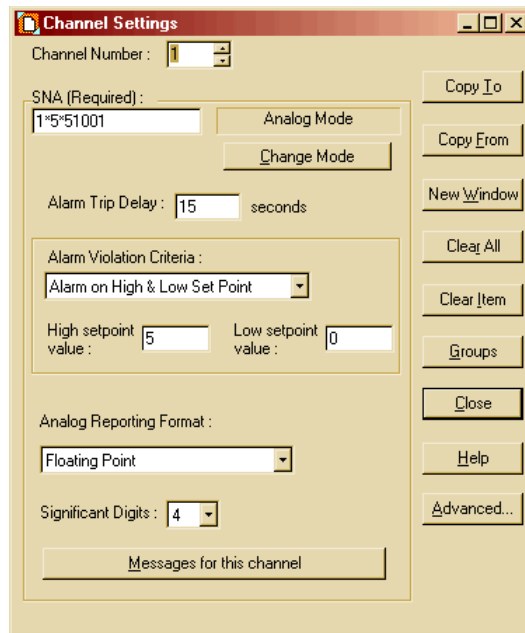


Figure 6: Channel 1, Turbidity

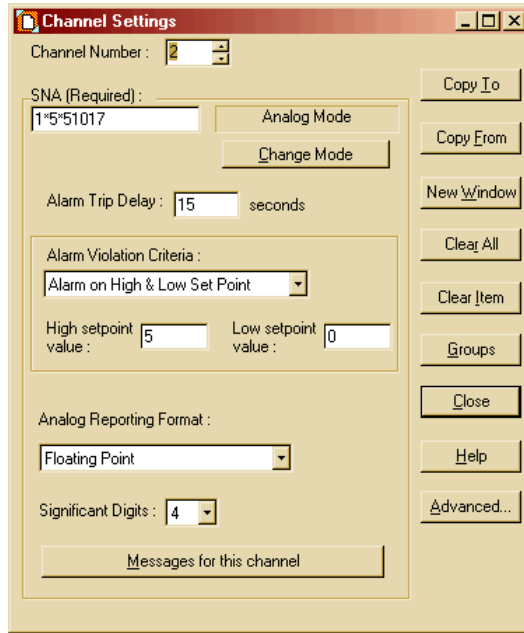


Figure 7: Channel 2, Chlorine

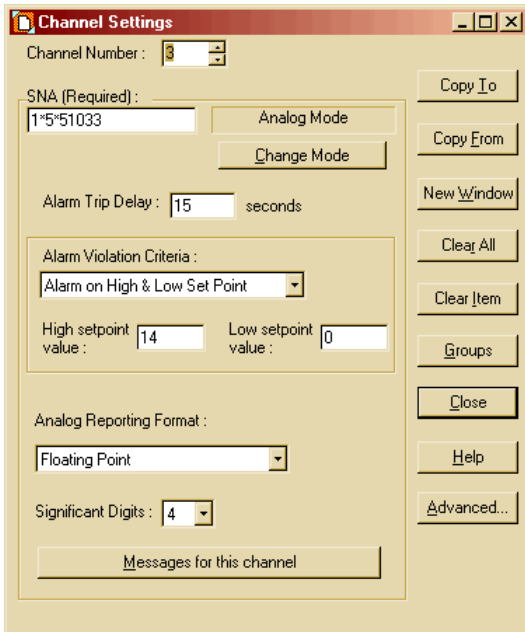


Figure 8: Channel 3, pH

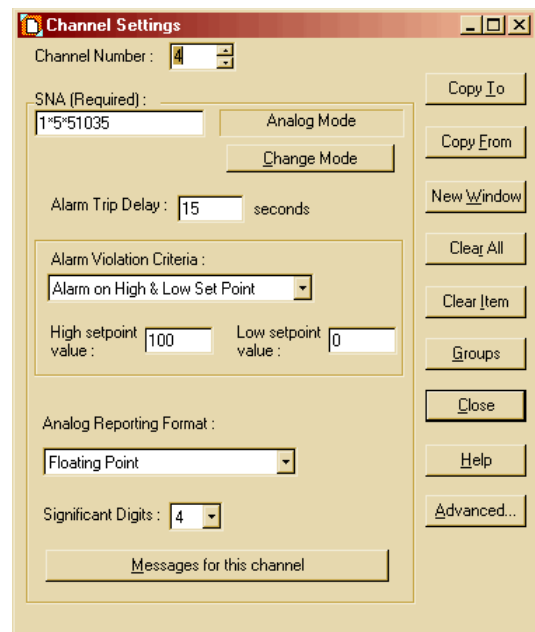


Figure 9: Channel 4, Temperature

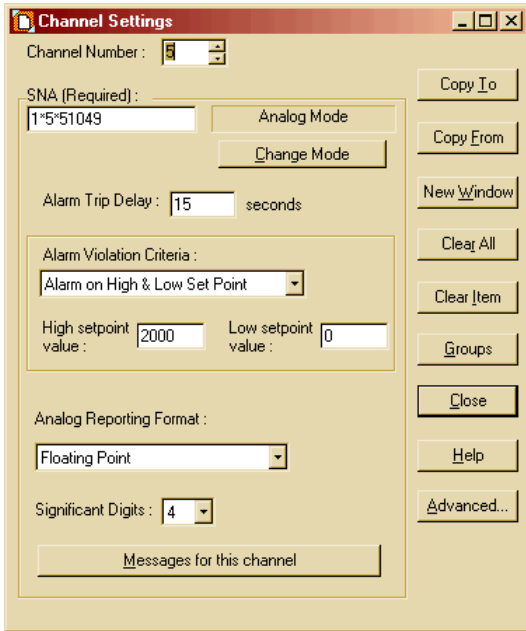


Figure 10: Channel 5, Conductivity

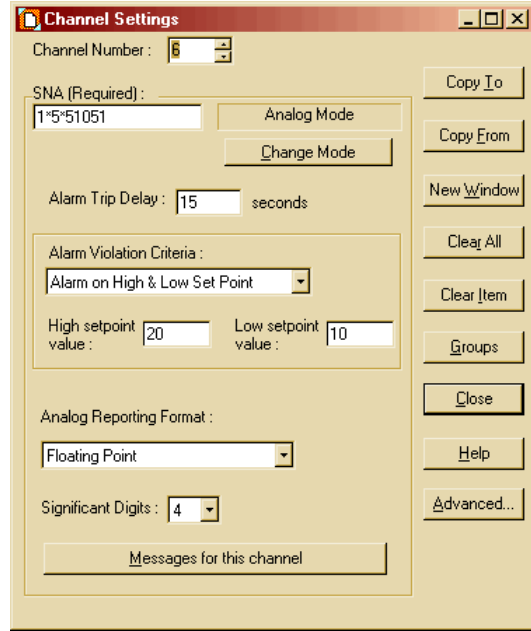


Figure 11: Channel 6, Pressure

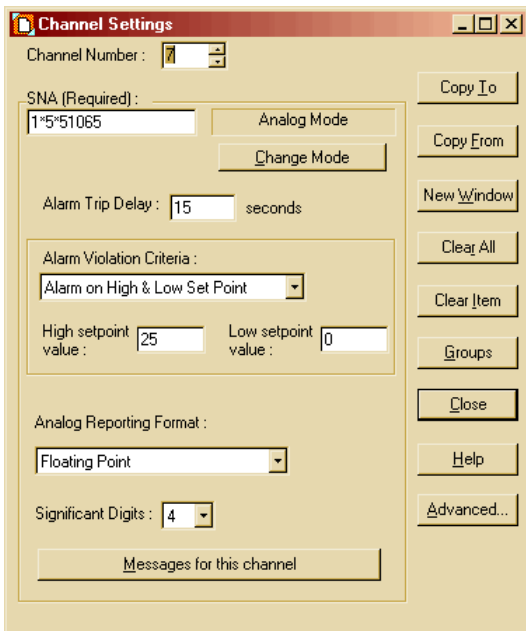


Figure 12: Channel 7, TOC

9. After configuring all 7 channels, click on the **Close** button.
10. Then click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Devices**. Select the **Phone Config** tab and enter the **RTU Phone Number**. The other setting can remain as shown in Figure 13.

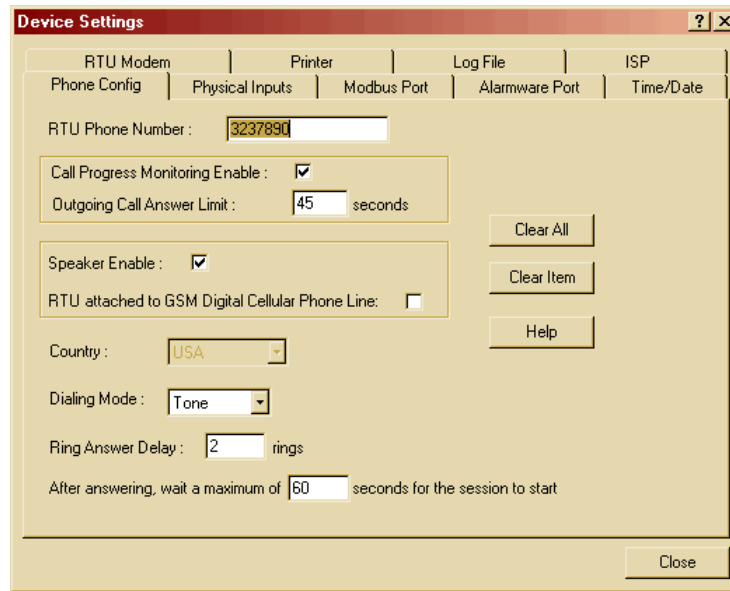


Figure 13: Device Settings, Phone Config

11. Select the **Modbus Port** tab and configure it as shown. The Mod I/O in this example was set as follows: baud rate = **19200**, stop bits = **1**, and parity = **none**. Enter these values in the Dialog as shown in Figure 14.

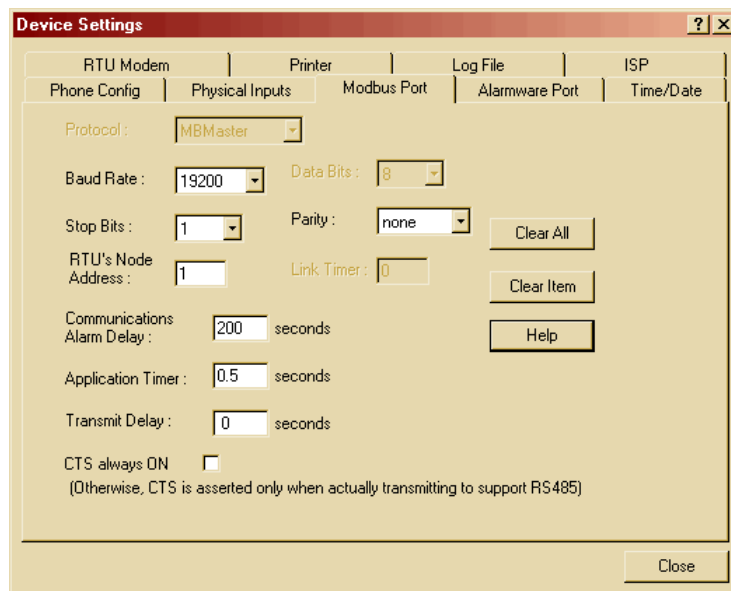


Figure 14: Device Settings, Modbus Port

12. Then select the **Alarmware Port** tab and make sure it is configured as shown in Figure 15.

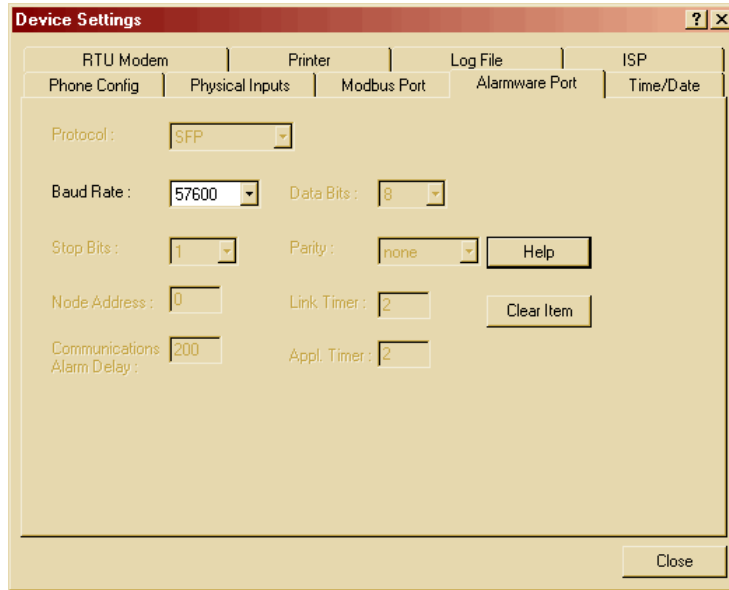


Figure 15: Device Settings, Alarmware Port

13. Select the **Time/Date** tab and configure it as shown in Figure 16 with the current time and date.

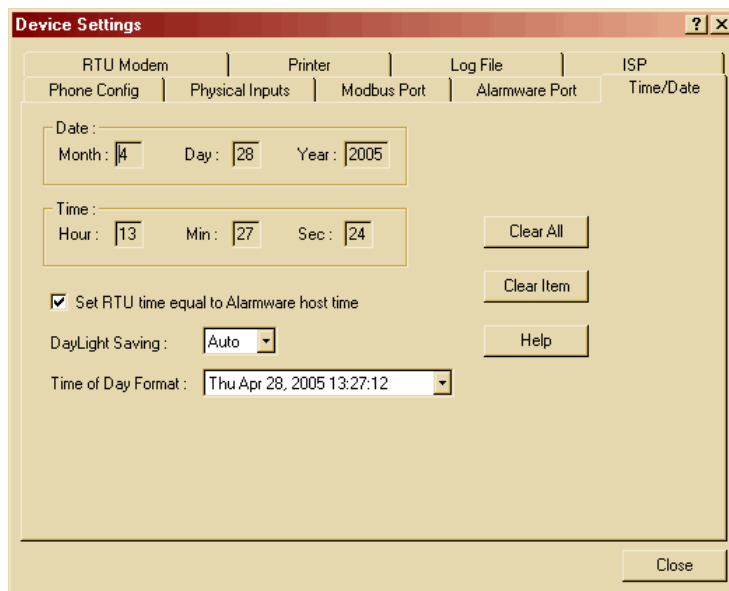


Figure 16: Device Settings, Time/Date

14. Select the **Log File** tab and configure it as shown. The shown configuration will log channel data to the file every 15 minutes starting at Midnight (Base time). You can enter your desired logging rate at this time. The Alarmware documentation has detailed information on the Catalyst memory size etc.

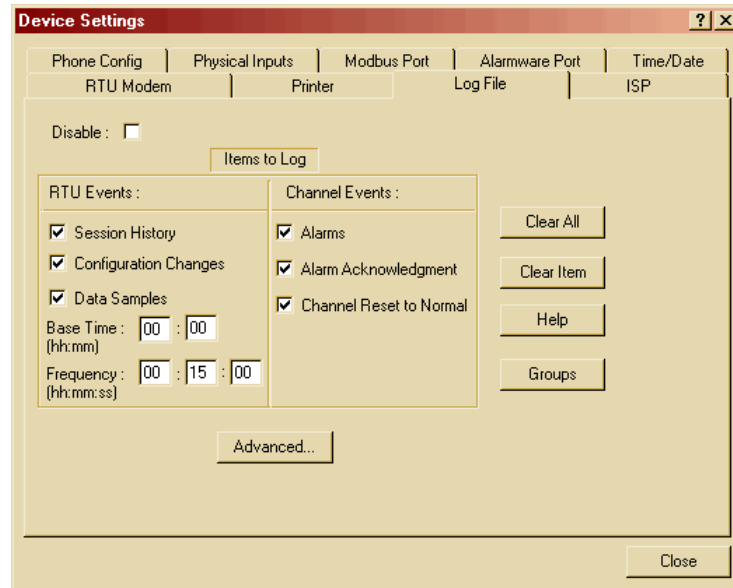


Figure 17: Device Settings, Log File

If you desire E-mail notification of Alarms, Status, and Log Files, you can configure the **ISP** tab as shown. E-mail service requires that you have an established dial-up **ISP** (Internet Service Provider) with an established E-mail account that does not require authentication. Contact your ISP to see if they require authentication for their E-mail server.

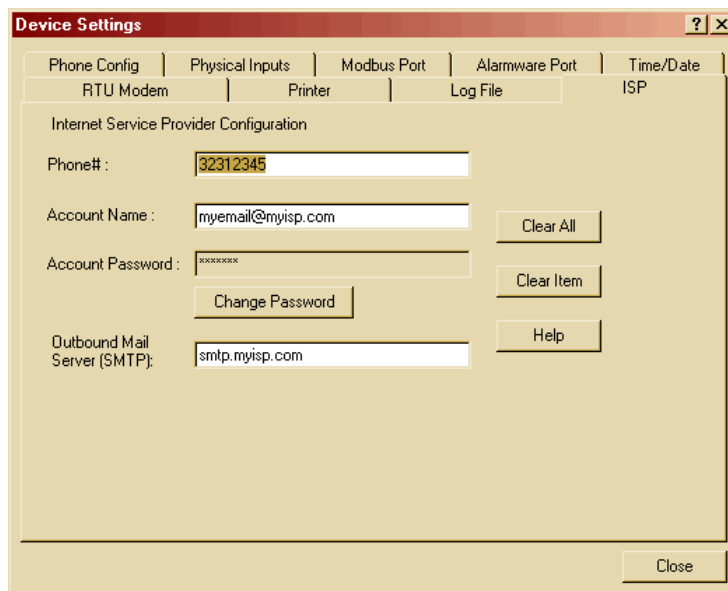


Figure 18: Device Settings, ISP

15. After configuring the Devices, click the **Close** button.

16. Then click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Destinations**.

This is where we choose how we want Catalyst to communicate with us. For this example, **Destination #1**, we will configure Catalyst to send us Telephone messages.

17. On the **General** Tab, select **Destination # 1**, set **Destination Type** to **Telephone** and enter the phone number you want Catalyst to call for this destination. You can also name the destination.

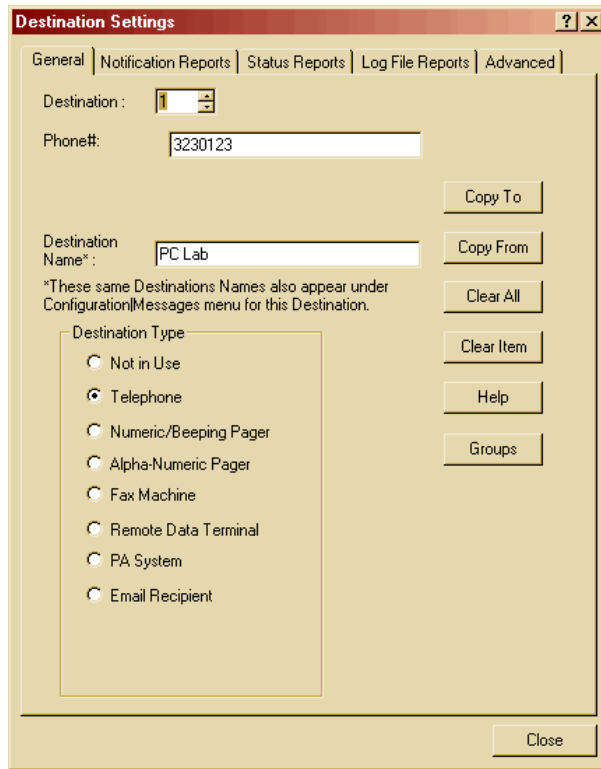


Figure 19: Destination Settings, General

18. Select the **Notification Reports** tab for Destination #1 and configure it as shown in Figure 20.

Catalyst will call the phone number for this destination and report any Alarm states and Alarm Acknowledgements. Catalyst will continue to call the phone number until the Alarm(s) are acknowledged.

If you have more than one phone number to call, the Catalyst starts with the lowest number and works its way through the assigned numbers, then starts over until someone acknowledges.

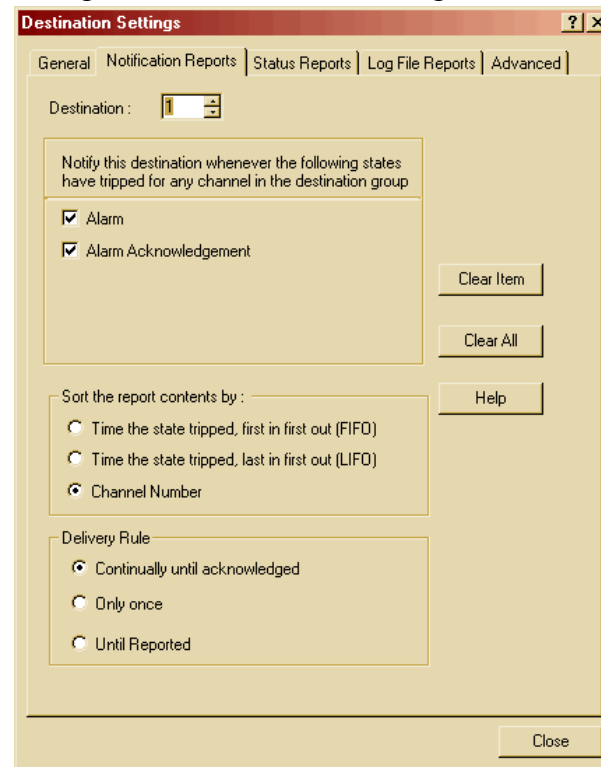


Figure 20: Destination Settings, Notification Reports

- 19. Select the **Status Reports** tab for Destination #1 and configure it as shown. In this example, since the Frequency is set to **24** hours, the status report will be delivered via the telephone once a day at **11 AM**.

Note that the **Base time** is in 24 hour (Military) time format.

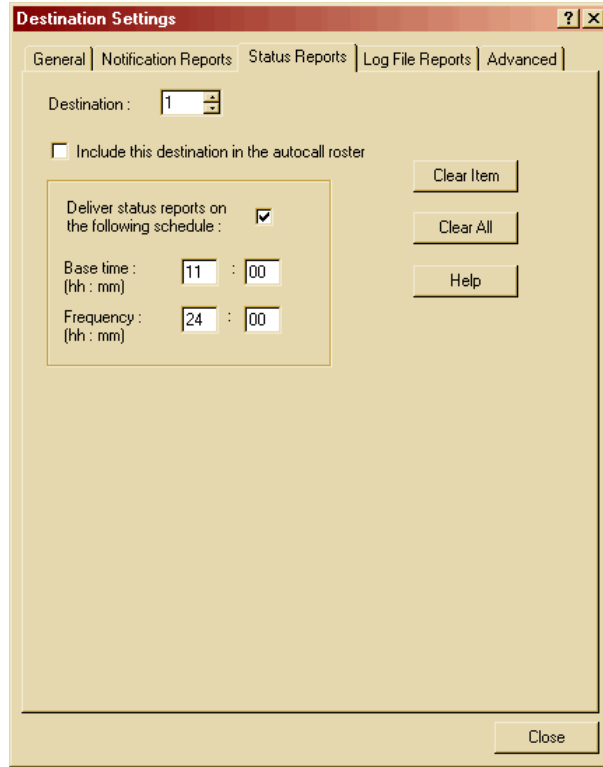


Figure 21: Destination Settings, Status Reports

- 20. To configure a FAX destination, select the **General** tab and set the **Destination** to #2. Then set the **Destination Type** to **Fax Machine** and configure as shown, entering your FAX Phone Number and Destination Name.

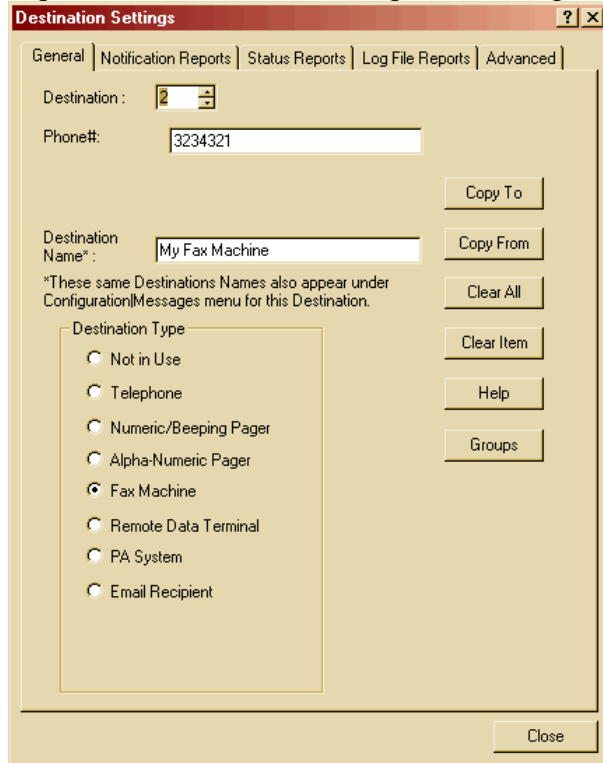


Figure 22: Destination Settings, General, FAX

21. Select the **Notification Reports** tab for Destination #2 and configure it as shown in Figure 23.

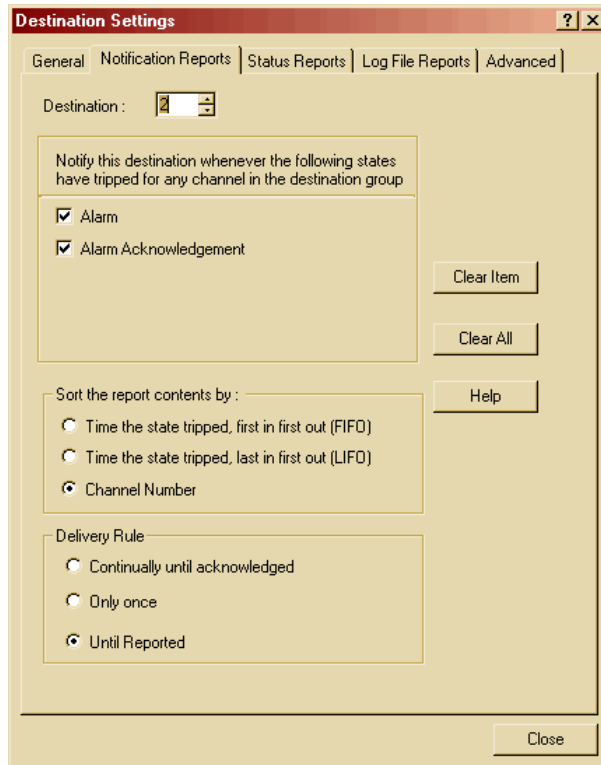


Figure 23: Destination Settings, Notification Reports

22. Select the **Status Reports** tab for Destination #2 and configure it as shown in Figure 24. The status report will be delivered via FAX every day at 30 minutes after Midnight.

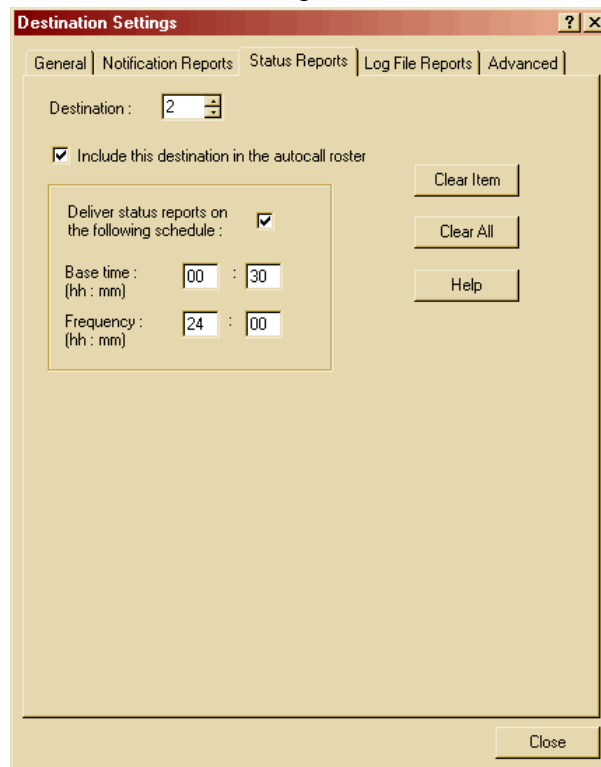


Figure 24: Destination Settings, Status Reports

23. Select the **Log File Reports** tab for Destination #2 and configure it as shown in Figure 25. In this example, the configuration will send a Log File to the FAX machine starting at 45 minutes after Midnight and every 6 hours thereafter. Since we selected **Undelivered data only**, the data that had not previously been delivered will be in the report.

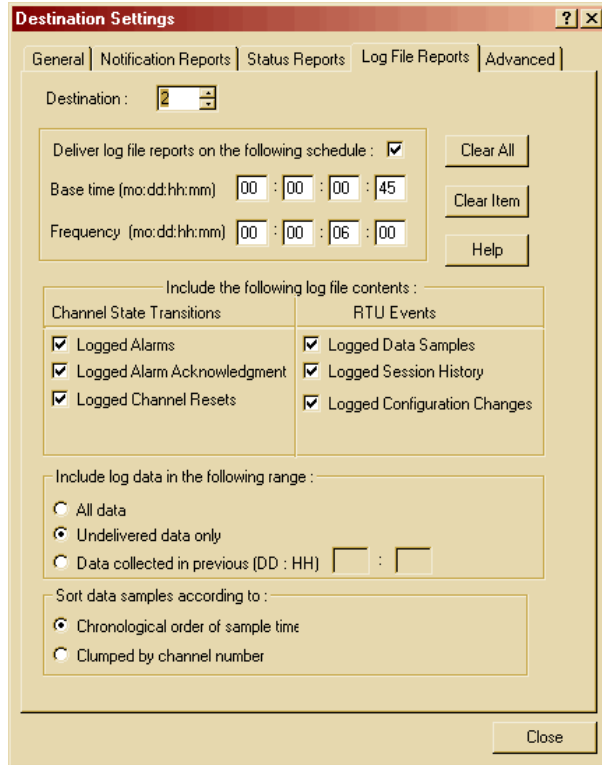


Figure 25: Destination Settings, Log File Reports

24. Select the **Advance** tab for Destination #2 and configure it as shown in Figure 26.

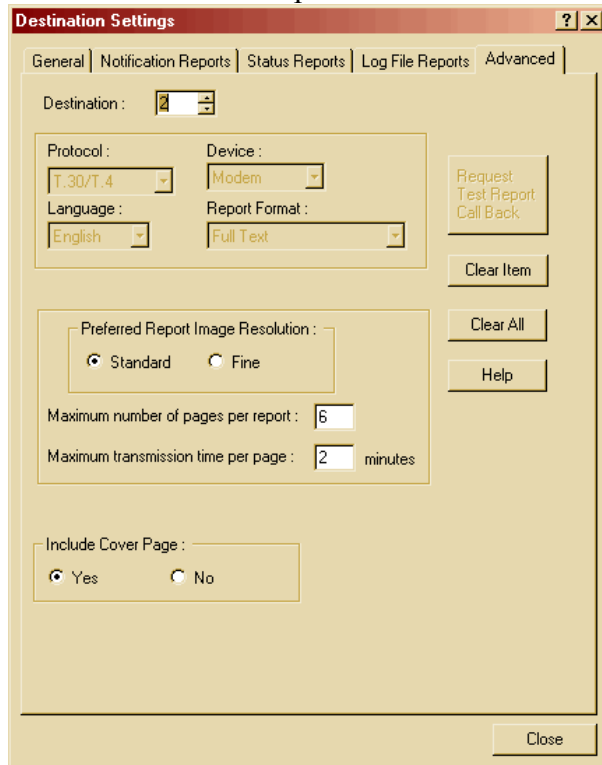


Figure 26: Destination Settings, Advance

25. To configure an **Email Recipient** destination, select the **General** tab and set the **Destination** to #3. Then set the **Destination Type** to **Email Recipient** and configure as shown in Figure 27, entering your **Email Address** and **Destination Name**.

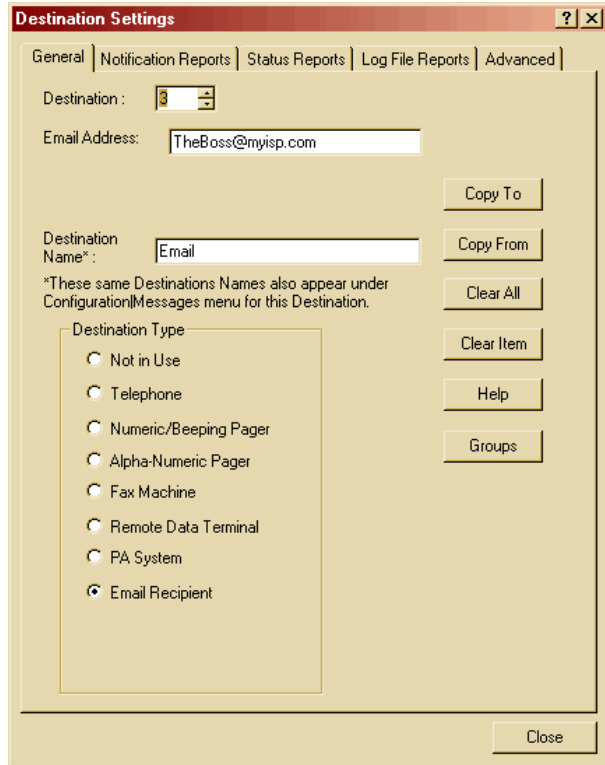


Figure 27: Destination Settings, General, Email Reports

26. Select the **Notification Reports** tab for Destination #3 and configure it as shown in Figure 28. .

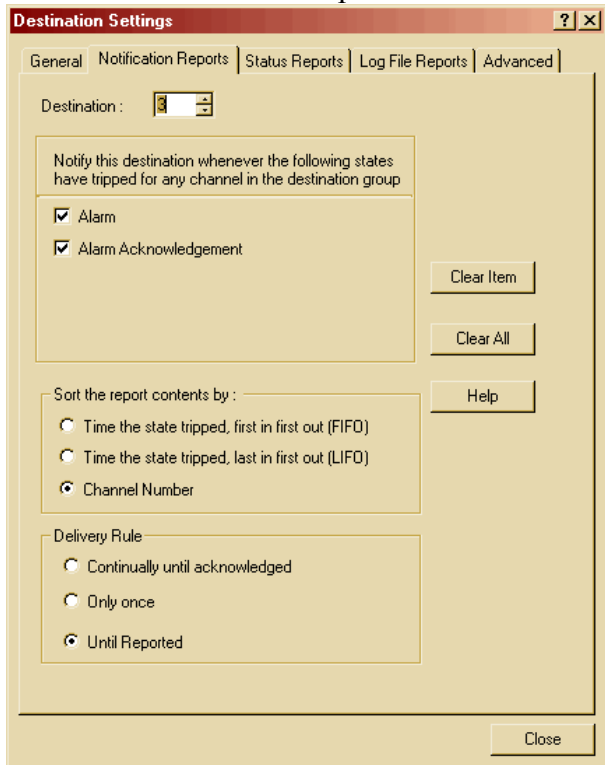


Figure 28: Destination Settings, Notification Reports

27. Select the **Status Reports** tab for Destination #3 and configure it as shown in Figure 29. The status report will be delivered via Email every day at 1 AM. Since the “Include this destination in the autocall roster” box has been checked, when the Catalyst makes an auto call, an E-mail Status Report will be sent.

An Autocall is a test call made at scheduled intervals. The intervals can be configured in the **Annunciation Options** dialog, Figure 47 on page 25.

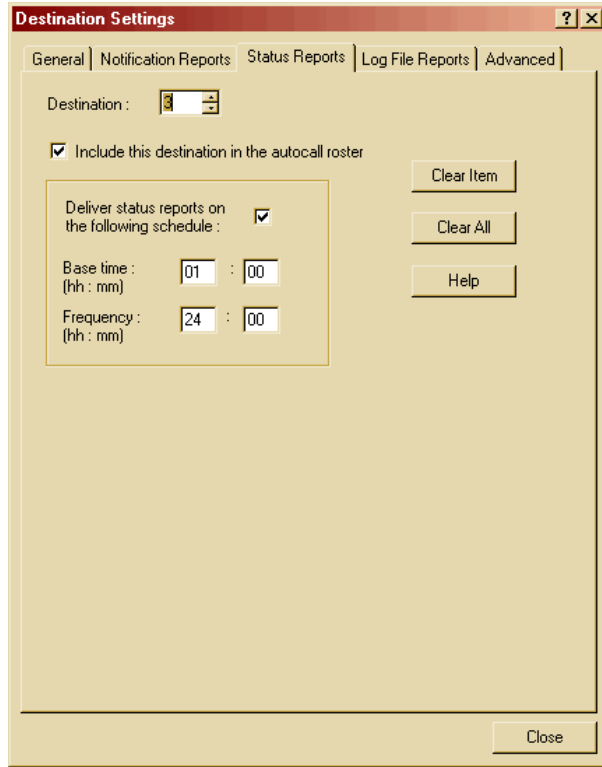


Figure 29: Destination Settings, Status Reports

28. Next select the **Log File Reports** tab for Destination #3 and configure it as shown in Figure 30. In this example, the configuration will send a Log File to the Email Recipient starting at 1:15 AM and every 2 hours thereafter. Only the data that had not previously been delivered will be in the report.

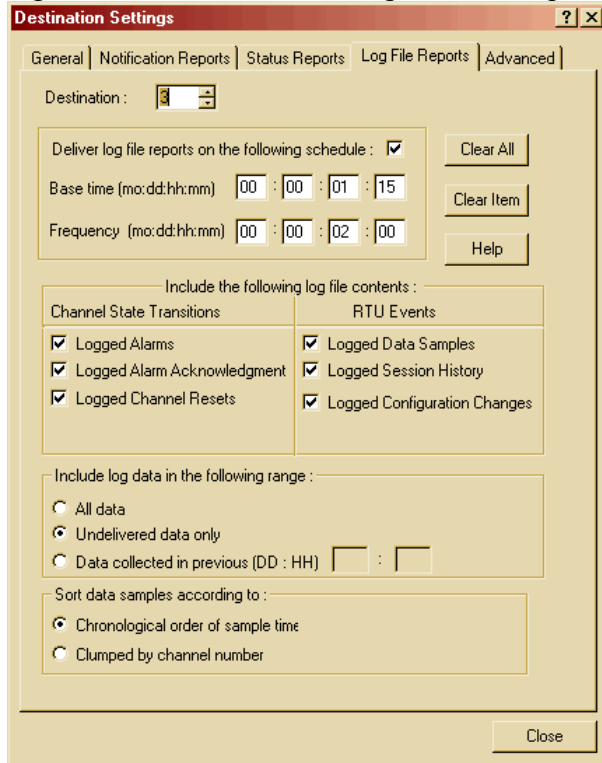
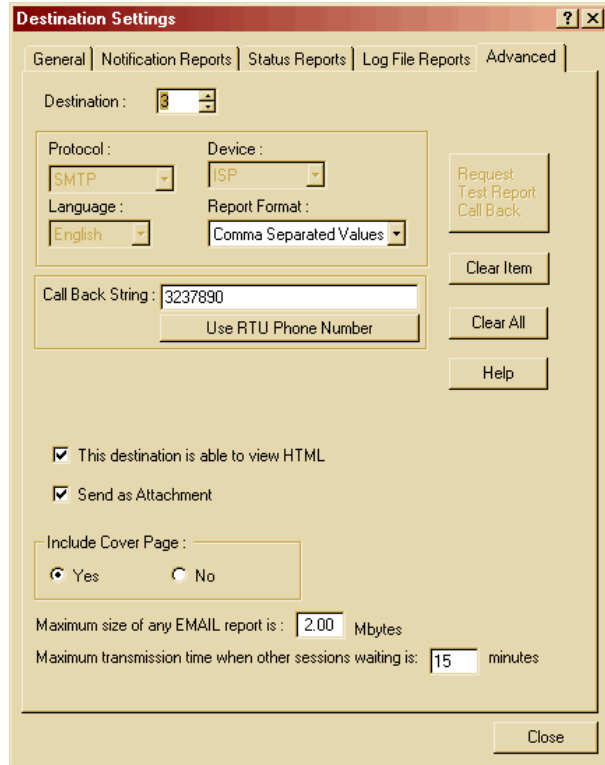


Figure 30: Destination Settings, Log File Reports

29. Select the **Advance** tab for Destination #3 and configure it as shown in Figure 31. The Call back string is the number that the report will display as the number to call when the report is received. By default, the callback number is the RTU phone number.



30. Click the **Close** button to complete the Destination Settings configuration.

Figure 31: Destination Settings, Advance

31. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **PINs**.

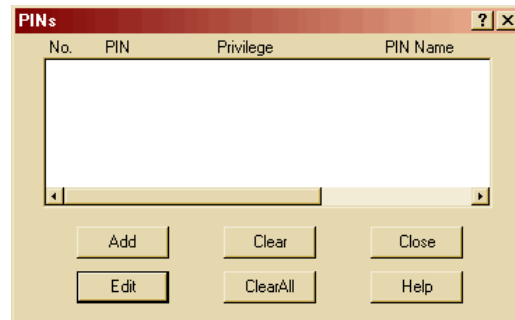


Figure 32: PINs Dialog

32. Click the **Add** button and edit the PIN Information Dialog. If PINs are configured, there will be a request for entry of a PIN number when an Alarm call is received. Refer to the Catalyst instruction manual or on-line help for additional PIN details. If desired, enter a **PIN** number, Name and select a **Privilege** level. Don't forget to record your PIN numbers in a safe place for reference.



Figure 33: PIN Information

33. Click the **OK** button to return to the **PINs** dialog. Additional PINs can be added if desired. When you are finished, click the **Close** button to complete the process of configuring PINs.

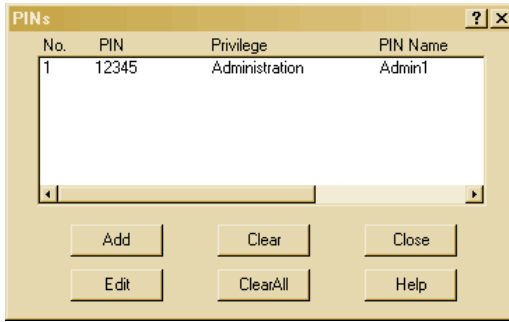


Figure 34: PINs Dialog

34. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select Messages.

At this time you can change the **RTU Name** if you desire.

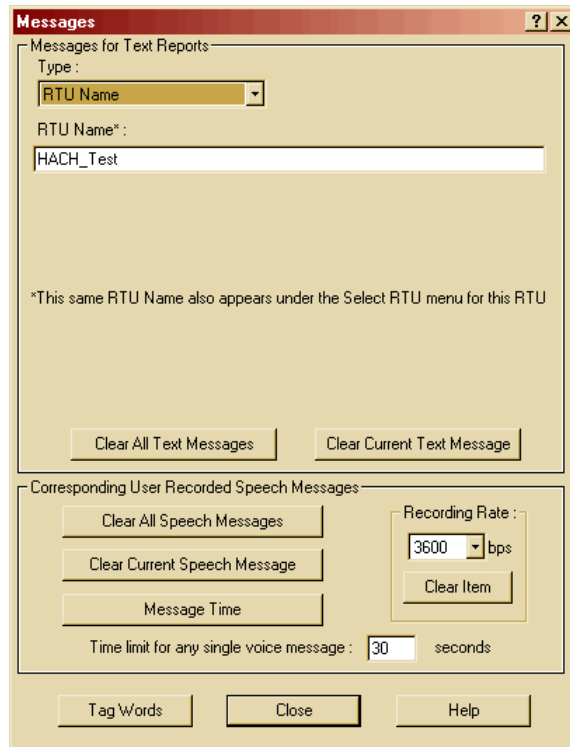


Figure 35: Messages Dialog, RTU Name

- 35. Click on the **down arrow** in the **Type** drop down list and select **Net Names**. This is the name used to identify the Net devices in text reports. Since Net Name #1 is the **Modbus Port** this example has re-named it **My Water Distribution Panel**. You can enter your specific name at this time.

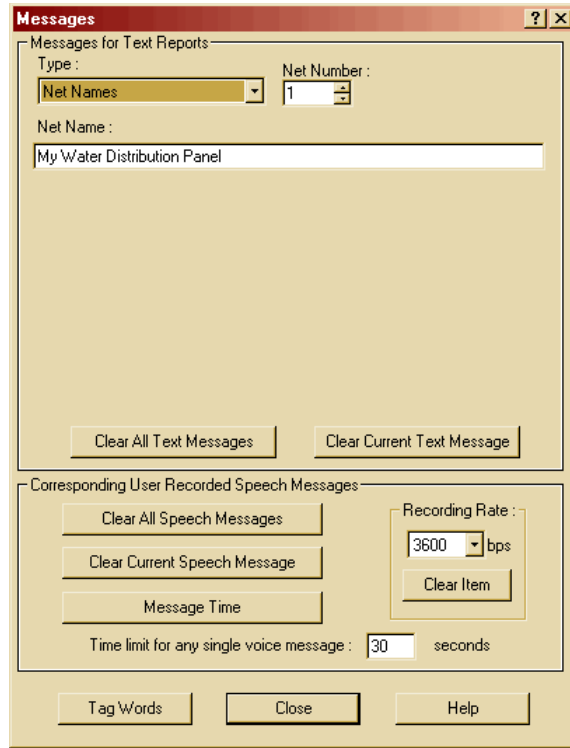


Figure 36: Messages, Net Names

- 36. Click the **down arrow** in the **Type** drop down list and select **Destination Names**. This is the name of one of your Destinations (e.g. Telephone, FAX, or Email). You can edit the names here and select other Destinations by changing the **Destination Number**.

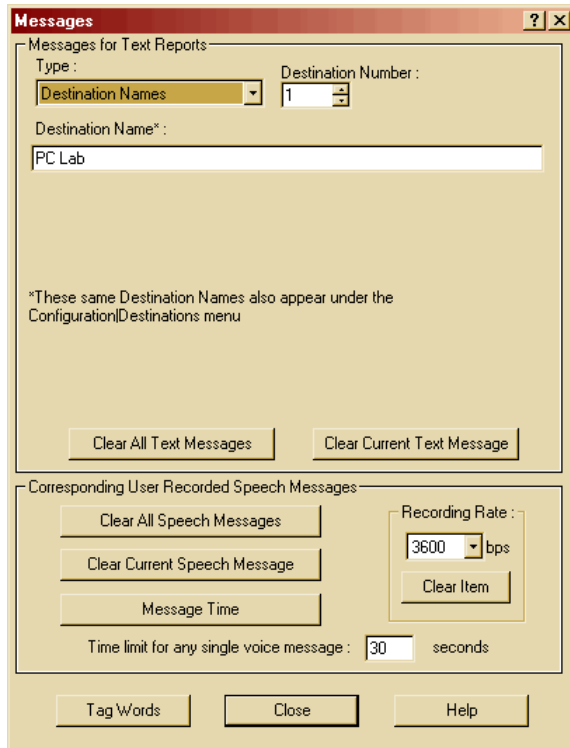


Figure 37: Messages, Destination Names

37. Click the **down arrow** in the **Type** drop down list and select **PIN Names**. You can edit the names of other PINs by changing the **PIN Number**.

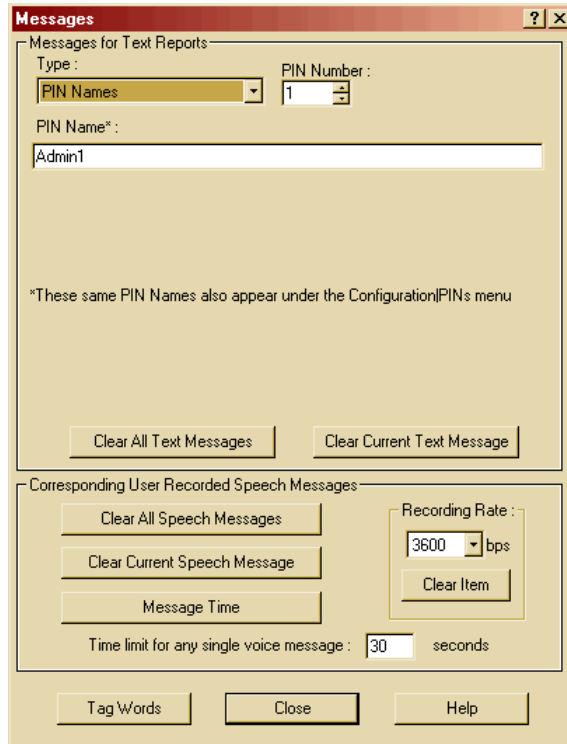


Figure 38: Messages, PIN Names

38. Click the **down arrow** in the **Type** drop down list and select **Channel Status Messages**. This is where you edit the channel message that will show up in your reports. For example if you want channel 1's message to read: **CHANNEL 1 Turbidity is 0.085 NTU**, where 0.085 is the current value, you would edit the dialog for Channel Number 1 as shown Figure 39. You can edit other channels by changing the **Channel Number**.

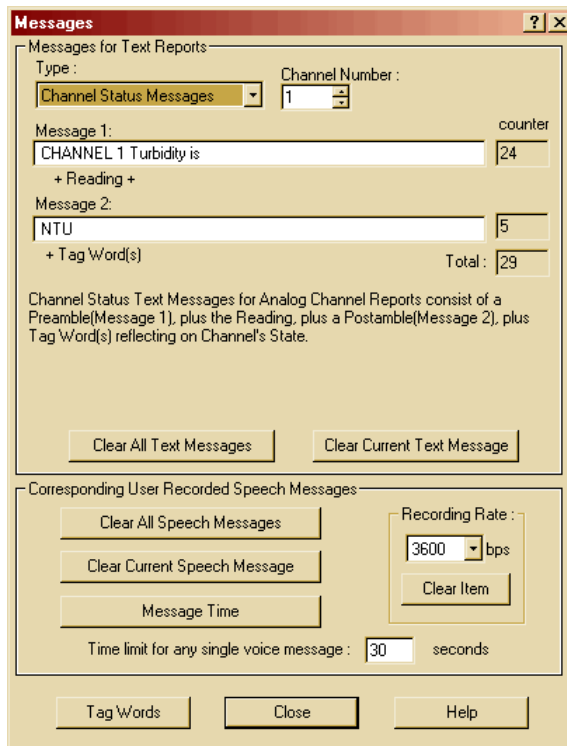


Figure 39: Messages, Channel Status Messages

39. Change the **Channel Number** to **2** and edit it as shown in Figure 40.

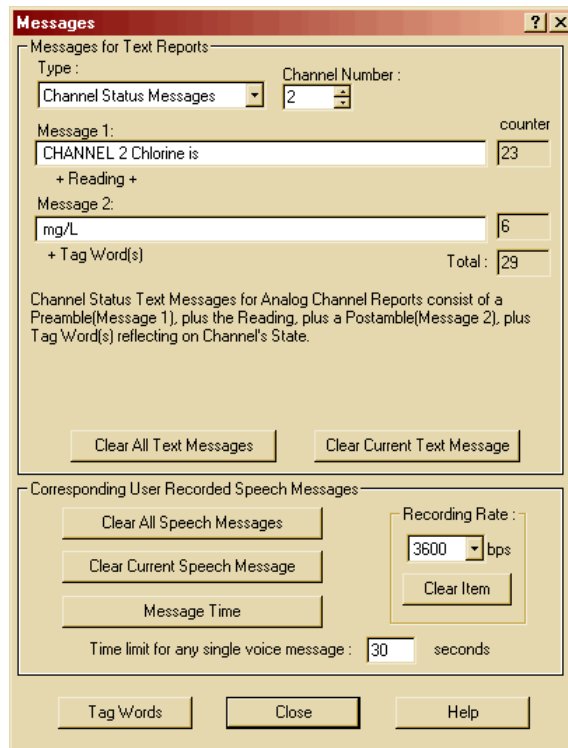


Figure 40: Messages, Channel 2

40. Change the **Channel Number** to **3** and edit it as shown in Figure 41.

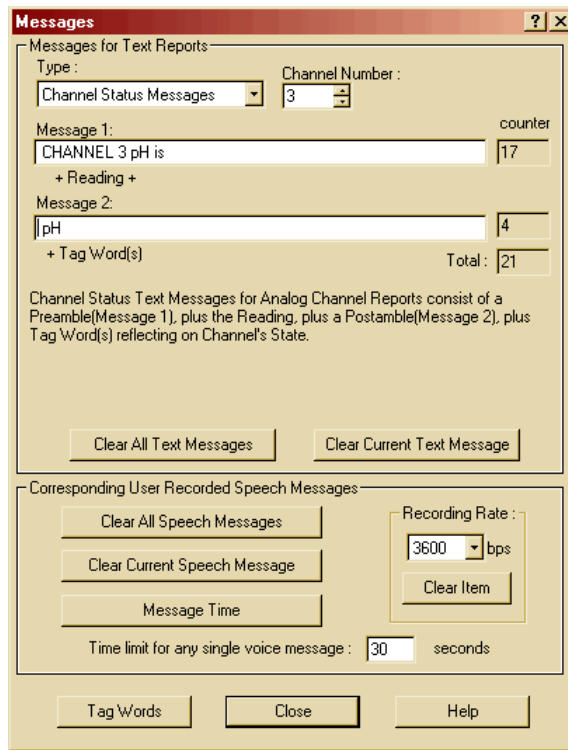


Figure 41: Messages, Channel 3

41. Change the **Channel Number** to 4 and edit it as shown in Figure 42.

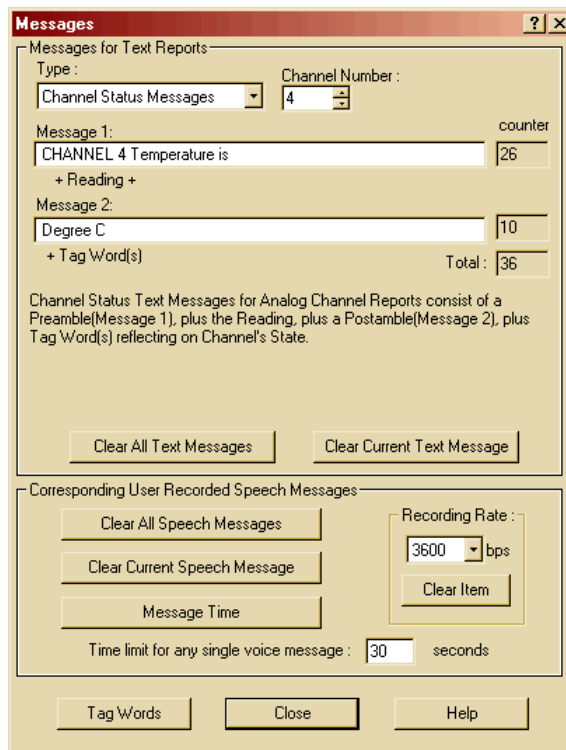


Figure 42: Messages, Channel 4

42. Change the **Channel Number** to 5 and edit it as shown Figure 43.

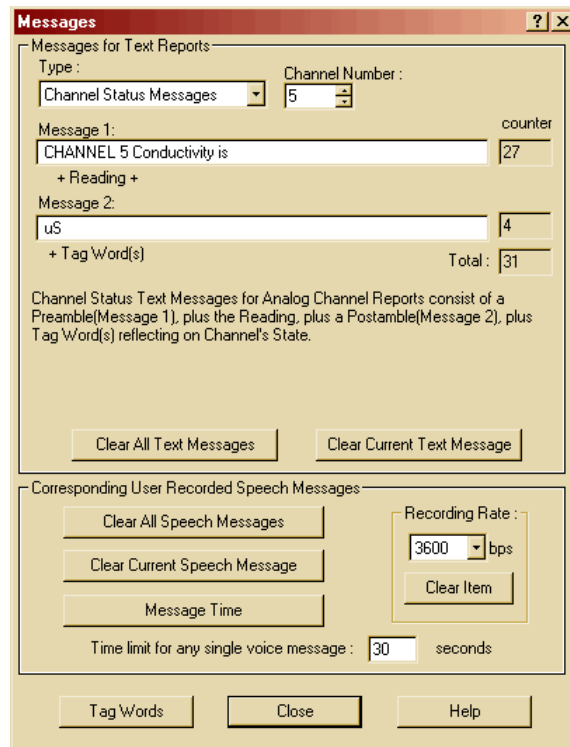


Figure 43: Messages, Channel 5

43. Change the **Channel Number** to **6** and edit it as shown Figure 44..

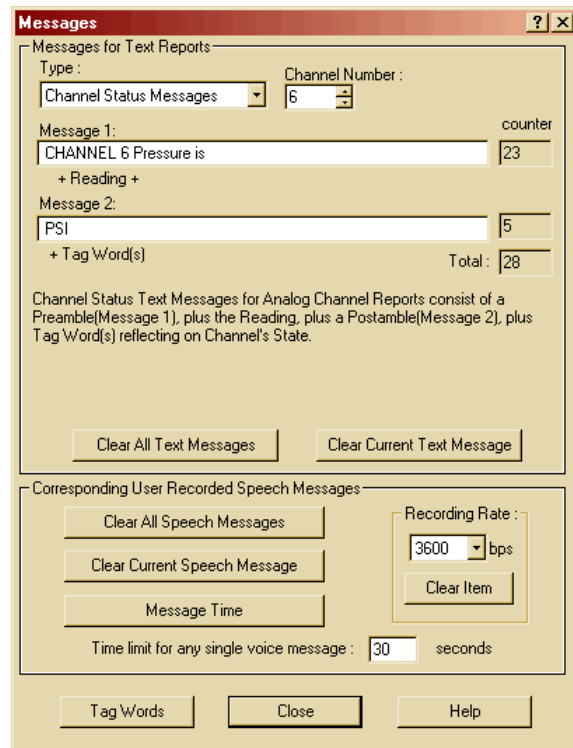


Figure 44: Messages, Channel 6

44. Change the **Channel Number** to **7** and edit it as shown Figure 45. Then click the **Close** button.

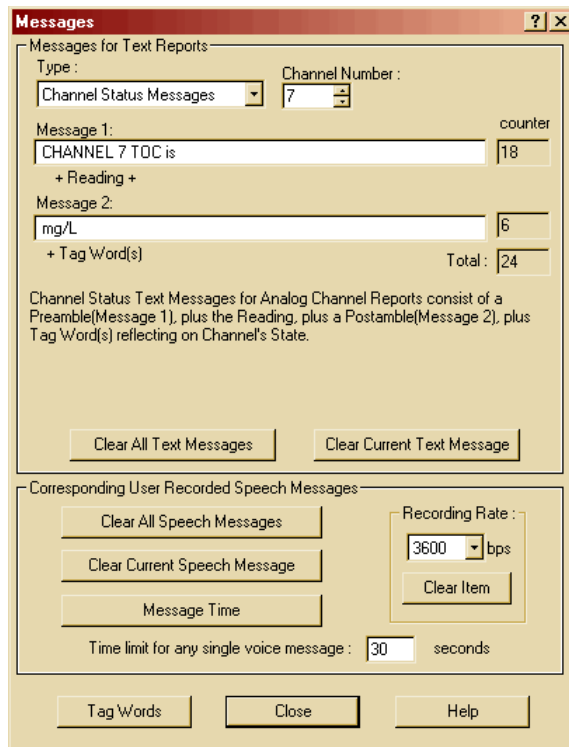


Figure 45: Messages, Channel 7

45. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Session Params.** Edit the **Session Timeout** to **600** seconds and click the **Close** button.

Figure 46: Session Parameters

46. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Annunciation.** Edit the dialog as shown in Figure 47 so the phone line is checked once an hour or however often you prefer.

47. If you desire, check the **Conduct test "autocalls"** box and set up an auto call schedule.

48. Then click the **Close** button.

Figure 47: Annunciation Options

49. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **ClearDowns**. Click on the **Help** button for information on ClearDowns. Click the **Close** button.

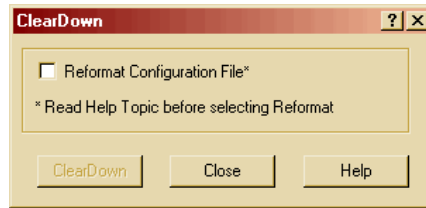


Figure 48: ClearDown

Warning: Do not use this command if you want to use this Catalyst configuration or programmed speech data again.

50. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Channels**. Click on the **Groups** button.

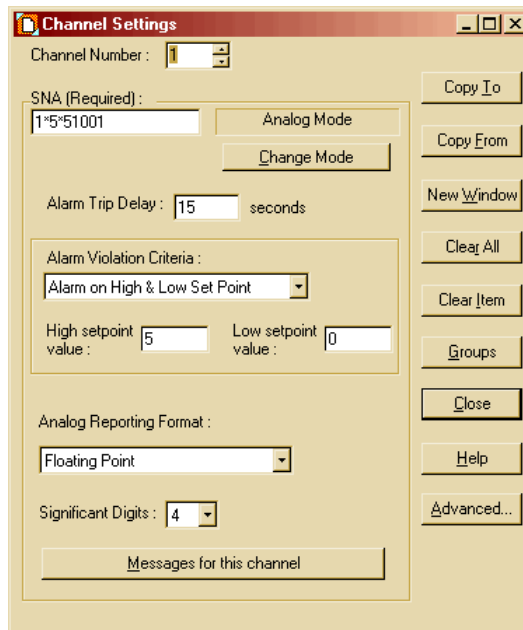


Figure 49: Channel Settings

51. For **Channel #1**, check **Destinations 1, 2, and 3**. Change the Channel number to **2** and repeat checking Destinations 1, 2, and 3. Do the same for all channels **3 through 7**. Next click the **Close** button.

You could also click the **SetAll** button and just uncheck any destination you did not want to use for a specific Channel #. It does not hurt to have un-configured destinations selected.

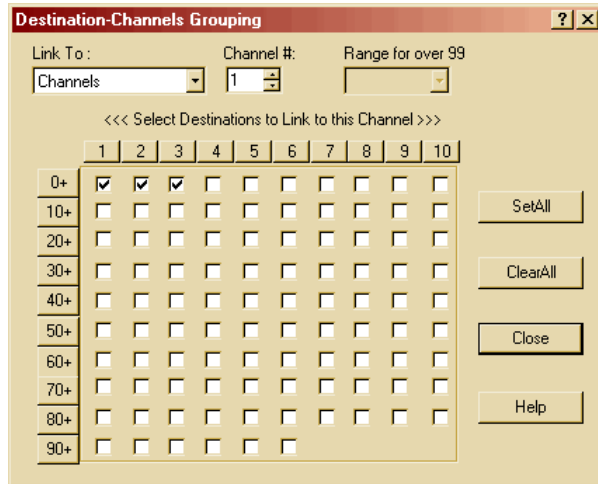


Figure 50: Destination Channels Grouping

52. Click the **Channel Settings** dialog **Close** button.

53. Click the **LogFile** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Transfer Options**.

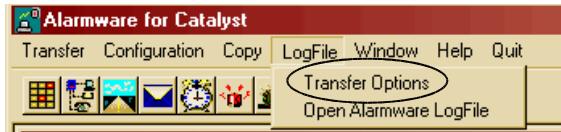


Figure 51: Log File Menu

54. Edit the **Transfer Options** dialog as shown. Log Files will be in **CSV (Comma Separated Values)** format. This format is easily opened for processing in MS Excel. By selecting **Undelivered data only**, only the data in the RTU memory that has not previously been delivered will be in the Log File report. Then click the **Accept** button.

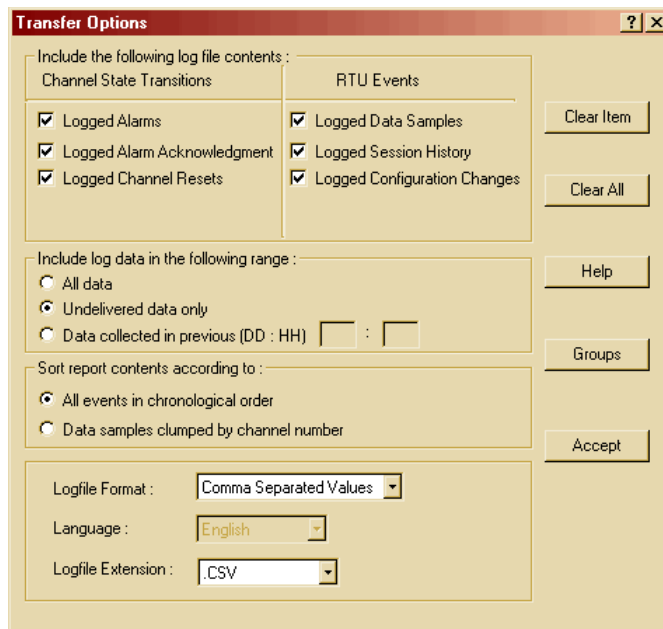


Figure 52: Log File Options

55. Click the **Configuration** menu selection in the **Menu Bar** of the **Alarmware for Catalyst** window and select **Transfer** and click **Save to Disk**.



Figure 53: Save to Disk

56. To quit working offline, in the **Menu Bar** of the **Alarmware for Catalyst**, click **Quit**.

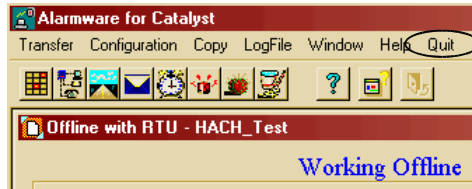


Figure 54: Quit Working Offline

57. Answer the Prompt dialog by clicking **Yes**.

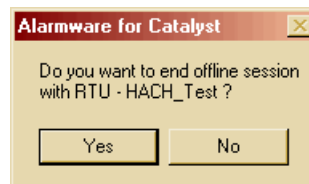


Figure 55: Prompt

58. Click the **Cancel** button in the **Select RTU** dialog.

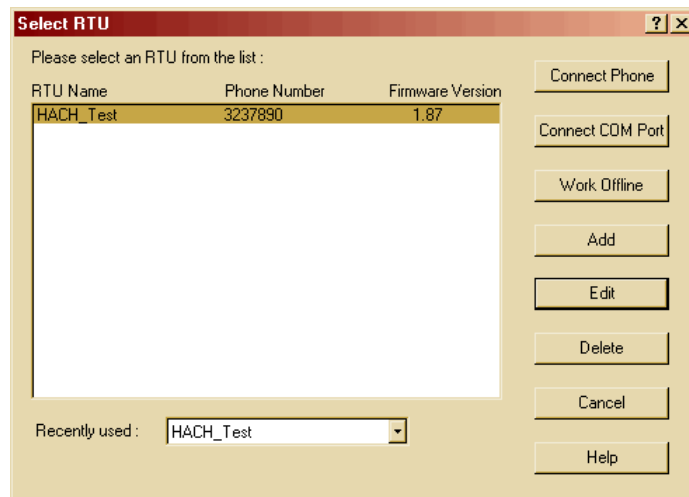


Figure 56: Select RTU Dialog

59. To configure communications, in the **Menu Bar** of the **Alarmware for Catalyst**, click on **Options** and select **COM Port**.

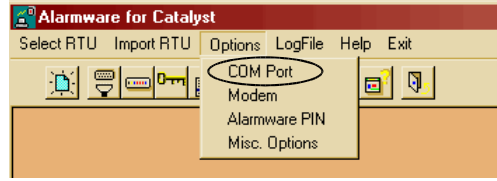


Figure 57: Options

60. In the **COM Port Settings** dialog, select the **COM Port** number for the local configuration PC. This is the serial Port that the Alarmware cable connects to. Click **OK** to close the dialog.

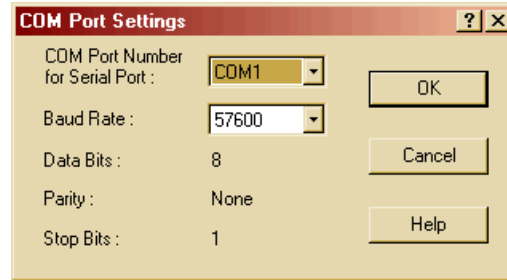


Figure 58: COM Port Settings

61. In the **Menu Bar** of the **Alarmware for Catalyst**, click on **Select RTU**.

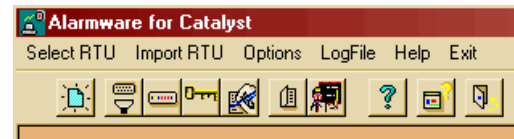


Figure 59: Alarmware Menu

Connecting the Alarmware program to the RTU

*We are now going to upload the configuration to the RTU. **Make certain that the Alarmware cable is connected between your local configuration PC and the RTU. Power the RTU ON.***

*Also make sure that the Mod I/O serial cable is connected between the RTU and Mod I/O, and that WDP is functioning with its Mod I/O configured for **Modbus Address 5, 19200 Baud, no parity, and 1 stop bit.***

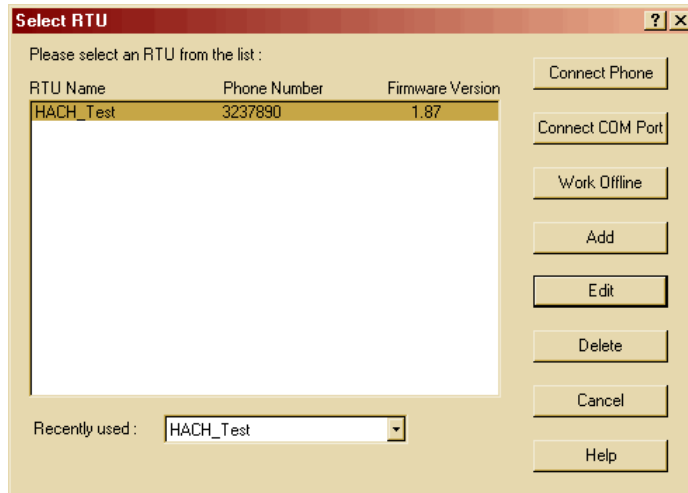


Figure 60: Select RTU Dialog

1. Click the **Connect COM Port** button in the Select RTU dialog.

- 2. After the connection to the RTU is made, the Alarmware software will compare its settings with the Catalyst RTU.

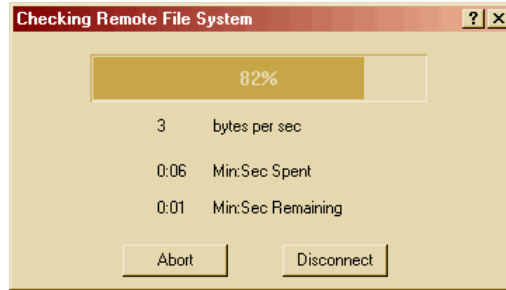


Figure 61: Checking Remote File System

- 3. The Alarmware software will detect a mismatch between the Catalyst RTU settings and the current Alarmware settings. Select **Export Alarmware settings to RTU** and click the **OK** button to upload the new settings.

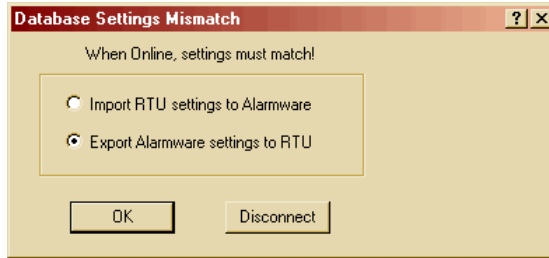


Figure 62: Database Settings Mismatch

You should see the following Window if all systems are functioning properly.

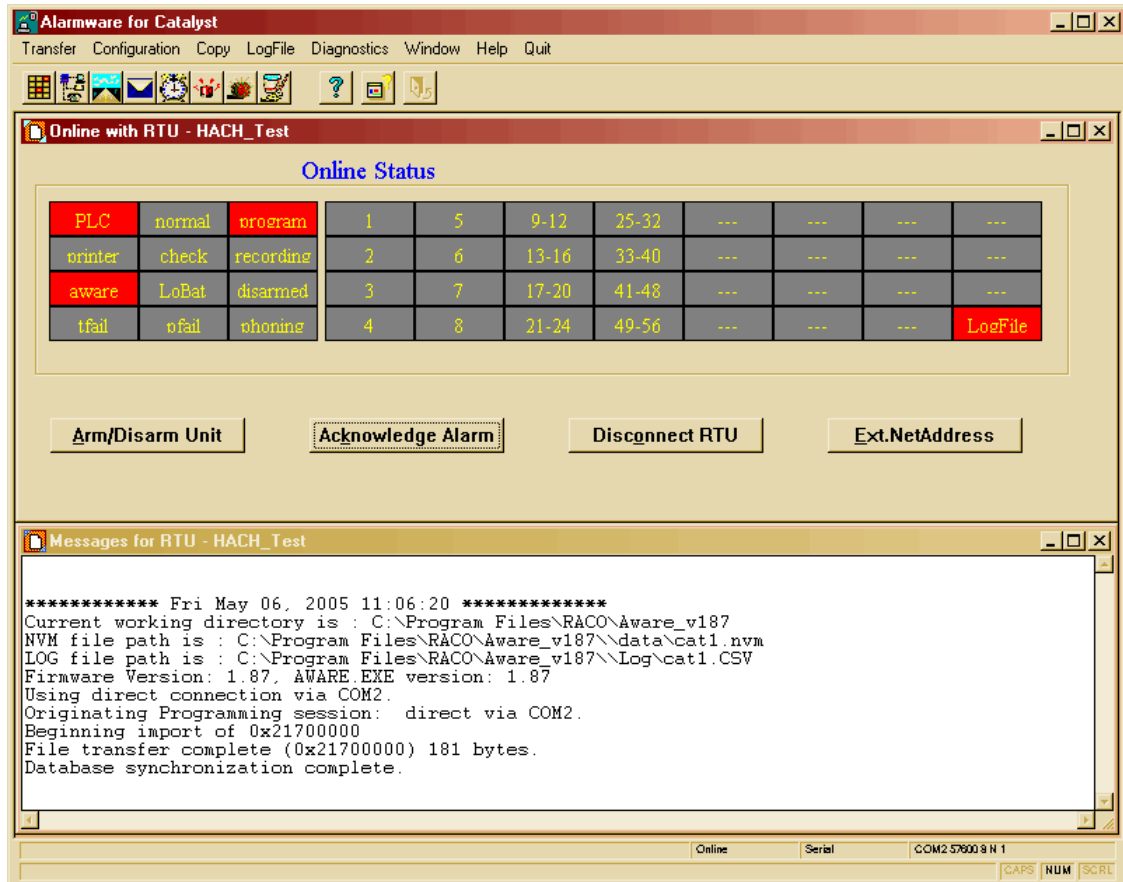


Figure 63: Connected Online

Connecting a Remote PC with Alarmware to the RTU via a Phone Line

This portion of the **Application Note** assumes your **RTU** has a functioning **POTS** line connected to the RTU telephone input; is pre-configured and operating at a remote location.

This portion also assumes that you have a new installation of Alarmware on your Host PC that has not been used to configure the remote RTU.

1. Connect your phone line to the Modem of your Host PC. Start the Alarmware program and click on the **Add** button in the **Select RTU** dialog.
2. Edit the **Add/Edit RTU** dialog as shown and click the **Set** button.

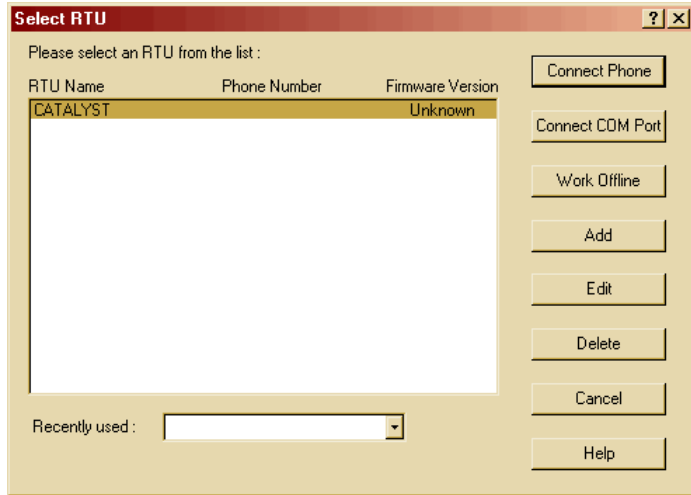


Figure 64: Select RTU

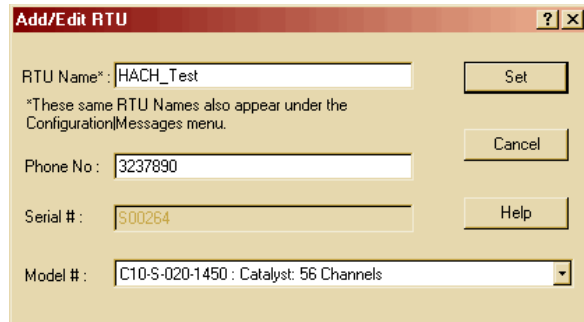


Figure 65: Add RTU

3. Click the **Cancel** button in the **Select RTU** dialog.

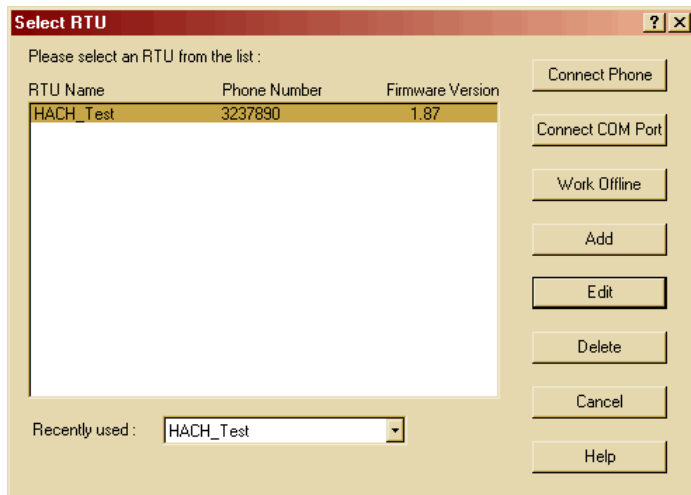


Figure 66: Select RTU

- To configure Modem communications, in the **Menu Bar** of the **Alarmware for Catalyst**, click **Options** and select **Modem**.

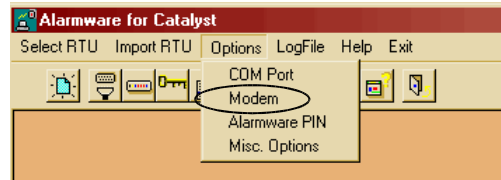


Figure 67: Options Menu

- In the **MODEM Settings** dialog, select the **Port Number** that your Modem is connected to. All other settings should be as shown. Then click the **OK** button.

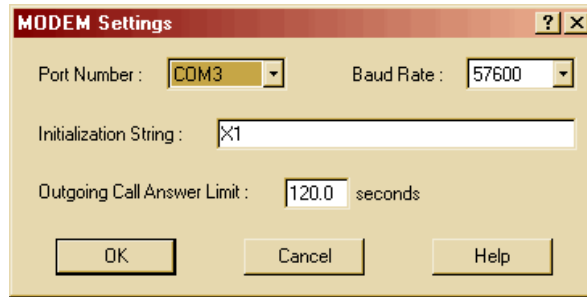


Figure 68: MODEM Settings

- In the **Menu Bar** of the **Alarmware for Catalyst**, click **Select RTU**.

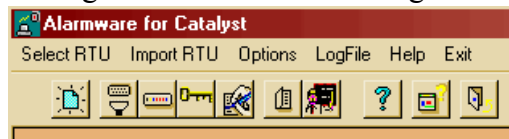


Figure 69: Alarmware Menu

- Click on the **Connect Phone** button in the **Select RTU** dialog.

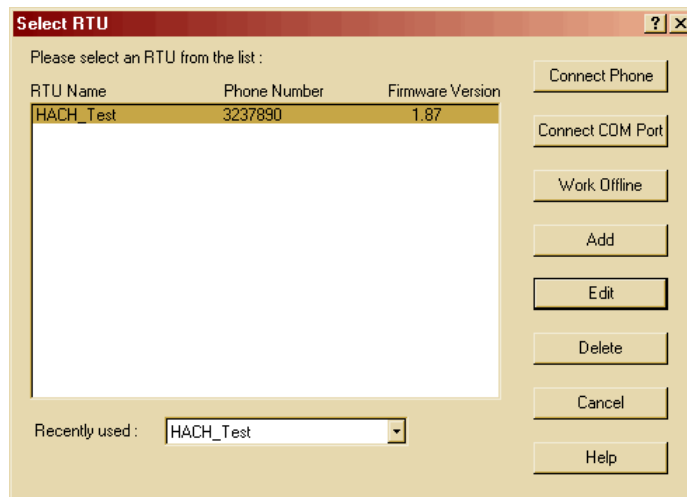


Figure 70: Select RTU

Note: *Since this is your first time connecting to the Remote RTU*, it will ask for your **PIN** number. Enter the **PIN** number. After Entering the PIN number the connection may be broken and you will need to repeat the process of clicking the **Connect Phone** button and re-establishing communication. At this, it should not request your PIN number.

After the connection to the RTU is made, the Alarmware software will compare its settings with the Catalyst RTU.

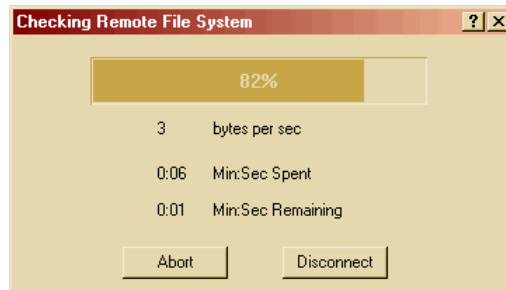


Figure 71: Checking Remote File System

8. The Alarmware software will detect a mismatch between the Catalyst RTU settings and the current Alarmware settings. Select **Import RTU settings to Alarmware** and click the **OK** button to Download the RTU settings.

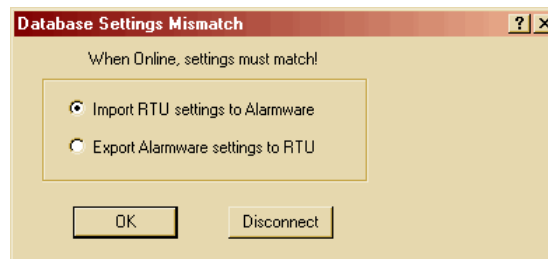


Figure 72: Database Settings Mismatch

After importing the RTU configuration you will be **Online**. Changes to the RTU will now be made online as you make them on the Alarmware display. You can also acknowledge alarms. In this example we will download a log file.

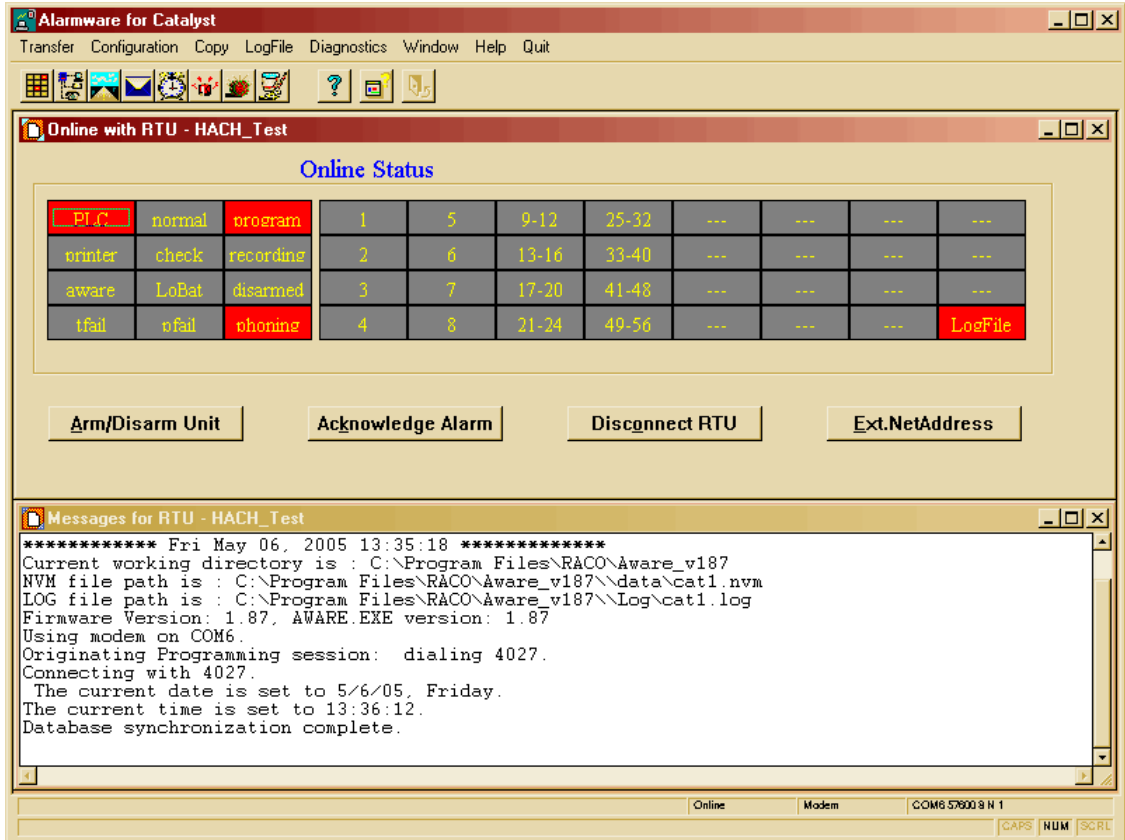


Figure 73: Online

Downloading a Log File While On-Line

1. After the connection to the RTU is made, via the **LogFile** menu, select **Transfer Options**.

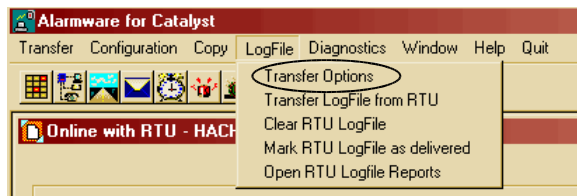


Figure 74: Select Transfer Options

2. Edit the Transfer Options dialog to download **Undelivered data only** and to have a **Comma Separated Values** format with the LogFile Extension **.CSV**.
3. Click the **Accept** button.

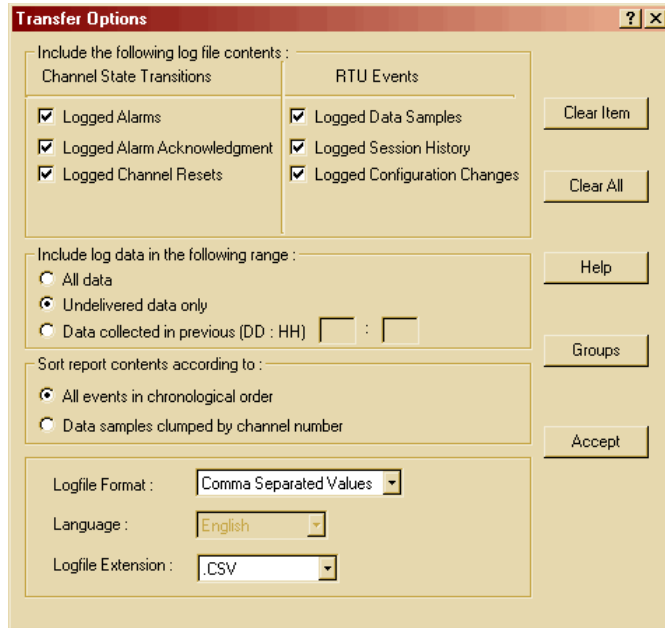


Figure 75: Transfer Options

4. Then via the **LogFile** menu select, **Transfer LogFile from RTU**.



Figure 76: Transfer LogFile from RTU

5. Click **OK** to download the current Log File from the RTU to your PC.

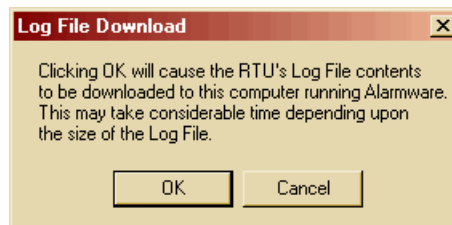


Figure 77: Log File Download

It may take several minutes to download the file depending on its size.

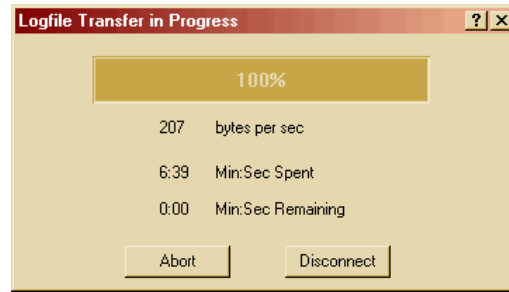


Figure 78: LogFile Transferring

6. After the file downloads, use Windows Explorer and go to the file located at: **C:\Program Files\RACO\Aware_v187\Log** and open the **cat1.CSV** file with MS Excel. Depending on your Alarmware configuration, the file name may be different.

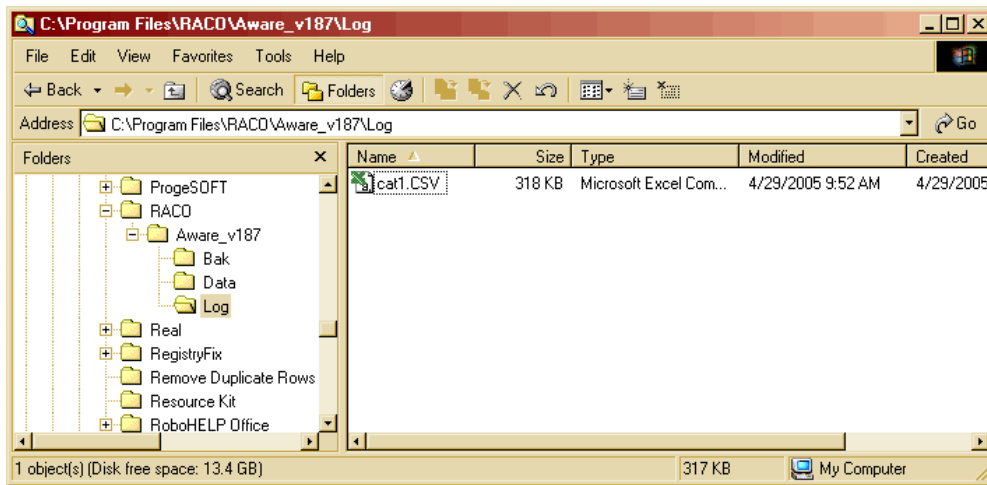
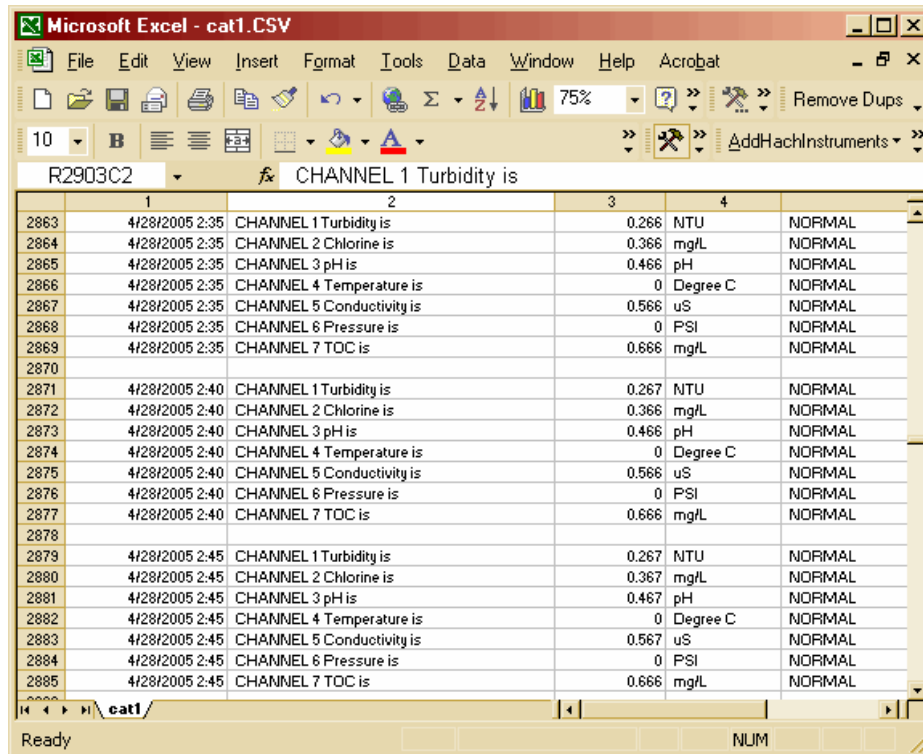


Figure 79: Opening the Log File



	1	2	3	4	
2863	4/28/2005 2:35	CHANNEL 1 Turbidity is	0.266	NTU	NORMAL
2864	4/28/2005 2:35	CHANNEL 2 Chlorine is	0.366	mg/L	NORMAL
2865	4/28/2005 2:35	CHANNEL 3 pH is	0.466	pH	NORMAL
2866	4/28/2005 2:35	CHANNEL 4 Temperature is	0	Degree C	NORMAL
2867	4/28/2005 2:35	CHANNEL 5 Conductivity is	0.566	uS	NORMAL
2868	4/28/2005 2:35	CHANNEL 6 Pressure is	0	PSI	NORMAL
2869	4/28/2005 2:35	CHANNEL 7 TOC is	0.666	mg/L	NORMAL
2870					
2871	4/28/2005 2:40	CHANNEL 1 Turbidity is	0.267	NTU	NORMAL
2872	4/28/2005 2:40	CHANNEL 2 Chlorine is	0.366	mg/L	NORMAL
2873	4/28/2005 2:40	CHANNEL 3 pH is	0.466	pH	NORMAL
2874	4/28/2005 2:40	CHANNEL 4 Temperature is	0	Degree C	NORMAL
2875	4/28/2005 2:40	CHANNEL 5 Conductivity is	0.566	uS	NORMAL
2876	4/28/2005 2:40	CHANNEL 6 Pressure is	0	PSI	NORMAL
2877	4/28/2005 2:40	CHANNEL 7 TOC is	0.666	mg/L	NORMAL
2878					
2879	4/28/2005 2:45	CHANNEL 1 Turbidity is	0.267	NTU	NORMAL
2880	4/28/2005 2:45	CHANNEL 2 Chlorine is	0.367	mg/L	NORMAL
2881	4/28/2005 2:45	CHANNEL 3 pH is	0.467	pH	NORMAL
2882	4/28/2005 2:45	CHANNEL 4 Temperature is	0	Degree C	NORMAL
2883	4/28/2005 2:45	CHANNEL 5 Conductivity is	0.567	uS	NORMAL
2884	4/28/2005 2:45	CHANNEL 6 Pressure is	0	PSI	NORMAL
2885	4/28/2005 2:45	CHANNEL 7 TOC is	0.666	mg/L	NORMAL

Figure 80: The Log File

Creating a Scheduled Download of the Log File from the RTU

We can use **Windows Scheduler** to create a scheduled Log File download from the RTU. To do this we need to create a **.BAT** file with **Windows Notepad** that will launch the **LogTran187.exe** program.

1. Open Windows Notepad and add the line **Logtran187 "HACH_Test" dial** as shown. Note that **"HACH_Test"** is the name given the RTU in this example, yours may be different.

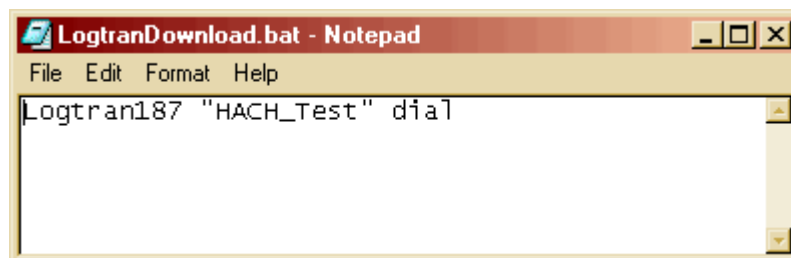


Figure 81: Batch File

2. Save the file with the file name **LogtranDownload.bat** in the **C:\Program Files\RACO\Aware_v187** folder.

- Open the Windows Control Panel and select the **Scheduled Tasks** application. Double click on the **Add Scheduled Task**.

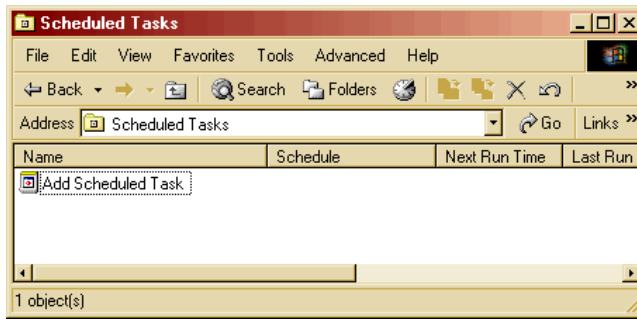


Figure 82: Add a Scheduled Task

- Click on the **Next** button in the **Scheduled Task Wizard**.

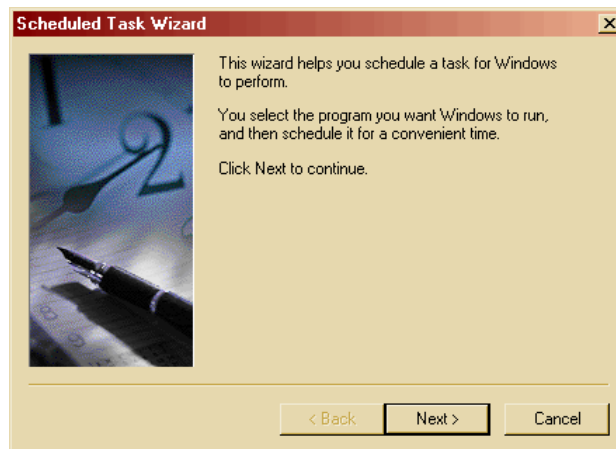


Figure 83: Scheduled Task Wizard

- In the **Scheduled Task Wizard**, click on **Browse**.



Figure 84: Select Program to Schedule

- 6. Browse to the **C:\Program Files\RACO\Aware_v187** folder and select the file **LogtranDownload.bat**.
- 7. Click the **Open** button.

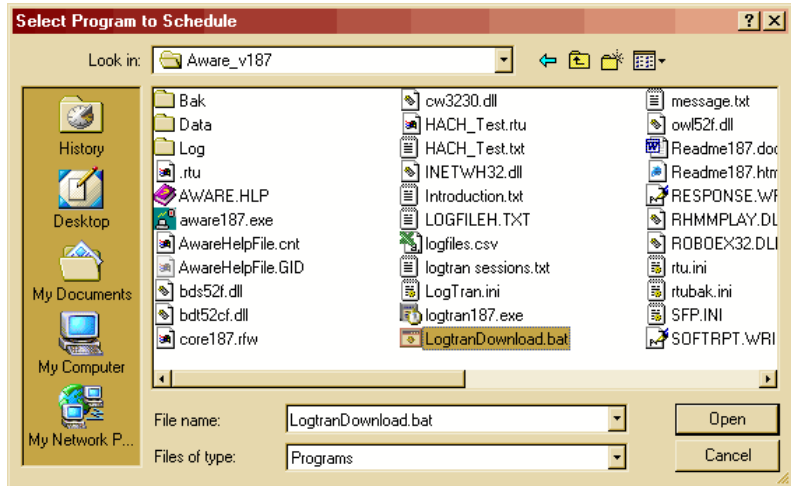


Figure 85: Select Program to Schedule

- 8. Enter a name for the task and select when to perform the task, (e.g. **Daily**). Then click the **Next** button.



Figure 86: Edit Task Wizard

- 9. Select a **Time** and **Date** for the task to run and click the **Next** button.

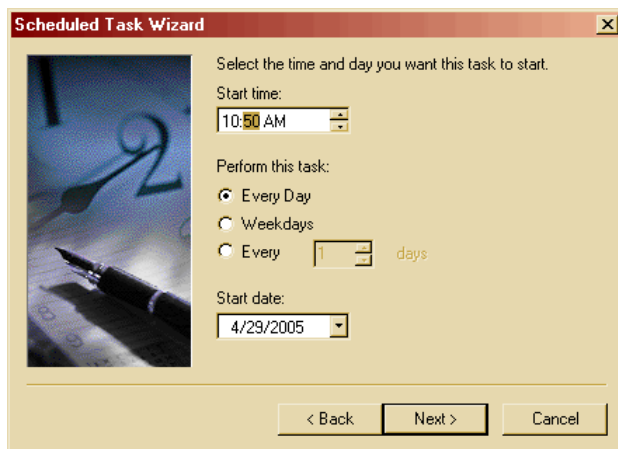


Figure 87: Edit Task Wizard Time and Date

10. Enter your Computer/Network login **password** and click the **Next** button.



Figure 88: Enter Password

11. Click the **Finish** button and your Task is scheduled.



Figure 89: Finish Task Wizard

12. When the scheduled task automatically runs, at the end of the Log File download, a completion dialog will remain on the screen. Click **OK** to close the dialog.

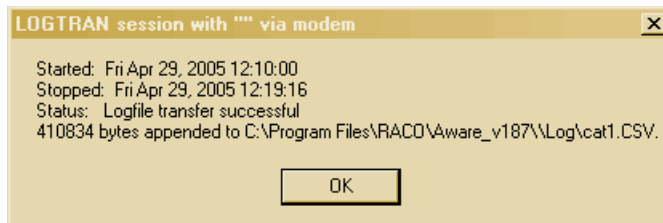


Figure 90: Log File Transfer Successful



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