



Software

VERSION 4.01

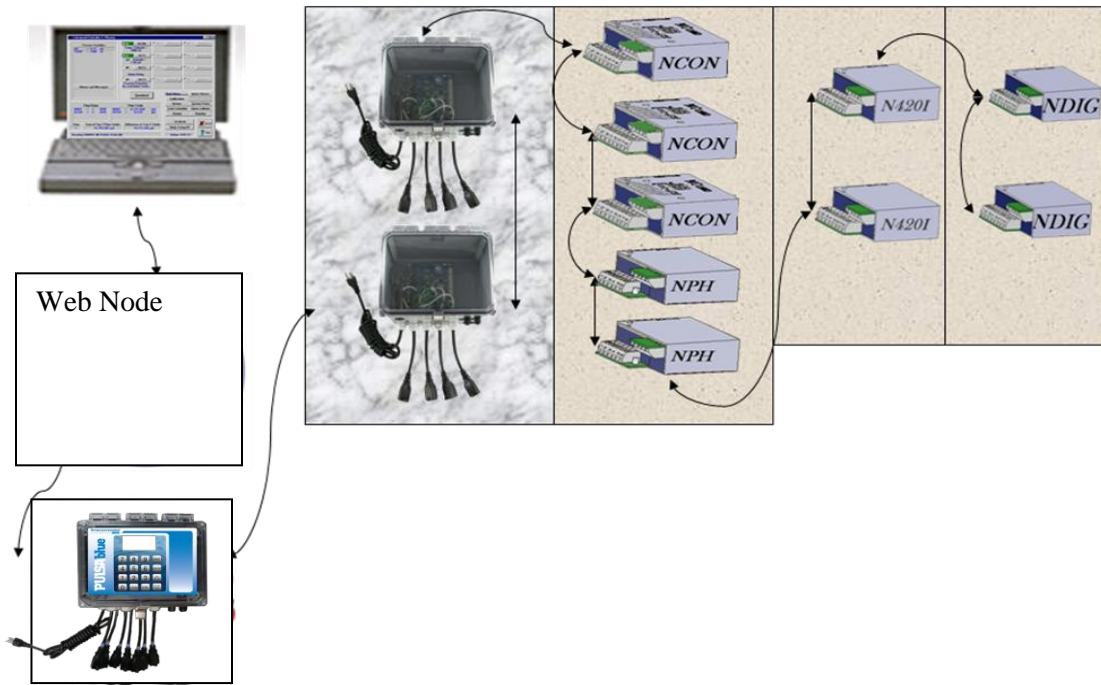
USER'S MANUAL

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1 Introduction



PULSAbblue 3310 Controller with optional 2 Relay (NRL Y) Nodes totaling 8 additional relays, 5 Sensor Nodes, 2 4-20mA inputs (N420I) nodes totaling 8 inputs, 2 Digital Input (NDIG) Nodes totaling 8 additional switched inputs

PULSAlink is a windows-based communications program that allows you to remotely access Pulsafeeder 3300/3400 Series Controllers (with the -RS2L option) for water treatment and process control via external modem over telephone lines, direct connect via RS232, or via Network connection over the internet/ intranet with the use of the WEBNode. This communications can also be accomplished wirelessly over the internet with the use of the Pulsafeeder EZWeb Wireless option.

When your computer is directly connected to a 3300/3400 Series controller, *PULSAlink* will establish an RS-232 connection between your computer and your controller over a serial port. If your controller is also equipped with a modem, *PULSAlink* will dial out to the controller and initiate a modem-to-modem connection. If your controller is equipped with a WEBNode, *PULSAlink* will initiate a connection over the internet/ intranet or directly via a network card through a crossover network cable.

PULSAlink allows you to access and change the settings of your controller without having to be standing in front of the controller. Virtually all (99%) of the programming options that you can access through the controller's menu/keypad is available over the above communication methods, as well as additional features such as auto download and alarm callout.

PULSAlink also allows you to download and manipulate the controller's datalog.

Features, Benefits, and Specifications

2.1 Features

PULSAFEEDER PULSALINK FOR MODEL 3300/3400 SERIES CONTROLLERS

Process Variables

ORP	=	-54	mV
COND	=	-20	uS
pH-1	=	9.40	pH
INP1	=	0.000	ppm
INP2	=	-0.02	mA
INP3	=	-0.02	mA
INP4	=	-0.02	mA

Alarms and Messages

INP4:LOW ALARM
INP3:LOW ALARM
INP2:LOW ALARM

Flow Rates

MTR1	=	0	GPM
------	---	---	-----

Flow Totals

MTR1	=	0	gal
MTR2	=	0	gal

Flow

MTR1 + MTR2	=	0	gal
MTR1 - MTR2	=	0	gal

Relays

BLEED	off
COND Setpoint=	1500 uS
RLY2	off
Next Feed Time:	Sun at 21:00
RLY3	off
ORP Setpoint =	0 mV
RLY4	off
RLY5	off
RLY6	off
RLY7	off
RLY8	off
Relay 9	off
Relay 10	off
Relay 11	off
Relay 12	off

Download

Main Menu

Calibration	4-20 mA Outputs
Relays	System Setup
Calendar Timer	Alarm Callouts
Alarms	Datalog

Water Meters

11:17:05
Mon, 24 May 10
Online: 0:00:15

Cancel
Help

PULSALINK

PULSAlink is a *Windows*-based program that accesses all the features of Pulsafeeder 3300/3400 Series controllers remotely. Communication is direct-connect via RS-232 or remotely over phone lines with a modem. A user-selectable password is required to access any feature beyond viewing. The password is programmable only at the controller through the menu system (see 3000 Manual).

PULSAlink allows access to various controllers via phone numbers, IP addresses and passwords. Using standard *Windows*-format mouse-click buttons, all features of the controller can be accessed. The datalog stored in the controller can be downloaded into a comma-delimited file. This can also be used by *PULSAlink Graph* or imported into other applications, such as spreadsheets.

PULSALINK GRAPH

PULSAlink Graph is a *Windows*-based program that takes delimited datalog files created by *PULSAlink* and plots the data on a time line.

1.1 Benefits

PULSAlink Software gives you the flexibility to monitor, control, and receive notices from your 3300/3400 Series controllers locally using direct connect with RS232, via Modem, or over an TC/IP protocol network crossover cable or intranet via the WEBNode.

The program allows the user to remotely access all features that are available while actually standing in front of the controller. This includes programming menus/features and alarm messages of the controller, as well as the ability to alter the control and feed parameters of relays, external nodes, and interconnected devices.

The user can also remotely download a datalog consisting of monitored points for sensors, relay's, nodes, alarms, and raw values. The datalog is configurable to optimize the memory space used and retain the desired functions. The datalog also allows the creation of reports and PULSALINK can export data for integration into other programs.

An additional feature allows the PC, where PULSALINK resides, to initiate automatic downloads of datalogs from controllers within the known controllers list. This can be a mix of modem, direct connected, and Internet connected systems. The timeframe allows for off hours download scheduling.

PULSALINK is password protected and each controller requires a specific password in order to allow remote changes to occur (can only be changed at the controller), to limit the ability of unauthorized users to create havoc. The proprietary software format keeps "hackers" with only a web browser (and no way to interpret the information to or from the controller without the PULSALINK software) from accessing the units via the an un-secured web browser.

The alarms you choose will trigger either a modem based or internet based alert. This allows for timely response to the site for any specific (user defined) alarm conditions.

1.2 Specifications

SYSTEM REQUIREMENTS

PULSAlink runs in Windows 95, 98, 2000, NT, XP, or Vista.
PULSAlink requires approximately 2Mb of hard drive space.

For use with a Pulsafeeder WEBNode, Windows 98 or later software,(Requires installation of Com Port Redirector, and .NET Framework rev 2.0 or higher). Windows Vista already includes .NET Framework.

Platform required:

- Pentium I or better with 256M of RAM.
- Any machine that can run *Windows 98, NT, 2000, XP or Vista*.
- 3M of hard drive space for PULSALINK.
- 30M of hard drive space if using CPR.
- 280M of hard drive space if using .NET Framework.
- Modem, network cards, and WEBNodes are optional.

Direct Connect RS-232:

- 1200, 2400, 4800, 9600 or 19200 baud.
- 8 data bits, 1 stop bit, NO parity.

Modem Requirements:

- Hayes AT command set
- 14,400 baud or higher.

Datalog:

- 1 hour of 1 minute intervals.
- 28 days of hourly intervals.
- Both logs include process minimum, maximum, average pump run times and water meter totals.
- Minimum, maximum and average pump run times reset at the top of the hour.
- Downloaded by *PULSAlink* into a file of comma-delimited ASCII data that can be used by *PULSAlink Graph* or imported into other applications, such as spreadsheets.

Security:

- View-only mode unless correct password is entered.
- 8-digit password can be changed only at the controller.

2 Software Contents

Pulsafeeder PULSAlink

PULSAlink is a Windows-based program that accesses all the features of Pulsafeeder 3300/3400 Series controllers remotely. Communication is direct-connect via RS-232 or remotely over phone lines with a modem. A user-selectable password is required to access any feature beyond viewing.

PULSAlink allows access to multiple controllers, phone numbers and passwords. Using standard Windows-format mouse-click buttons, all features of the controller can be accessed. The datalog stored in the controller can be downloaded into a comma-delimited file. This can be used by PULSAlink Graph or imported into other applications, such as spreadsheets.

PULSALINK GRAPH

PULSAlink Graph is a Windows-based program that takes delimited datalog files created by PULSAlink and plots the data on a time line. PULSAlink Graph is an integral part of PULSAlink.

Com Port Redirector (CPR)

Com Port Redirector v.4, powered by TruPort™ technology, is a software utility for network-enabling software applications that do not have network support. Com Port Redirector installs virtual communication (COM) ports, which are redirected over a network to the serial port of a device server. TruPort® Technology combines RFC2217 Com Port control protocol with data handling, discovery, and device server technology, enabling advanced remote serial interface control.

Com Port Redirector consists of the following modules:

- CPR Manager enables you to map com ports to device servers, configure, and test com ports.
- CPR Monitor enables you to identify and troubleshoot problems.

.NET Framework

The Microsoft .NET Framework version 2.0 (x64) redistributable package installs the .NET Framework runtime and associated files required to run 64-bit applications developed to target the .NET Framework v2.0.

The .NET Framework version 2.0 (x64) improves scalability and performance with improved caching, application deployment and updating with ClickOnce, support for the broadest array of browsers and devices with ASP.NET 2.0 controls and services and 64-bit support.

3 Installation

3.1 Installation of Pulsafeeder PULSALink

The following items are required to run PULSALINK:

1. Windows 98, 2000, XP, or Vista.
2. 3M of hard drive space.

INSTALLATION

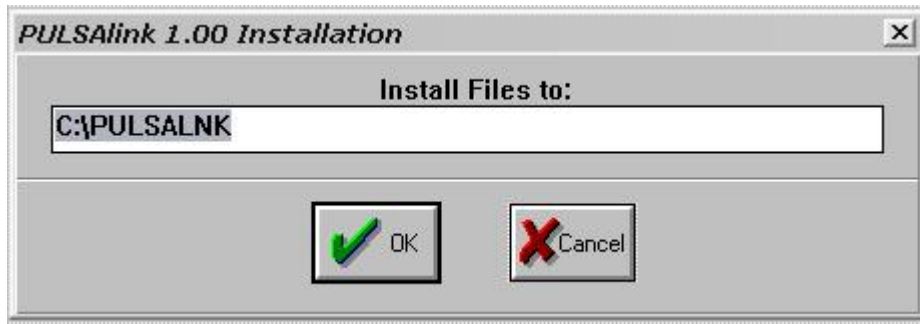
PULSALink is designed for easy installation and ease of use. Follow these simple steps to install your copy of *PULSALink*:

Insert your *PULSALink* disk into your CD-ROM drive.

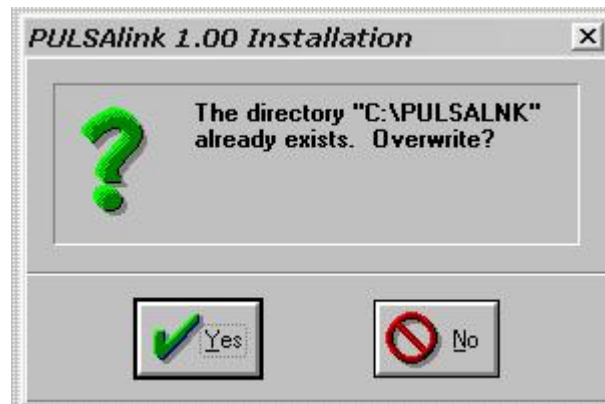
Browse to the PULSALINK folder and unzip the PULSALINK application.

After you have unzipped PULSALINK, run the application **install.exe**.

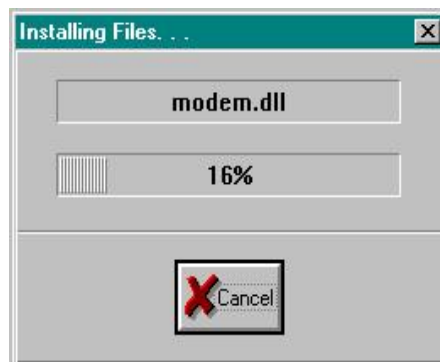
You will be given the opportunity to determine the directory where the program files will be installed (see **Figure 2** below). **PULSALNK** is the factory default that you can select by clicking on **OK**. Otherwise, type in a different name using the proper hard drive designator (i.e., **C:**) then click on **OK**.



If you have already installed *PULSAlink* on your hard drive, you will see the screen below (**Figure 3**) . Click on **YES** to reinstall the software. Click on **NO** if you want to retain the previously installed version.



The screen below (**Figure 4**) will appear as your program is being installed. The names of the files will appear in the first box and the second box will show you the percentage installation done.



On most computers, the installation process will take very little time. Upon completion, you will see the following dialog box, indicating that PULSALINK Versions 4.00 and higher are Year 2000 compliant.

If you have difficulties at any time during the installation process, you may see a screen showing that the installation was unsuccessful. In most instances, simply closing all other open programs, and attempting installation again will prove successful.

3.2 Installation of Com Port Redirector (Requires .NET be installed)

The following items are required to run CPR:

1. Windows 2000, 2000 Server, XP, 2003 Server, or Vista.
2. Microsoft .NET Framework v2.0.
3. 30MB free hard drive space.

Installation

With your PULSALink disk in your CD-rom drive, browse to the Com Port Redirector folder on the PULSALINK CD rom.

Doubleclick on the the Setup application. This will install CprDotNetCDGen4.1.1.3.

The application installation directory defaults to C:\Program Files\CPR, unless another folder is selected during the installation process.

A shortcut to this application is created on the Start/Programs menu for CPR Manager and CPR Monitor.

3.3 Installation of .NET Framework

System Requirements

Supported Operating Systems: Windows Server 2003, Datacenter x64 Edition; Windows Server 2003, Enterprise x64 Edition; Windows Server 2003, Standard x64 Edition; Windows XP 64-bit

Required Software:

Windows Installer 3.0 is required. Windows Installer 3.1 or later is recommended.

IE 5.01 or later: You must also be running Microsoft Internet Explorer 5.01 or later for all installations of the .NET Framework.

Disk Space Requirements: 280 MB (x86), 610 MB (x64)

Important: Make sure you have the latest service pack and critical updates for the version of Windows that you are running. To find recent security updates, visit Windows Update.

Installation

With your PULSALink disk in your CD-rom drive, browse to the dot net framework folder on the PULSALINK CD rom.

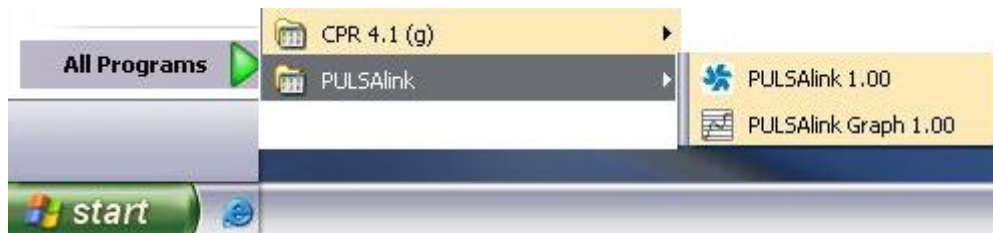
Double click on the dotnetfx application (.MSI extension). This will install .NET Framework.

Notes: If the program will not install (error message gives previous version issues) then continue with CPR installation. CPR will not install if the .NET is the incorrect version. If CPR continues its installation, all is OK.

4 Starting Up Pulsafeeder PULSAlink

To start *PULSAlink*:

Click on the START button at the bottom of your screen.
Select Pulsafeeder and click on PULSAlink 4.01.



4.1 Functional Overview

MAIN MENU BAR

The screen below is the first screen you will see when you start *PULSAlink*. It is the **Main Menu Bar**.



The **Main Menu Bar** has the following sections:

FILE

File is used to open a Log file, open an Alarm file, or to Exit the program.

CONTROLLERS

Controllers is used to access the Controller Selection screen to connect to your 3300/3400 Series controllers.

SETUP

Setup is used to set your Modem Settings or to set up the Automatic Download functions.

AUTO-ANSWER

Auto-Answer is used to set up your Auto-Answer settings and to Launch Auto-Answer.

HELP

Help is used to access the Help files and to display the software version number.

OTHER PROGRAM FEATURES

PULSALINK GRAPH

PULSAlink Graph is a graphing program that is integrated into the PULSALINK software that is used to graph the data from the datalog downloads. PULSAlink Graph is started when you open a log file or an alarm file under File.

AUTOMATIC DOWNLOAD

Automatic download is a function built into the PULSALINK software that enables you to set up your computer to automatically download the datalogs from your controllers at a user specified interval. Automatic download is accessed from the Main Menu under Setup.

ALARM CALLOUTS

The Pulsafeeder 3300/3400 Series controllers are able to perform an alarm callout on user selectable alarms. This callout can take the form of an alarm log if using a modem, an e-mail or text message if using the WEBNode.

COM PORT REDIRECTOR (CPR)

Com Port Redirector (CPR) is a software utility that installs virtual communication (COM) ports, which are redirected over a network to the serial port of a device server. CPR will be used when using the WEBNode. CPR is started under your Windows Start menu.

5 PULSAlink Program Operation

Once PULSALINK is started, there are certain setup steps that need to be performed to use the different features of the software.

5.1 PULSAlink Setup Menu

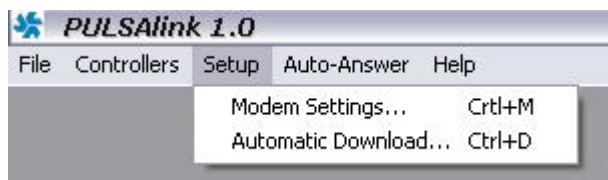
The Setup Menu is used to configure your computer modem for use with the PULSALINK software or to set up Automatic downloads of your datalogs.

5.2 Modem Settings

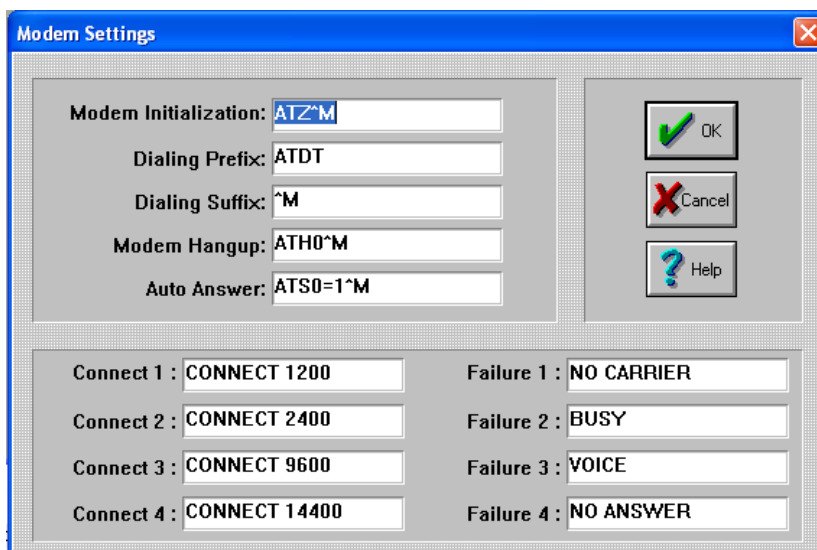
If you are using PULSALINK with a modem, you may need to configure your modem settings to work with PULSALINK. This is performed in the Modem Settings screen.

MODEM SETTINGS

Click on **S**etup, then **M**odem Settings.



The values shown in the **Modem Settings** screen on the next page are typical settings. For different modem strings, use your modem software reference manual. For many modems, but not all, these factory-preset defaults will be the proper settings.



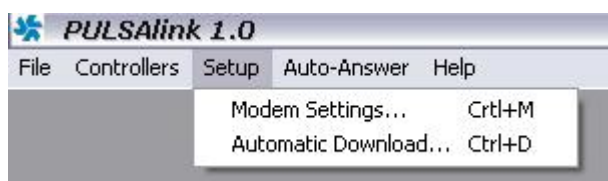
Click on **OK** to return to the Main Menu after you make your changes to these settings.

5.3 Automatic Download

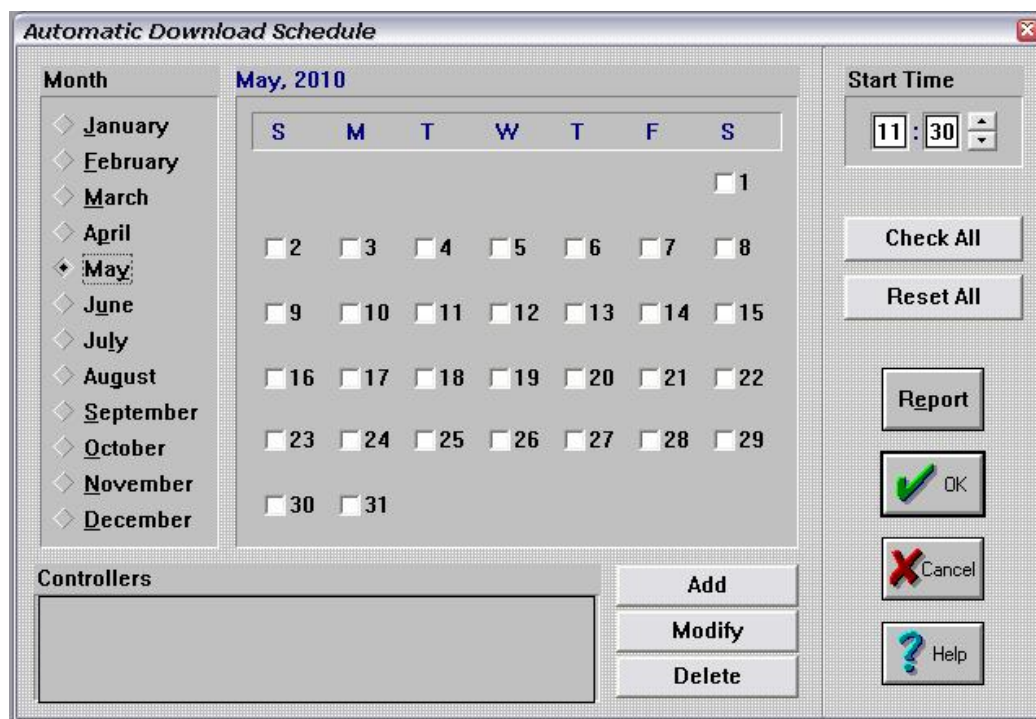
Automatic Download is used to configure *PULSAlink* to call up one or more controllers at user-specified dates and times automatically. NOTE: To use this feature PULSALINK must be running during the user specified download times.

Automatic Download

Click on **Setup**, then **Automatic Download**.



Your PC must be turned on, Connected via Phone line for modem units and/or to an active network for Internet/intranet units. PULSAlink must be running at the date(s) and time that you select in order for the automatic download to occur. If PULSAlink is in **Auto-Answer** mode, then the **Auto-Answer** process will be interrupted for the duration of the automatic download and then resumed at the conclusion of the download. Auto answer does not work with internet communicating units.



MONTH AND CALENDAR

Select a month during which you want to perform automatic downloading. The date calendar to the right will change with the selected month. Each month must be configured separately.

Click on the squares that correspond to the dates on which you want to perform an automatic download.

START TIME

Select the time (Hours:Minutes, 24-hour clock) when the download is to take place. *PULSAlink* will attempt to execute the download at this same time on each one of the selected dates.

CHECK ALL

Push this button to darken every date shown on the calendar for the selected month.

RESET ALL

Push this button to deselect every date shown on the calendar for the selected month.

REPORT

Push this button to bring up a report of automatic download attempts (successes and failures). The report shows (a) the date and time that *PULSAlink* attempted the download, (b) the name of the controller, (c) the event (what happened), which may be one of the following:

Successful Download: The automatic download took place as scheduled.

Com Port Error: *PULSAlink* could not open the com port for the indicated controller. You may want to inspect the com port settings for this controller.

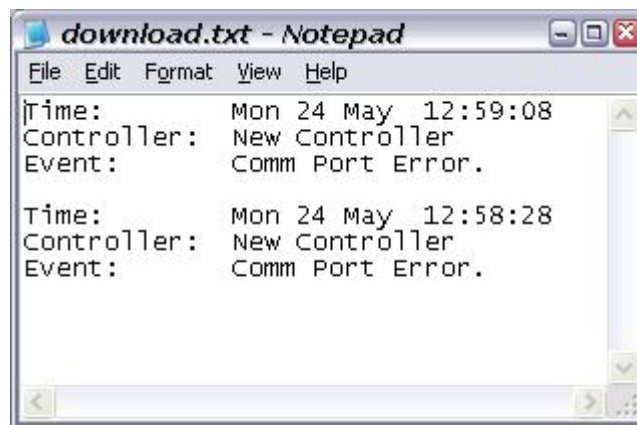
Modem Dial Error: *PULSAlink* could not connect to the controller via the modem. You may want to test this by connecting to the controller manually.

User Abort: The user pressed the Cancel button on the modem dial dialog before *PULSAlink* could connect to the controller.

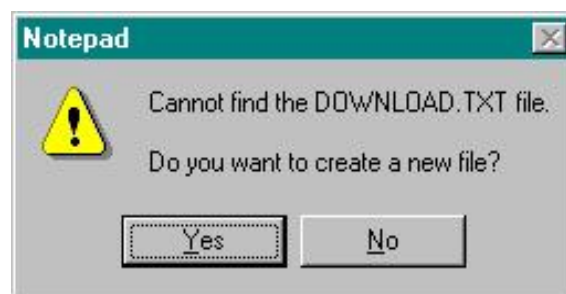
Error During Download: An unknown error occurred during the download. Some of the controller data may have been saved to the indicated file.

...and (d) the name of the datalog file that contains the downloaded data. The first five characters of this filename are the same as the File ID that you program via the **Add** or **Modify** buttons; the last three characters are digits with the value 000 through 999. *PULSAlink* increments this 3-digit value each time it automatically downloads data from a particular controller.

Report entries are logged in order of most recent download attempt first. A sample report listing might appear as follows:



If you have never downloaded anything, you will get the following screen and a new DOWNLOAD.TXT file will be created when you click on “Yes”..



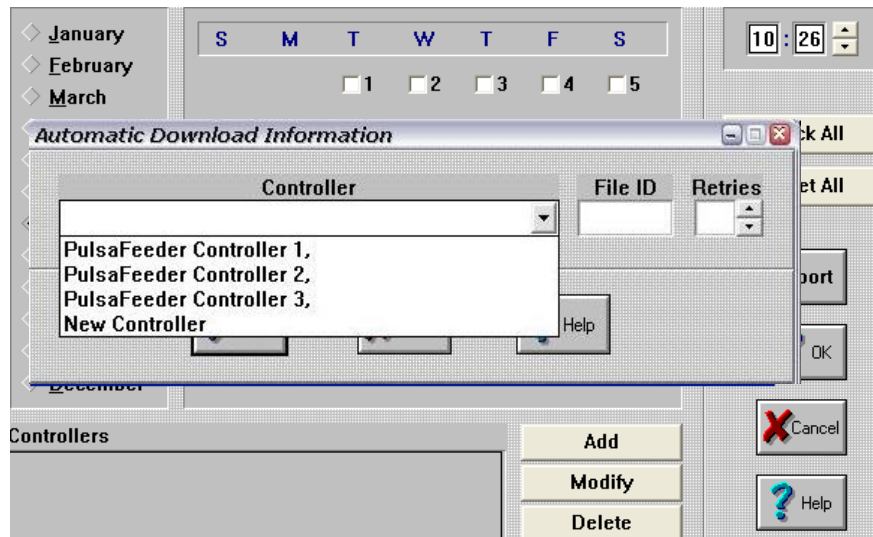
Other examples of what may appear in the automatic download report are seen below:

Time:	Fri 2 Feb 18:48:55
Controller:	West Tower
Event:	Successful Download.
File:	WTOWR008.LOG

Time:	Fri 2 Feb 18:47:48
Controller:	East Tower
Event:	Com Port Error.

ADD, MODIFY, or DELETE

If you click on the **Add** or **Modify** buttons on the Automatic Download Schedule screen (see **Figure 24**) shown earlier, the following screen will appear:

The image shows a software interface for configuring automatic downloads. At the top, there's a calendar view with months (January, February, March) and a day-of-the-week selector (S, M, T, W, T, F, S). Below this is a time selector showing 10:26. A modal dialog box titled "Automatic Download Information" is open. It contains a "Controller" dropdown menu with options: "PulsaFeeder Controller 1,", "PulsaFeeder Controller 2,", "PulsaFeeder Controller 3,", and "New Controller". To the right of the dropdown are input fields for "File ID" and "Retries". Below these fields is a "Help" button. At the bottom of the dialog are "OK" and "Cancel" buttons. In the background, a "Controllers" list is visible with "Add", "Modify", and "Delete" buttons.

ADD

Click on this button to add a controller to the **Automatic Download** list. A dropdown list will appear with all of the controllers in your controller list. Select the controller you want to add to your download list.

Add a five digit identifier in the **FILE ID** box by clicking in the FILE ID box and typing your desired identifier. This five digit identifier will be used to identify the downloaded datalog.

The **RETRIES** box is used to set the maximum number of communication retries that will be performed before moving on to the next controller in the list.

Click the **OK** button to complete the addition of a controller to your download list.

MODIFY

Click on this button to modify the Identifier and Retry information for a selected controller.

DELETE

To remove a controller from your download list, click on the controller you want to remove and click on the **DELETE** button to remove a controller from the download list. The following screen will appear confirming your deletion request. Click the **OK** button to confirm the deletion.



5.4 Auto-Answer

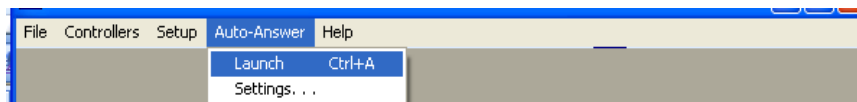
Auto-Answer is used to record alarm callouts from the controller when using a modem connection. The controller will dial out to the computer when it receives a user selectable alarm. This call is recorded in an ALARM file.

5.5 Launch Auto-Answer

LAUNCH

PULSAlink has an **Auto-Answer** feature that allows you to monitor on your screen any alarm calls from a controller. All alarms are also logged in a text file (**alarmlog.txt** is the default name).

To set up your computer to Auto Answer alarm calls, click on **Auto-Answer** in the Main Menu and select **Launch...**



...and the screen **Waiting for Alarm Call** will appear as shown below.



Click on the **View** button to display the contents of the Alarm Log. The Alarm Log file contains a history of callouts from one or more controllers. With *PULSAlink* set at this **Waiting for Alarm Call** screen, the program will log the time of the call as read from both the PC and the controller and documents the alarms that are currently present on the controller.

Here is an example of a typical entry in the Alarm Log file:

Thu 29 Mar 14:51:15 (PC)
Thu 29 Mar 14:48:19 (West Tower)
NO FLOW
LOW CONDUCTIVITY

The call in the above example arrived on Thursday, the 29th of March at 14:51:15 (according to the PC). The call was made by the controller called “West Tower.” The time of day read from the controller was **Thu 29 Mar 14:48:19**. The alarms present on the controller at the time of the call were **NO FLOW** and **LOW CONDUCTIVITY**.

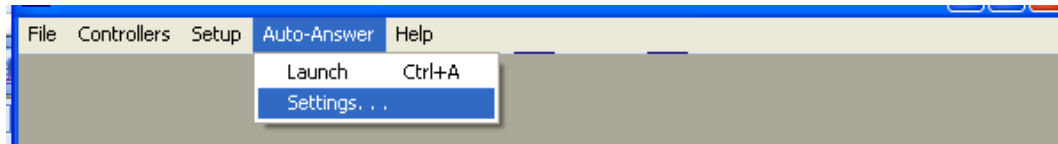
New alarm calls are logged at the top of the Alarm Log file. *PULSAlink* does not allow the file to exceed 43,000 bytes. Once the file exceeds that size, the oldest data at the end of the file starts to disappear.

5.6 Auto-Answer Settings

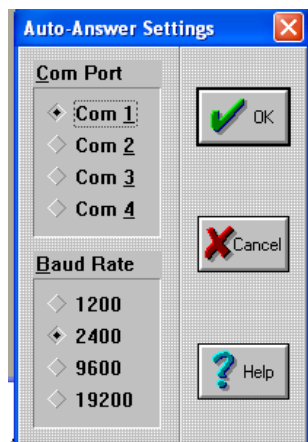
SETTINGS

Auto-Answer is only used when using a modem to communicate with controllers.

Select the Settings option from the **Auto-Answer** menu to configure your modem for answering a call from a controller.



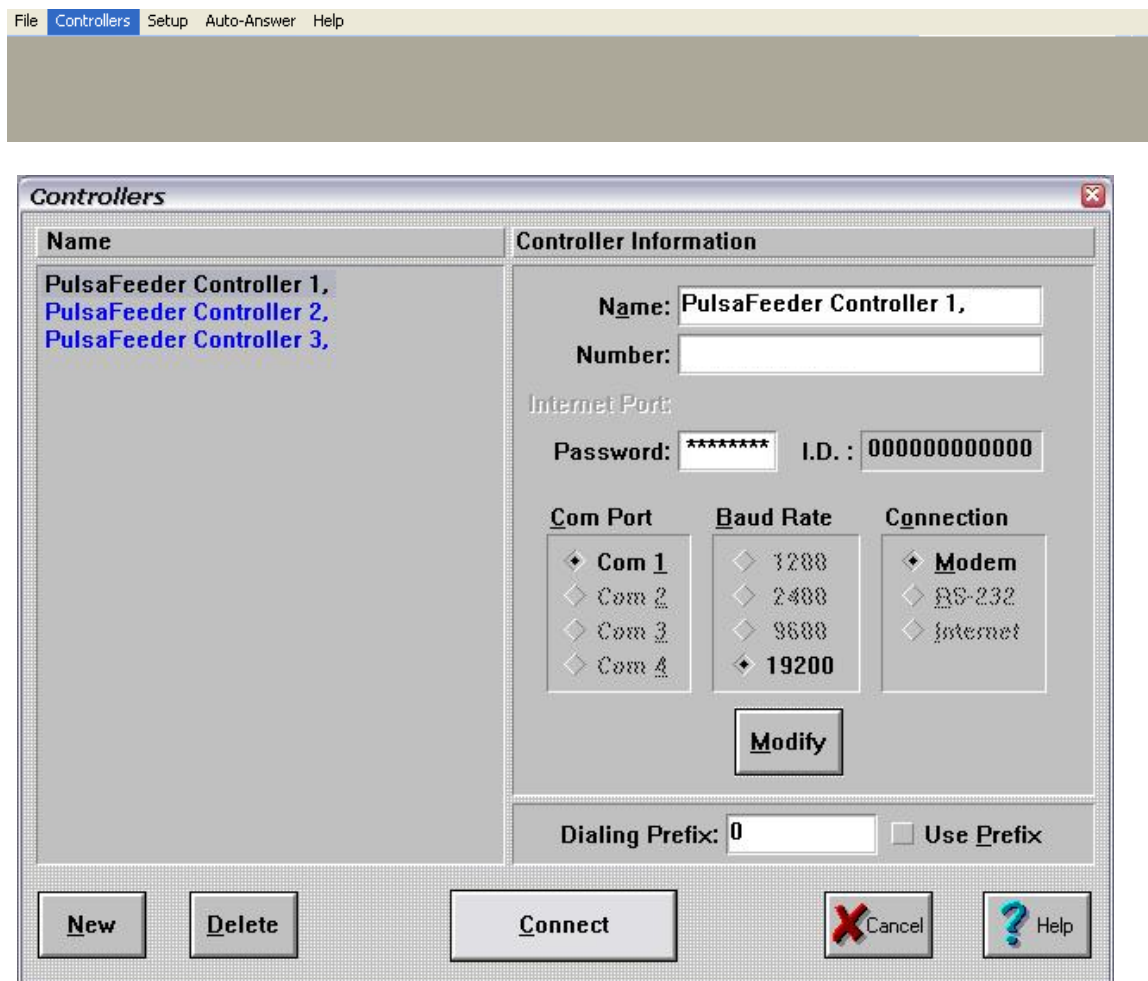
In order for *PULSAlink* to receive an alarm call from a controller, it must use the specified com port and baud rate to access your computer's modem. Select the appropriate COM PORT and BAUD RATE settings for your computer.



6 Configuring Controller Connections

6.1 The Controllers Screen

The **Controllers** portion of the Main Menu Bar allows you to access your controllers. Click on **Controllers** to enter this portion of the Menu.



The **Controllers Information** screen is used to select and connect to a controller, configure the controller connection, add controllers, and delete controllers.

As you can see in **Figure 10**, the **Controllers Information** screen lists all controllers that have been entered in the software in alphabetical order. By default, three controllers that are located at the Pulsafeeder factory have already been entered. These three controllers are connected to modems and are accessible by the public.

To see or change the controller setup information for a specific controller, click on that controller in the left-hand side of the screen and the setup information will be displayed on the right-hand side of the screen.

In the future, all controllers you have entered will be listed on this screen for quick and easy selection. Once you've entered this information, you can simply select the controller you want, then click on **Connect** and *PULSAlink* will connect to that controller.

The controller setup information includes:

NAME : a customizable name for your controller (34 characters maximum).

NUMBER: a telephone number to the modem connected to your controller when MODEM is selected.

INTERNET PORT: a com port (from com 1 to com 252) to access your controller over the internet or intranet with the use of the CPR (Com Port Redirector) program when INTERNET is selected.

PASSWORD: a remote access password. This password is used to prevent unauthorized access to your controller.

ID.: This is a unique identification number assigned to your controllers at the factory. The program will automatically enter this information the first time you access your controller.

COM PORT: a com port (from com 1 to com 4) that is the com port number of your serial port or the com port number of your computer modem when MODEM or RS-232 is selected.

BAUD RATE: This is the baud rate that you want to use to communicate with your controller. If using RS-232 this baud rate must match the baud rate that is set at your controller. If using INTERNET this baud rate should be set to 19200.

CONNECTION: This is the connection type that you want to use to communicate with your controller. Select **MODEM** if you will be communicating over the telephone lines via modem. Select **RS-232** if you will be directly connecting your computer serial port to your controller. Select **INTERNET** if you will be communicating with your controller over the internet or intranet with the use of a WEBNode.

DIALING PREFIX: This is the prefix number you have to dial to get an outside line when using a modem connection. The **USE PREFIX** check box is used to activate this feature.

7 Add a New Controller

Adding a NEW controller

In order to add a new controller to your list of controllers, you will need the following information:

What **name** will you use for your controller?

A good name is one that readily identifies the location, if there are multiple controllers at one location which controller it is, and the type of controller you are using. A name such as "ABC Hosp, TWR 2, 2412" works well. There is a limit of 34 characters maximum to the length of the name.

What type of connection will you use (modem, RS-232, or Internet)?

If **MODEM**, you will need the telephone number to the controller's modem and the com port that the computer modem uses. The prefix number to reach an outside line at the computer location may be needed.

If **RS-232**, you will need the Baud Rate that is selected in the controller and the com port that the computer serial port uses.

If **INTERNET**, you will need the com port that you will use to access the controller, the IP address of the controller, and you will need to set up the the com port settings in the CPR software.

The **Baud Rate** you will use if either MODEM or RS-232 are selected.

If MODEM, the baud rate should not exceed the maximum baud rate or be less than the minimum baud rate of either modem.

If RS-232, the baud rate must match the baud rate that is set in the controller.

If INTERNET is selected, the baud rate should be set to 19200.

The **PASSWORD** that is programmed into the controller.

The password must be 7 characters long. **The default password is 1234567.** If you elect to change the password, it must be changed at the controller and it must be entered in the controller setup screen in PULSAlink.

7.1 NEW CONTROLLER MODEM CONNECTION

To set up a new controller for use with a modem, click on **New** and you will see the following screen:

Controllers

Name	Controller Information															
PulsaFeeder Controller 1, PulsaFeeder Controller 2, PulsaFeeder Controller 3, New Controller	<p>Name: New Controller</p> <p>Number:</p> <p>Internet Port:</p> <p>Password: ***** I.D. : 000000000000</p> <table border="1"><thead><tr><th>Com Port</th><th>Baud Rate</th><th>Connection</th></tr></thead><tbody><tr><td>Com 1</td><td>1200</td><td>Modem</td></tr><tr><td>Com 2</td><td>2400</td><td>RS-232</td></tr><tr><td>Com 3</td><td>9600</td><td>Internet</td></tr><tr><td>Com 4</td><td>19200</td><td></td></tr></tbody></table> <p>Dialing Prefix: 0 <input type="checkbox"/> Use Prefix</p> <p>Select OK or CANCEL after changing the Controller Information.</p> <p>OK Cancel Help</p>	Com Port	Baud Rate	Connection	Com 1	1200	Modem	Com 2	2400	RS-232	Com 3	9600	Internet	Com 4	19200	
Com Port	Baud Rate	Connection														
Com 1	1200	Modem														
Com 2	2400	RS-232														
Com 3	9600	Internet														
Com 4	19200															

Select **Modem** under the **CONNECTION** type.

Enter a **Name** for the controller.

Enter the telephone **Number** for the controller modem.

If you have changed the **Password**, enter the new password.

Select the **Com Port** that the computer modem uses.

Select the **Baud Rate** that you will use.

If a **Prefix** number is required to access an outside telephone line from the computer, enter the prefix number and click on the Use Prefix check box.

When the above information is entered click on the **OK** button.

7.2 NEW CONTROLLER RS-232 CONNECTION

To set up a new controller for use with an RS-232 connection, click on **New**.

Select **RS-232** under the **CONNECTION** type and you will see the following screen:

The screenshot shows a window titled "Controllers" with a list of controllers on the left and a "Controller Information" tab on the right. The list includes "PulsaFeeder Controller 1.", "PulsaFeeder Controller 2.", "PulsaFeeder Controller 3.", and "New Controller". The "Controller Information" tab has the following fields:

- Name:** New Controller
- Number:** (empty)
- Internet Port:** (empty)
- Password:** *****
- I.D.:** 000000000000
- Com Port:** Com 1 (selected)
- Baud Rate:** 1200 (selected)
- Connection:** RS-232 (selected)
- Dialing Prefix:** 0
- Use Prefix:** (unchecked)

A blue bar at the bottom of the window contains the text: "Select OK or CANCEL after changing the Controller Information." Below this bar are three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark).

Enter a **Name** for the controller.

If you have changed the **password**, enter the new password.

Select the **Com Port** that the computer serial port uses.

Select the **Baud Rate** that is set in the controller.

When the above information is entered click on the **OK** button.

7.3 NEW CONTROLLER INTERNET CONNECTION

To set up a new controller for use with an Internet connection, click on **New**.

Select **INTERNET** under the **CONNECTION** type and you will see the following screen:

Controllers

Name	Controller Information															
PulsaFeeder Controller 1. PulsaFeeder Controller 2. PulsaFeeder Controller 3. New Controller	<p>Name: New Controller</p> <p>Number:</p> <p>Internet Port: [Dropdown]</p> <p>Password: [Masked] I.D. : 000000000000</p> <table border="1"><thead><tr><th>Com Port</th><th>Baud Rate</th><th>Connection</th></tr></thead><tbody><tr><td>Com 1</td><td>1200</td><td>Modem</td></tr><tr><td>Com 2</td><td>2400</td><td>RS-232</td></tr><tr><td>Com 3</td><td>9600</td><td>Internet</td></tr><tr><td>Com 4</td><td>19200</td><td></td></tr></tbody></table> <p>Dialing Prefix: 0 <input type="checkbox"/> Use Prefix</p>	Com Port	Baud Rate	Connection	Com 1	1200	Modem	Com 2	2400	RS-232	Com 3	9600	Internet	Com 4	19200	
Com Port	Baud Rate	Connection														
Com 1	1200	Modem														
Com 2	2400	RS-232														
Com 3	9600	Internet														
Com 4	19200															

Select OK or CANCEL after changing the Controller Information.

OK Cancel Help

Enter a **Name** for the controller.

If you have changed the **Password**, enter the new password.

Select the **Internet Port** that you have configured in the **CPR program** for this controller.

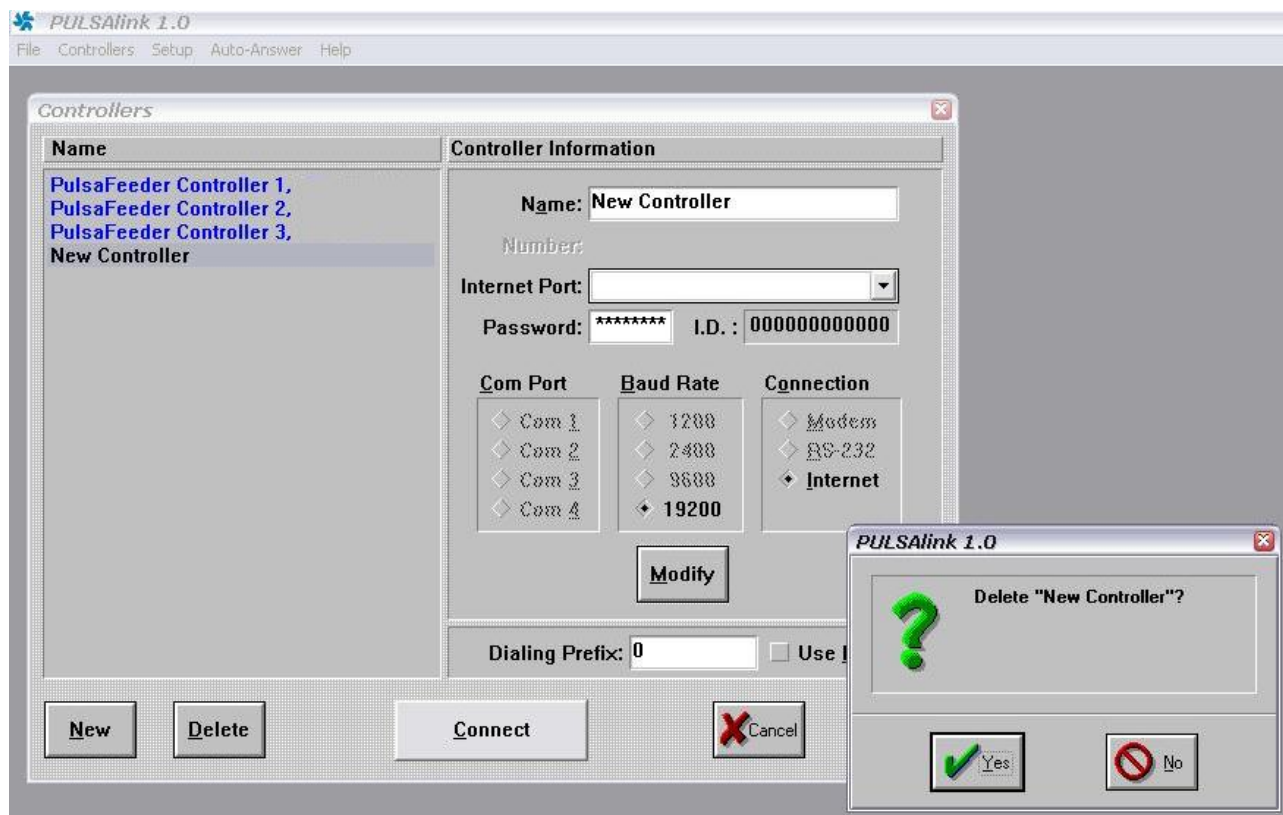
When the above information is entered click on the **OK** button.

7.4 Delete an Existing Controller

7.4.1 DELETING A CONTROLLER FROM THE CONTROLLER LIST

Highlight the controller on the left-hand side of the screen that you want to delete from the list and click on **Delete**.

You will be asked whether you want to delete the highlighted item with the following screen. Click on **Yes** or **No**, depending on your choice.



7.4.2 Modify an Existing Controller

MODIFYING THE INFORMATION FOR AN EXISTING CONTROLLER

Highlight the controller on the left-hand side of the screen that you want to modify. Click **Modify** to make changes to the information entered for that specific controller (i.e., **Name** or phone **Number**).

The screenshot shows a window titled "Controllers" with a close button in the top right corner. The window is divided into two main sections. The left section, titled "Name", contains a list of controllers: "PulsaFeeder Controller 1.", "PulsaFeeder Controller 2.", "PulsaFeeder Controller 3.", and "New Controller". The "New Controller" entry is highlighted. The right section, titled "Controller Information", contains several input fields and a table. The "Name" field is set to "New Controller". The "Number" field is empty. The "Internet Port" field is empty. The "Password" field is filled with "*****". The "I.D. :" field is filled with "000000000000". Below these fields is a table with three columns: "Com Port", "Baud Rate", and "Connection". The "Com Port" column has four options: "Com 1", "Com 2", "Com 3", and "Com 4". The "Baud Rate" column has four options: "1200", "2400", "9600", and "19200". The "Connection" column has three options: "Modem", "RS-232", and "Internet". The "RS-232" option is selected. At the bottom of the window, there is a blue bar with the text "Select OK or CANCEL after changing the Controller Information." and three buttons: "OK" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark). Below the blue bar, there is a "Dialing Prefix" field with the value "0" and a checkbox labeled "Use Prefix".

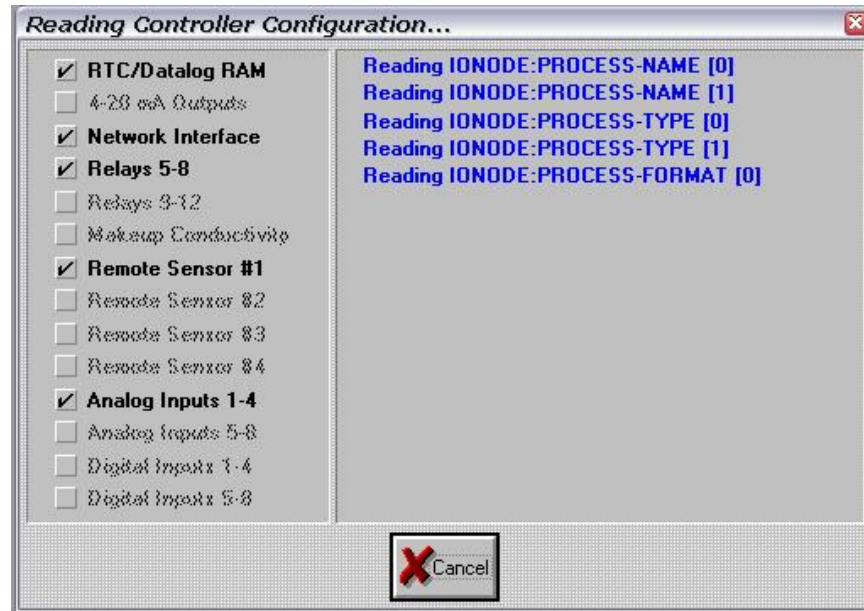
Com Port	Baud Rate	Connection
Com 1	1200	Modem
Com 2	2400	RS-232
Com 3	9600	Internet
Com 4	19200	

7.4.3 Connecting to a Controller

CONNECT

Once you have set up a new controller, or a number of them, highlight the controller you want to connect to and click on the **C**onnect button.

You will see a series of screens while your computer contacts the controller.



If you have problems connecting, first make sure that you have set up the controller properly in the software. Check that the **CONNECTION** type, **COM PORT**, **INTERNET PORT**, **BAUD RATE**, **TELEPHONE NUMBER**, and the **MODEM SETTINGS** are correct. Make sure your wiring is properly connected. Finally, refer to the Troubleshooting guide in the program's Help Menu for additional assistance. If this does not correct the problem, contact your Pulsafeeder Pulsafeeder Technical Service Representative at **1-800-333-6677**.

8 The Main Screen

THE MAIN SCREEN

After you click on the **Connect** button and PULSALINK connects to the controller, you will see the following screen. Take a minute to look at the total screen below, which is an example from a Model 2430 Controller. The information shown represents the current readings from your controller. *PULSAlink* frequently updates this information.

The screenshot shows the 'New Controller' main screen with the following sections:

- Process Variables:**
 - ORP = -54 mV
 - COND = -20 uS
 - pH-1 = 9.40 pH
 - INP1 = 0.000 ppm
 - INP2 = -0.02 mA
 - INP3 = -0.02 mA
 - INP4 = -0.02 mA
- Alarms and Messages:**
 - INP4:LOW ALARM
 - INP3:LOW ALARM
 - INP2:LOW ALARM
- Flow Rates:**
 - MTR1 = 0 GPM
- Flow Totals:**
 - MTR1 = 0 gal
 - MTR2 = 0 gal
- Relay Status:**
 - BLEED: off
 - COND Setpoint= 1500 uS
 - Next Feed Time: Sun at 21:00
 - ORP Setpoint = 0 mV
 - RLY1: off
 - RLY2: off
 - RLY3: off
 - RLY4: off
 - RLY5: off
 - RLY6: off
 - RLY7: off
 - RLY8: off
 - Relay 9: off
 - Relay 10: off
 - Relay 11: off
 - Relay 12: off
- Buttons:**
 - Download
 - Main Menu
 - Water Meters
 - Calibration
 - Relays
 - Calendar Timer
 - Alarms
 - 4-20 mA Outputs
 - System Setup
 - Alarm Callouts
 - Datalog
 - Cancel
 - Help
- Flow Switch:**
 - Flow: MTR1 + MTR2 = 0 gal
 - MTR1 - MTR2 = 0 gal
- Reading:**
 - Reading RLYNODE:RELAY [1]
- Time and Date:**
 - 11:17:05
 - Mon, 24 May 10
 - Online: 0:00:15

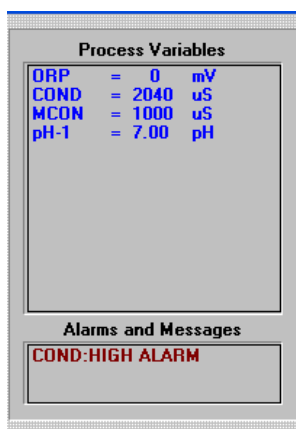
On the Main Screen, you can view your current process variables, any alarms that may be present, current relay status, relay configurations, water meter totals and rates, the status of the flow switch, and the date and time of the controller.

The buttons on this screen allow you to access the same controller features that you can access via the controller's keypad/display. For example, the **Alarms** button allows you to view or change the high/low process alarm values.

Each section of the MAIN SCREEN will be described in this section of the manual.

8.1 Process Variables

The Process Variables are displayed the the upper left-hand side of the screen. The Process Variables are your pH, Conductivity, ORP, and 4-20 mA input readings.



8.2 Alarms and Messages

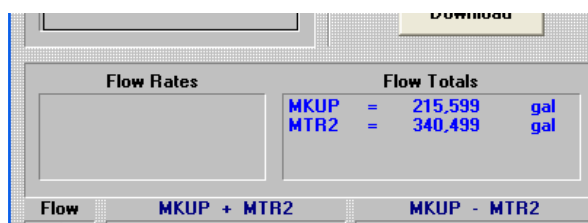
Alarms and Messages are displayed just below the Process Variables. All current alarms will be displayed in this box.

Additional information on the alarm can be accessed by double clicking on the active alarm.



8.3 Flow Rates and Flow Totals

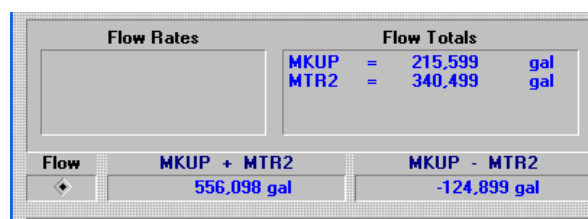
If your controller is using water meters the flow rates and flow totals are displayed just below the alarms. Note: Contacting Head type water meters will not display a flow rate.



Flow Rates		Flow Totals	
		MKUP	= 215,599 gal
		MTR2	= 340,499 gal
Flow	MKUP + MTR2	MKUP - MTR2	
	556,098 gal	-124,899 gal	

8.4 Flow Indication

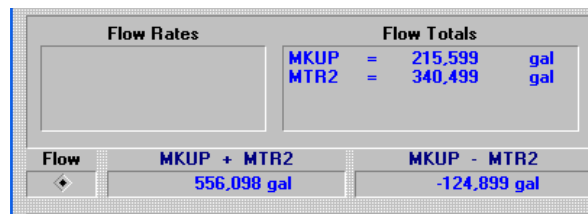
The current status of the flow switch is displayed just below the flow rates and to the left of the water meter differences and sums. When the diamond has a dot, the flow switch is indicating that there is flow in the system.



Flow Rates		Flow Totals	
		MKUP	= 215,599 gal
		MTR2	= 340,499 gal
Flow	MKUP + MTR2	MKUP - MTR2	
◆	556,098 gal	-124,899 gal	

8.5 MTR1 + MTR2 and MTR1 - MTR2

PULSAlink performs a couple of math functions on the main screen for you. The first is the sum of your two water meters. This is useful when you are using two different sources of makeup water. The second is MTR1 minus MTR2. This is useful as an indication of evaporation.



Flow Rates		Flow Totals	
		MKUP	= 215,599 gal
		MTR2	= 340,499 gal
Flow	MKUP + MTR2	MKUP - MTR2	
◆	556,098 gal	-124,899 gal	

8.6 Relays

The relay section of the main screen shows the current status of the relay and a brief description of the relay configuration.

The relays can be operated manually from this screen by clicking on the status of the relay you want to operate.

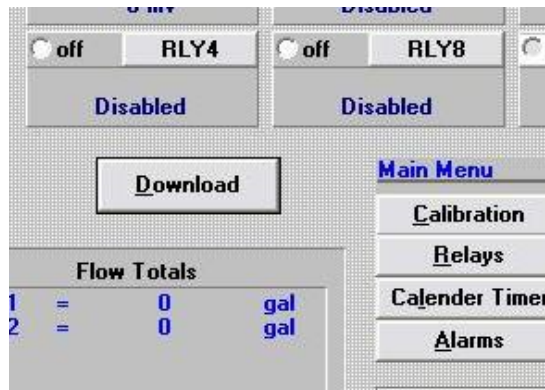
The relay configuration screens for a particular relay can be accessed by clicking on the button that contains the relay's name.



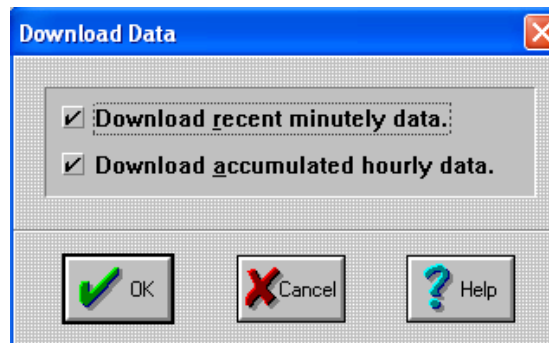
Please refer to the Relay Configuration section of this manual for further information on configuring the relays.

8.7 Download the Datalog

The data from the datalog of your controller is downloaded by clicking on the **DOWNLOAD** button in the middle of the main screen.



The following screens will appear:



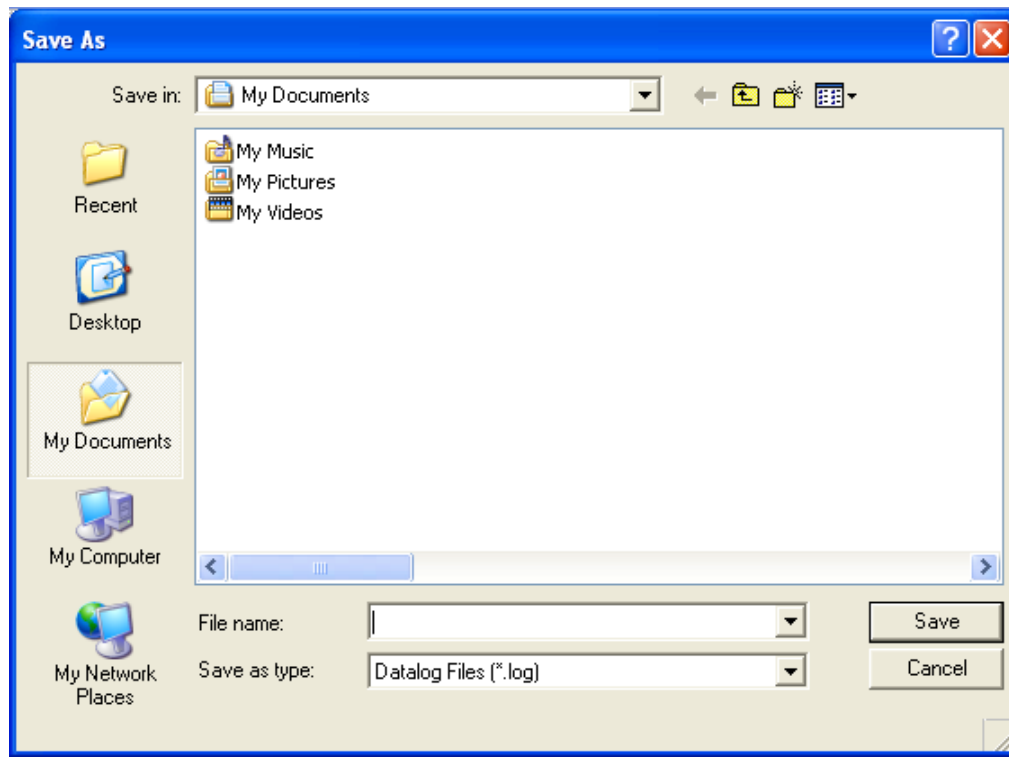
The controller stores accumulated data selected by the user in its battery-backed memory. The datalog consists of two sections:

Recent Minutely Data - Approximately the last 60 minutes of data in minutely increments.

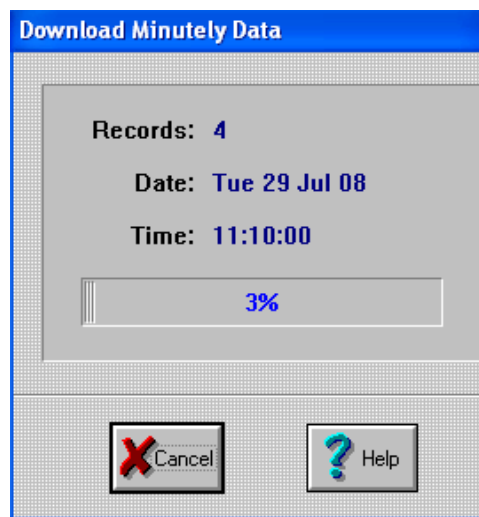
Accumulated Hourly Data - Approximatel the last 28 days of data in hourly increments.

Select the section or sections of the datalog you want to download andclick the OK button. (Both sections can be selected at the same time.)

After you have selected the section of the datalog you want to download you will be asked to save the downloaded file with a name and a location in the following screen:

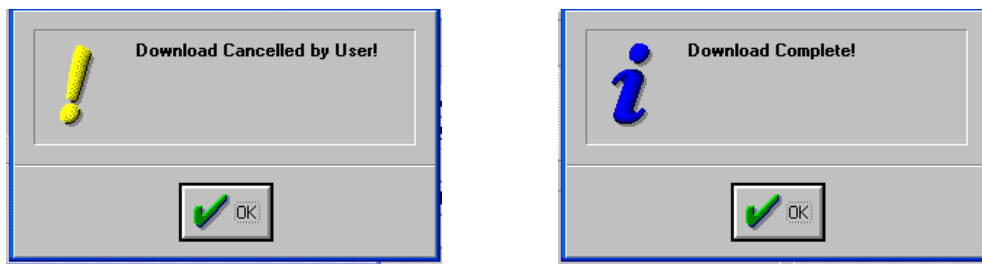


After you have entered your save information you will see one or two screens indicating the download is in progress.



The datalog does not have to be downloaded in its entirety. It can be interrupted at any time by clicking on the **CANCEL** button. Any data that is downloaded will be saved to the location and name specified above. This is useful if all you want to see is the last four hours of data.

If the user stops the download manually the screen on the left will be displayed.



Once the download is completed, you will see the screen on the right. You can use *PULSAlink Graph* to view the contents of the datalog file.

You may also have *PULSAlink Graph* export selected data to a *comma-delimited* file (extension will be *.prn). You can then import the data into your own spreadsheet software.

HOW THE DATALOG INFORMATION IS CREATED

Conductivity and pH values are datalogged three different ways:

- (Avg)** The average reading during that hour.
- (Hi)** The highest reading during that hour.
- (Lo)** The lowest reading during that hour.

Other datalogged parameters:

- (Relay)** Relay on-times are displayed in minutes (from the start of each hour).
- (Meter)** Water meter inputs are displayed in gallons or liters.

All alarms are datalogged during the minute they occur and will be included in the minutely and hourly download. During an alarm condition, all process values selected to be datalogged will be included in the minutely and hourly download.

8.8 Main Menu

The **MAIN MENU** screen behave the same way as in the controller itself. There are buttons to:

- Calibrate the controller
- Configure the relays
- Set up the Calendar Timer
- Set the alarms
- Configure the water meters
- Set up the 4-20 mA outputs
- Check and set up the system parameters
- Configure the alarm callouts
- Configure the datalog

Main Menu	Water Meters
Calibration	4-20 mA Outputs
Relays	System Setup
Calendar Timer	Alarm Callouts
Alarms	Datalog

Each of these screens is accessed by clicking on the appropriate button in the MAIN MENU section of the main screen.

8.9 Calibration

Calibrations can be performed by clicking on the **CALIBRATE** button.

The **WHICH PROCESS?** screen will appear for you to select the parameter to calibrate.

Main Menu	Water Meters
Calibration	4-20 mA Outputs
Relays	System Setup
Calendar Timer	Alarm Callouts
Alarms	Datalog

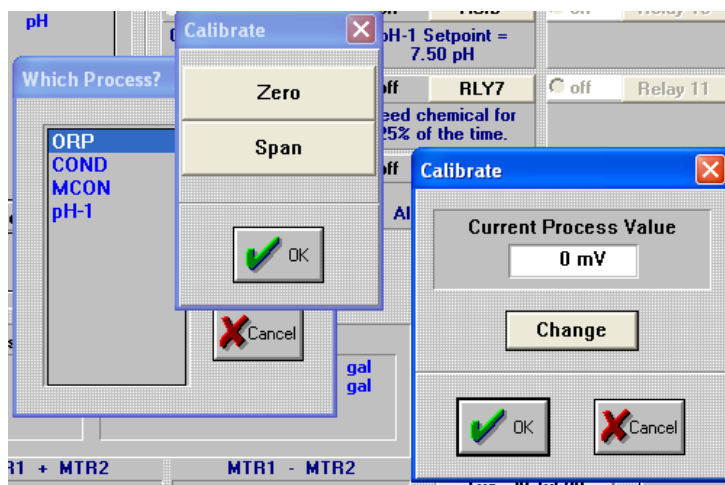
Which Process?

ORP
COND
MCON
pH-1

Select

Cancel

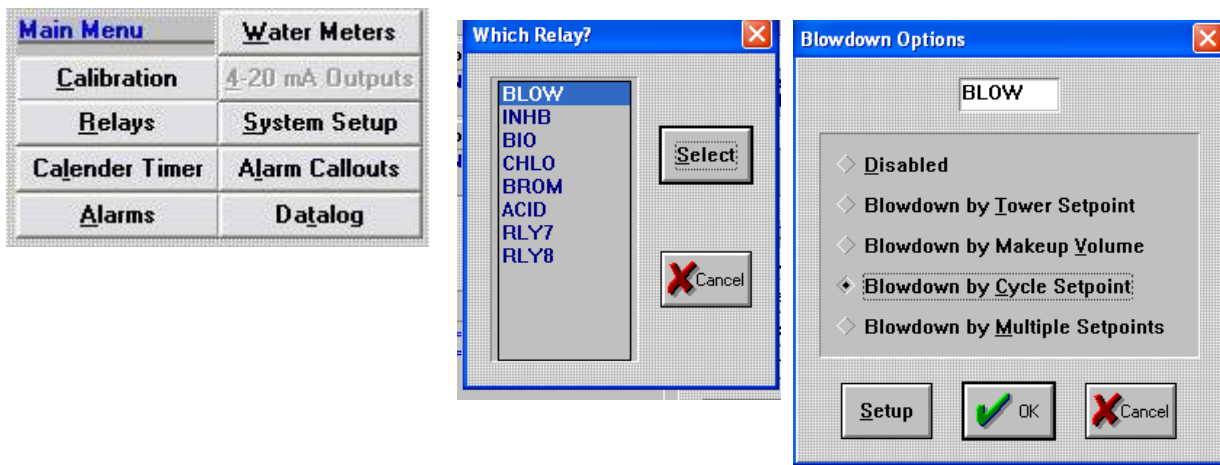
The pH and ORP parameters will give you a choice of performing a zero or a span calibration. Conductivity will just show the calibration value.



8.10 Configuring Relays

The configuration of the relays can be changed via PULSALINK. When the **RELAYS** button is clicked a screen appears which asks which relay.

Click on the relay you want to configure and click the **SELECT** button.



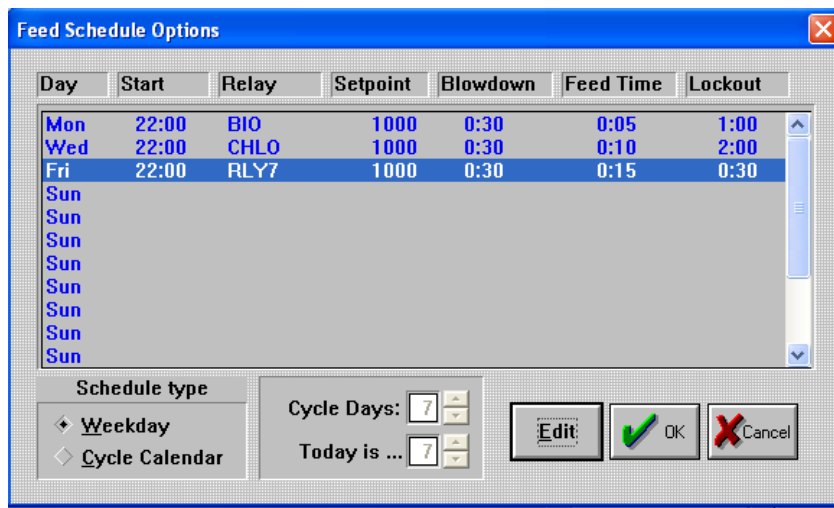
The name of the relay can be changed to any four character alpha numeric name by clicking in the name box and making the change.

The configuration is changed by clicking on the specific method of control.

NOTE: Please refer to your controller operations manual for specific set up information.

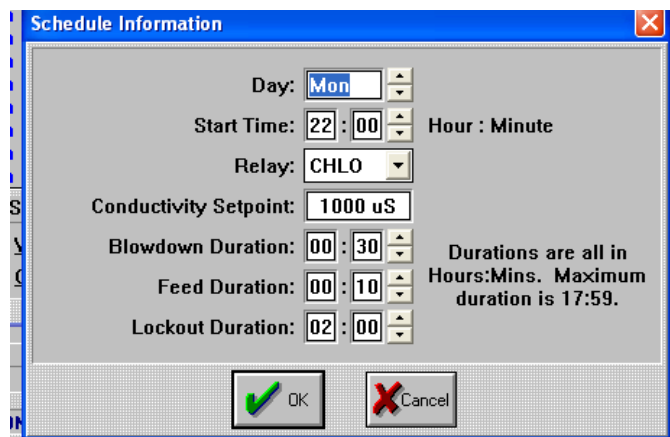
8.11 Calendar Timer

The feed schedule can be changed via PULSALINK. When the **Calendar** button is clicked a screen appears:



In this screen you change the Schedule Type by clicking on the appropriate schedule type; either **WEEKDAY** or **CYCLE CALENDAR**.

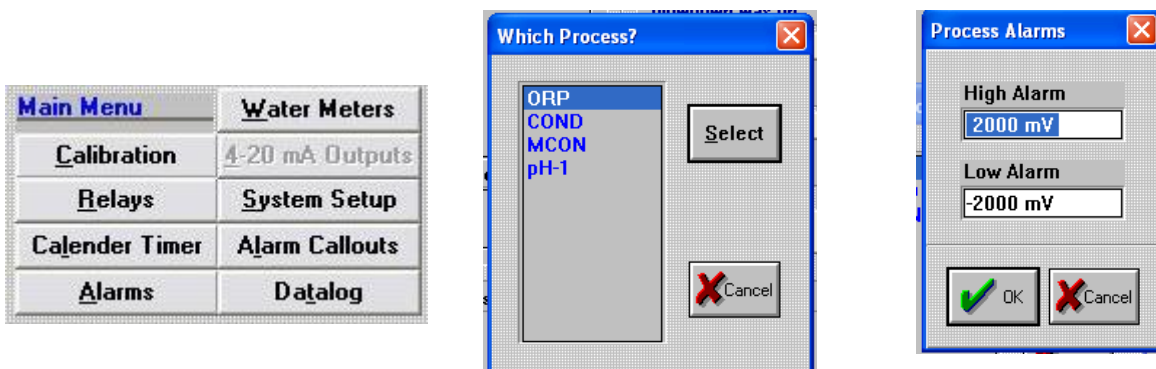
Edit the feed schedule by clicking on the scheduled feed you want to change then click on the **EDIT** button. The following screen will appear:



Use the buttons to make changes and click the OK button.

8.12 Alarms

The Process Variable alarms are configured by clicking on the **ALARMS** button. A WHICH PROCESS screen will appear.

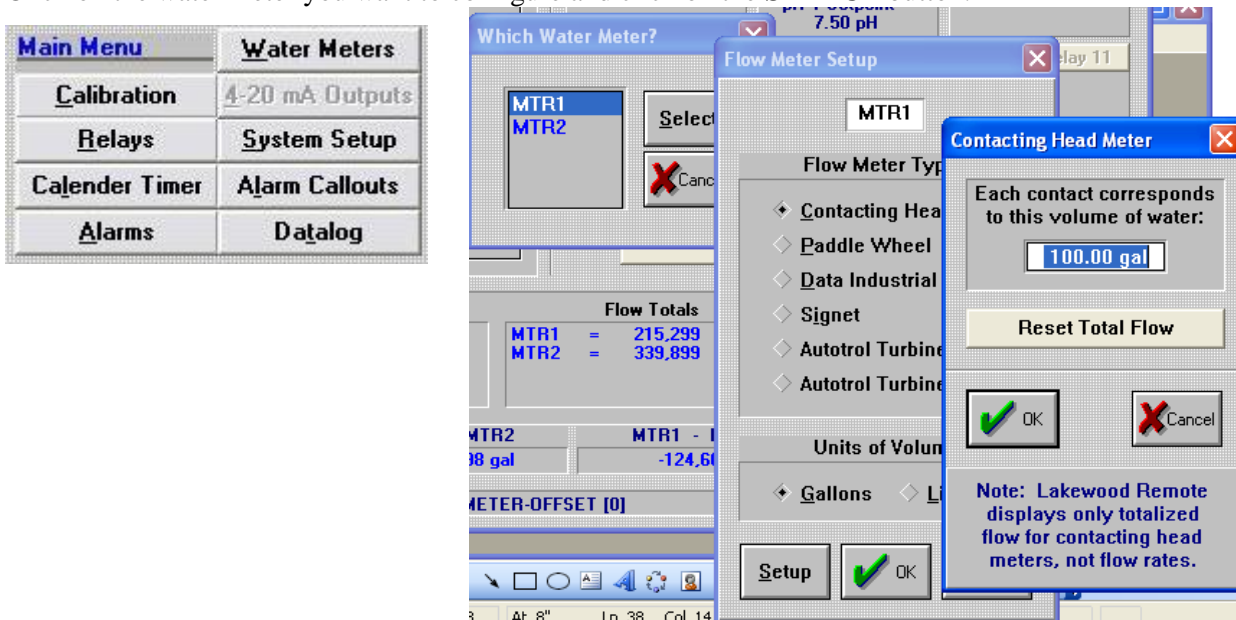


Click on the alarm you want to configure and click the **SELECT** button.
Make your changes and click the **OK** button.

8.13 Water Meters

The Water Meters are configured by clicking on the **WATER METERS** button. A WHICH WATER METER screen will appear.

Click on the water meter you want to configure and click on the **SELECT** button.

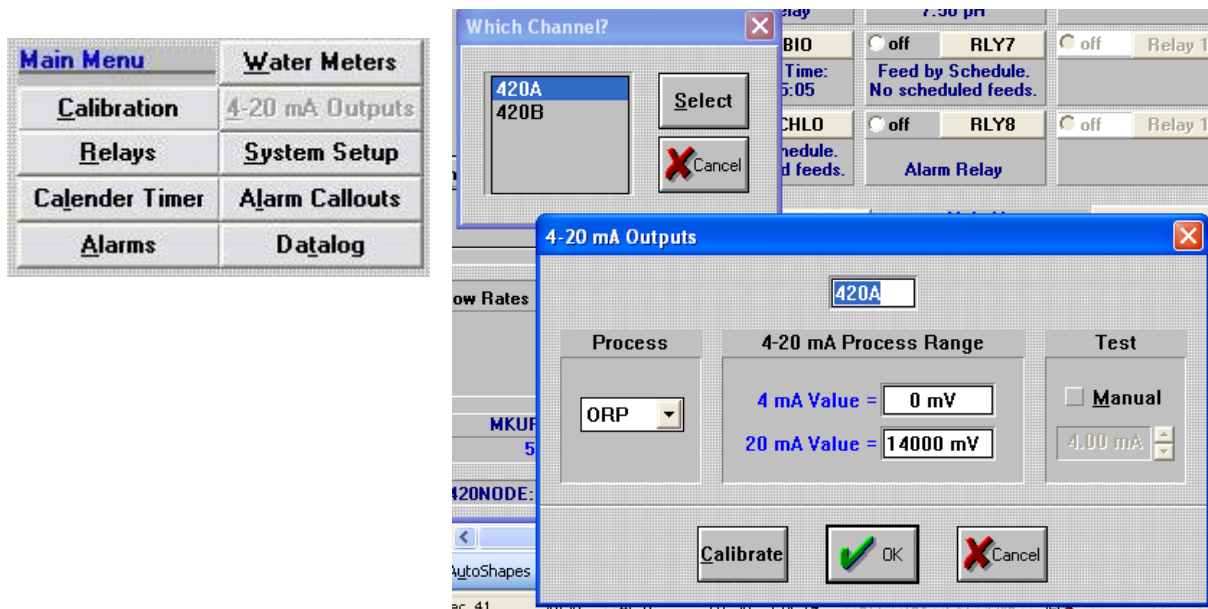


Configure the water meter and click on the **OK** button.

8.14 4-20 mA Outputs

The 4-20 mA Outputs are configured by clicking on the **4-20 mA Outputs** button. A WHICH CHANNEL screen will appear.

Click on the channel you want to configure and click on the **SELECT** button.



The **NAME** of the output can be changed by clicking in the name of the channel box and typing in a 4 character name.

Set the **RANGE** by clicking in either the 4 mA value box or the 20 mA value box and changing the values.

The output value can be controlled manually by clicking on the **MANUAL** button and adjusting the valued with the ARROW buttons.

The output can be calibrated by clicking on the **CALIBRATE** button and following the prompts.

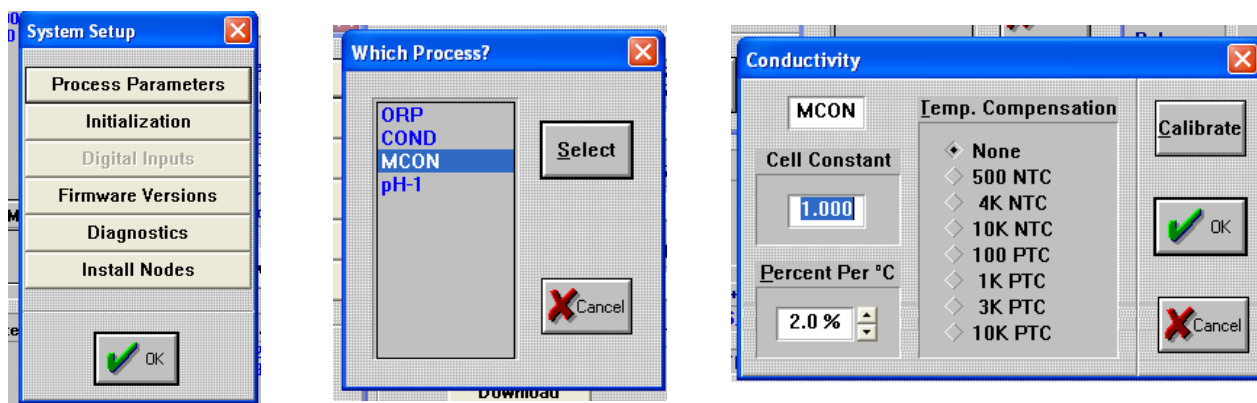
After configuring the 4-20 output channel and click on the **OK** button.

8.15 System Setup

The SYSTEM SETUP screen allow the user to configure the process variable inputs, initialize either the calibrations or the whole controller, check the firmware versions, look at the diagnostics values, and install nodes.

PROCESS PARAMETERS

The PROCESS PARAMETERS screens are used to configure the controller for use with the current inputs. Some inputs have setup screens and some do not. All inputs can have their name changed.



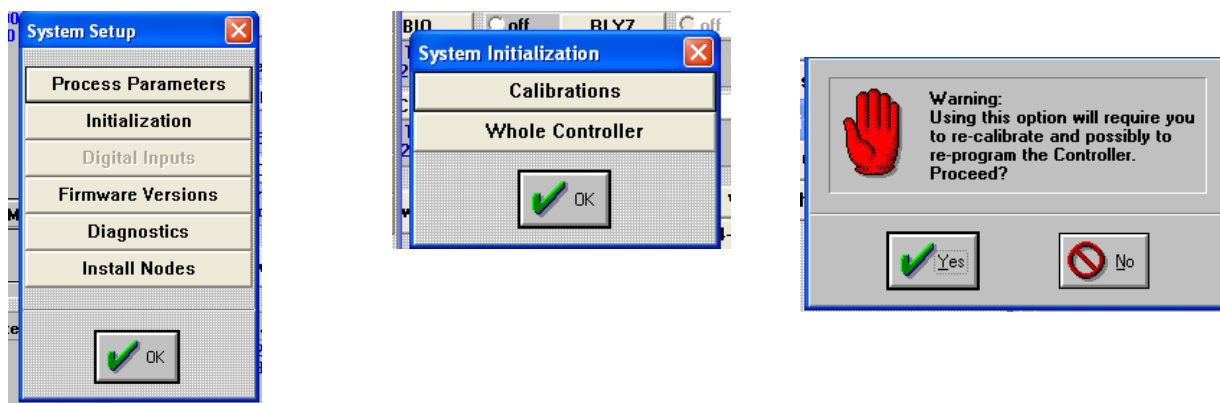
INITIALIZATION

The INITIALIZATION screens are used to restore the factory default settings to the controller. There are two basic choices; CALIBRATIONS or WHOLE CONTROLLER.

You can initialize the calibration of any selected input by selecting **CALIBRATIONS** then selecting the process to initialize.

The whole controller and be initialized by selecting **WHOLE CONTROLLER**.

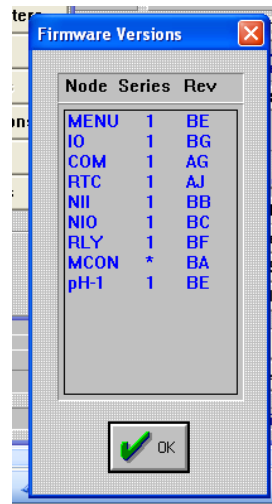
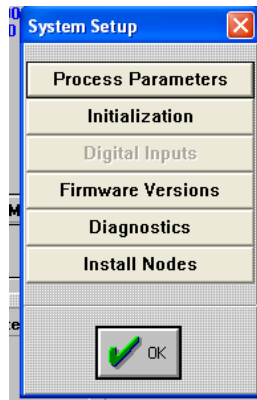
WARNING: Initializing the whole controller will wipe out ALL settings and will require reprogramming.



FIRMWARE VERSIONS

The firmware versions can be checked for troubleshooting purposes.

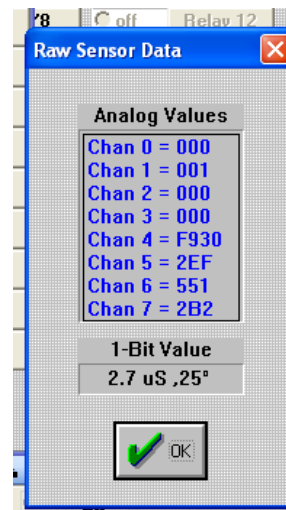
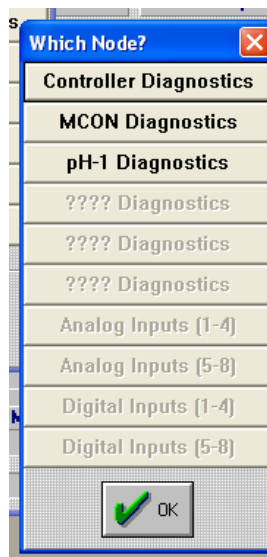
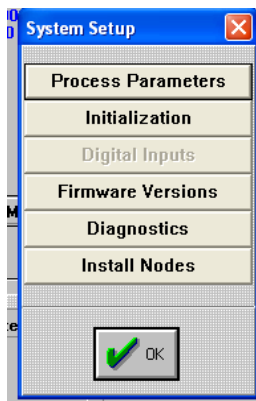
To display the firmware versions click on the **FIRMWARE VERSIONS** button.



DIAGNOSTICS

The diagnostics screens are used by the technician for troubleshooting purposes.

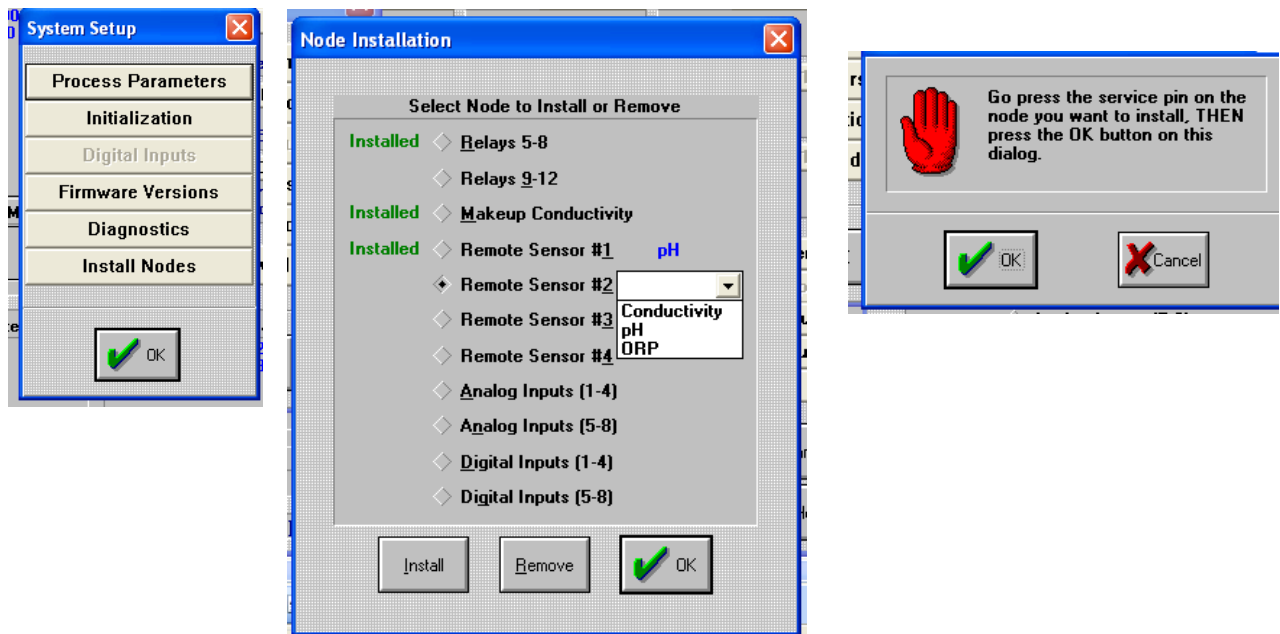
To access the diagnostics screens click on the **DIAGNOSTICS** button and select the diagnostics to display.



NODE INSTALLATION

Nodes can be installed via PULSALINK but, a person on site at the nodes to be installed is a requirement.

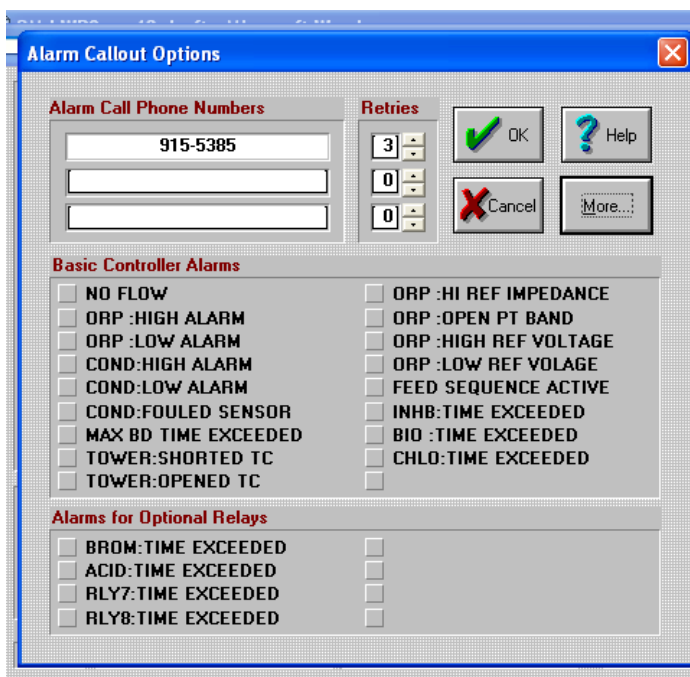
To install nodes click on the **INSTALL NODES** button, select the node to install, then press the service button on the applicable node.



8.16 Alarm Callouts

Pulsafeeder 3300/3400 Series controllers have the ability to call out on user selected alarm conditions. Alarm call outs are used with either modem communications or with the WEBNode. Alarm call outs are not available when using direct connect.

To set up the alarm call out feature, click on the **ALARM CALLOUTS** button.



For modem connections:

Enter a telephone number or numbers in the **ALARM CALL PHONE NUMBERS** boxes.
Select the number of retries for each phone number the controller will use to try to connect before giving up.
Click on the boxes of the alarms to call out.
Click the **OK** button.

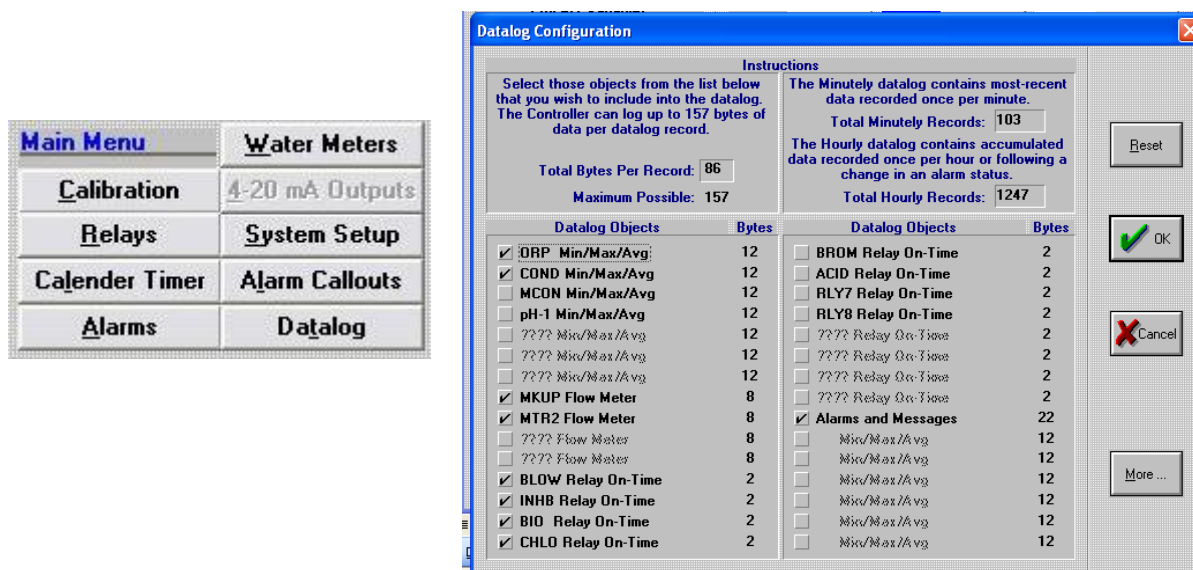
FOR WEBNode connections:

Set the number of retries to 1.
Click on the boxes of the alarms to call out.
Leave the **ALARM CALL PHONE NUMBERS** boxes **blank**. E-mail addresses and text message numbers are set up with your web browser. Refer to the WEBNode manual for further information.
Click the **OK** button.

8.17 Datalog

The datalog is user configurable and must be configured to ensure the desired information is logged.

The datalog is configured by clicking on the **DATALOG** button.



The datalog has the ability to datalog 157 bytes of data per datalog entry. Each datalog object requires some number of bytes in the datalog. Objects can be selected until a total number of bytes selected reaches 157 or until there are no more objects to select.

There are two information boxes at the top of the screen. The box on the left shows the current total bytes per record for the datalog as configured. The box on the right shows the total number of minutely and hourly records that will be stored with the current datalog configuration. The more bytes that are used the fewer number of records that can be stored.

The datalog configuration screen displays the datalog objects that are selectable along with the number of bytes required for the datalog. More datalog objects can be selected by clicking on the **MORE** button.

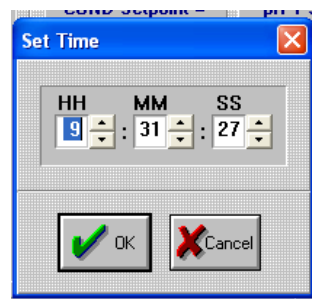
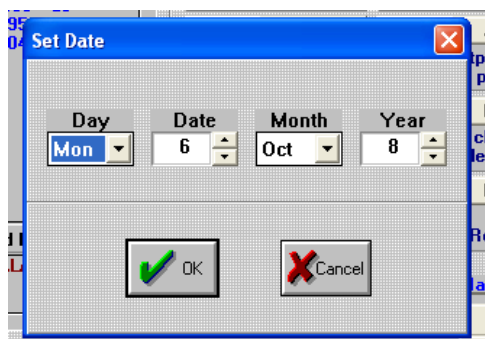
The **RESET** button is used to remove all objects from the datalog.

WARNING: Any changes to the datalog objects will initialize the datalog. To ensure no data is lost it is recommended that the data is downloaded before making changes to the datalog.



8.18 Date and Time

The date and time of the controller can be changed by clicking on either the **DATE** or **TIME** boxes on the Main Screen.



8.19 Disconnect From a Controller

To disconnect from a controller, click on the CANCEL button on the Main Screen.



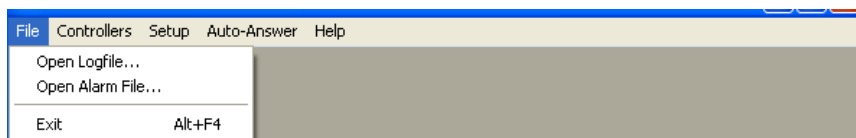
9 PULSAlink Graph Program Operation

The PULSAlink Graph program is used to graph the data from any downloaded datalogs. PULSAlink Graph will start automatically whenever a log file is opened.

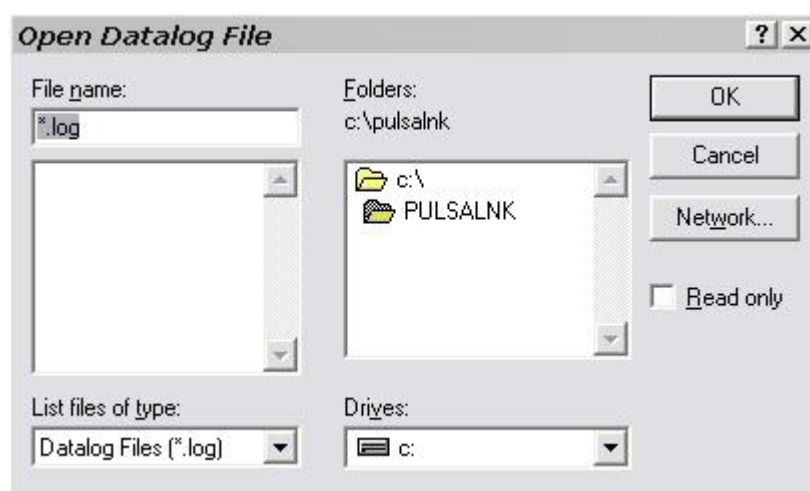
9.1 Open a Log File

Log files are opened in the from the Main Menu Bar.

To open a log file, click on **FILE** and select **OPEN LOGFILE**.



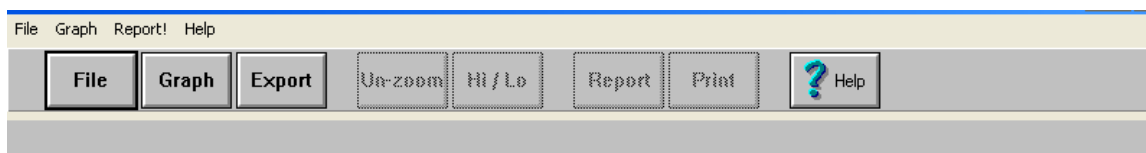
The first screen you will see is the **Open Datalog File**.



Navigate to the folder where you have saved your downloaded files in the directories box. Double click on the folder to open.

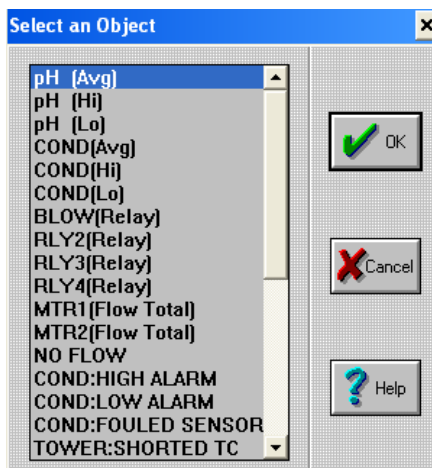
Named datalog files which contain downloaded information from your controller are listed in the **FILE NAME** box. In this example, there is a datalog file named **test1.log** located on the **C** drive in the **lwremote** directory. If there are no datalog files in the selected folder, the file names box will be empty.

Open the datalog file by double clicking on the file or by clicking on the file and clicking on the **OK** button. The PULSAlink Graph bar will appear.

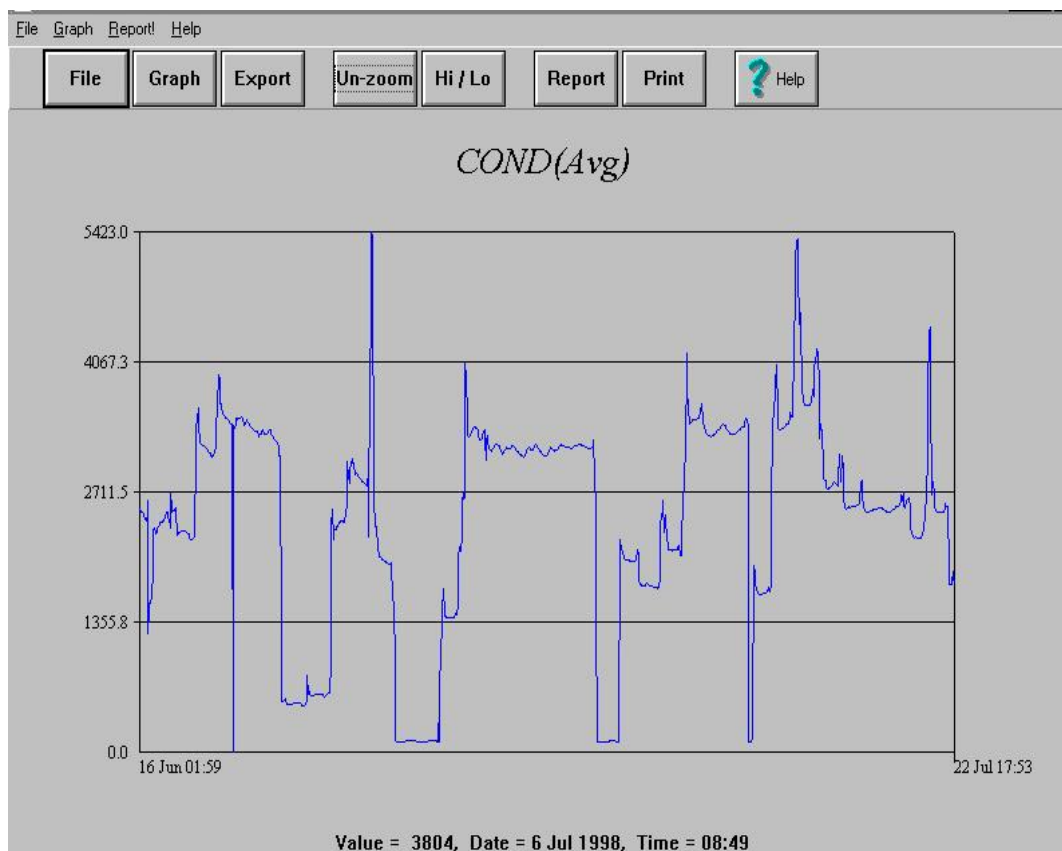


9.2 Graph Datalog Objects

To open a datalog object, click on the **GRAPH** button and the Select an Object box will appear. Select the object to graph and click on the **OK** button.



PULSAlink Graph will compile information on the object you select. If you select **COND (Avg)**, for example, then PULSAlink Graph will pull the information relevant to **COND (Avg)** from the datalog file and graph or export it for you. If no information was downloaded relevant to the object selected, a named but blank graph will appear.

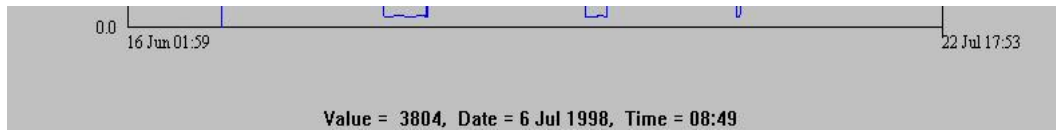


ZOOM

You can zoom into a section of the graph to view exclusively. Simply left click and drag your mouse across the area you want to view. The box created defines the graph parameter to be shown in zoom mode. Click on the right mouse button to return to the full-view mode.

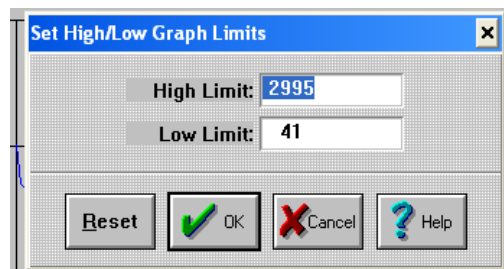
VALUE/DATE/TIME

As you move the cursor around the graph, note that the Value/Date/Time information changes at the bottom of the graph to accurately represent the point where the cursor rests.



SCALE

The scale of the graph can be changed by clicking on the **HI/LOW** button.



REPORT

To get the actual values that are graphed, click on the **REPORT** button and a *Notepad* text file that shows the graphed data will be displayed.

Date	Time	CON1(Avg)
14 Aug	1:00	1628
14 Aug	2:00	1642
14 Aug	3:00	1613
14 Aug	4:00	1613
14 Aug	5:00	1620
14 Aug	6:00	1609
14 Aug	7:00	1617
14 Aug	8:00	1620
14 Aug	9:00	1619
14 Aug	10:00	1615

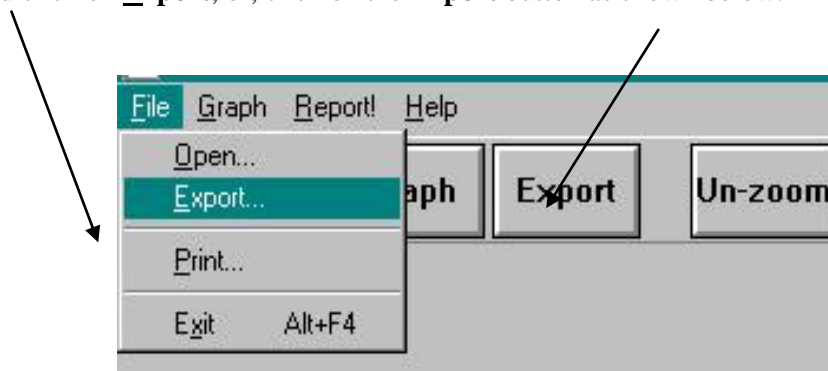
Note that in this example, the datalog object selected is **COND (Avg)** which is the graph that is currently displayed. The current date and time are on the line called Time.

PRINT

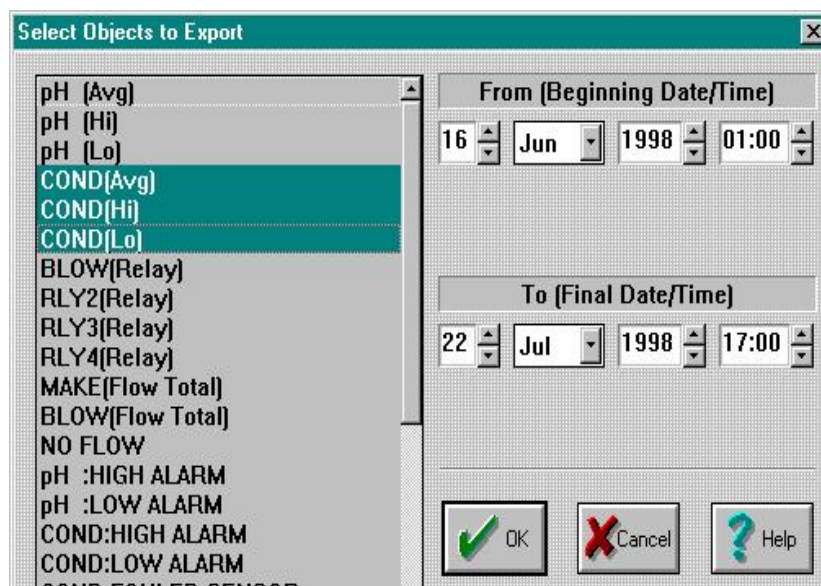
The currently displayed graph can be printed to your default printer by clicking on the **PRINT** button.

9.3 Export Datalog

You can export data in comma-delimited format to your own data processing application. First enter the **File** Menu and click on **Export**, or, click on the **Export** button as shown below.



A screen with a list of parameters, a date field and a time field will appear. Click on the parameters you want selected, then establish the desired date and time you want included in the exported data. Click on **OK** when your selections are completed. *PULSAlink* will compile a comma-delimited file that can be downloaded and used by many spreadsheet applications.



In the above example, the user has selected **COND (Avg)**, **COND (Hi)** and **COND (Lo)** over the period **16 June 1998, 01:00** to **22 July 1998, 17:00**. Clicking **OK** will create the export file.

MAINTENANCE

10 Technical Support

If you need technical support for your *Pulsafeeder PULSAlink*:



Pulsafeeder Technical Support for the PULSALINK software and related products can be reached by calling (800) 333-6677 or faxing (941) 575-4085, Monday through Friday, 8:00 a.m. – 5:00 p.m. Eastern Time.

<p><u>NOTE:</u> IF YOU CALL FOR TROUBLESHOOTING HELP, PLEASE MAKE SURE THAT THE MODEL NUMBER, SERIAL NUMBERS AND ANY INFORMATION ABOUT OPTIONS ARE ALL READILY AVAILABLE FOR REFERENCE.</p>
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11 Troubleshooting

Here is a small list of common problems and solutions. We'll add to this as future versions of PULSALink come along.

11.1 Error Opening Serial Port, The Com Port Is Already in Use

You may have another application that runs in Windows that is utilizing the com port, such as another communications program or fax program. You need to quit the other application before you can use that serial port with PULSALink.

11.2 Error Opening Serial Port, The Com Port is Not Available

You have selected the wrong serial port. You may have a mouse or other device assigned to this particular serial port. Note that, on many IBMPC-compatible computers, Windows will not allow you to use Com1 at the same time as Com3, and it will not allow you to use Com2 at the same time as Com4.

11.3 Error Opening Serial Port, Insufficient Memory

Quit one or more applications, and try again.

11.4 Error Reading Data from the Controller

If you are never able to get through to the Controller because of read errors, then you may be using an incorrect baud rate. If you are connecting via RS-232 rather than modem, then you may be using an incorrect Com port. To change the com port, see Controllers.

11.5 Error Initializing Modem

You may be using the wrong serial port. Or, you may be running at the wrong baud rate. Try using a very slow baud rate, like 1200. Or, you may be using an incorrect Modem Initialization String. Refer to your modem documentation (see also Controllers and Modem Settings).

11.6 Modem Won't Dial Out

Are you getting the "NO DIAL TONE" message? If so, your modem may not be connected to a phone line, or the phone line may be out of service. You can test this by connecting a hand receiver to the phone jack and dialing out manually. Or, the modem initialization may not have worked correctly (see also Modem Settings).

11.7 Modem Dials Out, But Doesn't Connect

Are you sure the Controller at the other end of the line is up and running? Try dialing the Controller's number by voice phone. You should hear a modem squeal once you dial into the Controller.

11.8 Modem Connects, But PULSALink Doesn't Recognize Connection

Try enabling echo on your modem. On most modems, you can do this by adding "E1" to the Modem Initialization String. Or, you may be attempting to connect an asynchronous modem to a synchronous modem. If your computer modem can run at high baud rates (such as 9600 and up), but the Controller's modem only runs at 1200 or 2400, you may need to put your computer's modem into synchronous mode. For example, on Hayes brand modems, you can do this by adding "&Q0" to the Modem Initialization String. See also Modem Settings.

11.9 Controller Is Always Busy

The Controller may be attempting to call out an alarm at the time you are calling it. Wait 5 or 10 minutes and try again. Or, someone else may be accessing the Controller.