



# INQUISITOR



## User Manual

**Pulsonic Technologies Ltd.**

Riverside House  
North Dean Business Park  
Stainland Road  
Halifax, West Yorkshire  
HX6 3QB

Tel : +44 (0) 1422 363462

Fax: +44 (0) 1422 363275

E-mail : [sales@pulsonictechnoogies.com](mailto:sales@pulsonictechnoogies.com)

# Inquisitor Instructions

Inquisitor is a windows based applications programme that interfaces with the Aqualogger open channel flow meter to enable tabular and graphical analysis of logged data.

**Requirements:** Windows 3.11,95/98

SVGA monitor set to 800 \* 600 resolution, minimum 16 colours, Graphics printer that supports Courier true type font (not dot matrix), Free serial port, Pulsonic Technologies serial computer cable.

**Installation:** Enter disk 1 in your machine and from file menu enter "Run" and type a:\setup. Follow the installation instructions on the screen.

The installation will set up a folder for the Inquisitor software. Double click the executable file to run the software.

## Setting Up Your Site Details

For first time users, prior to extracting information from the Aqualogger, you must first set up your site details. Choose the **COMMUNICATIONS** option and then "**SETUP SITE**". Enter your details in the site details box and other boxes where relevant. The software will fill in the site index name automatically.

Ensure the download setting box contains the same "start unit no" as that contained in the Aqualogger instrumentation unit. This is found in the Aqualogger "setup system" menu. The start unit number is the address for the Aqualogger and if they do not match, the software will not be able to communicate.

If you wish to connect via a modem enter the telephone number in the appropriate box and when you come to downloading data the line will be automatically dialed.

Editing your site details is simple and the site name may be deleted and a new name installed using the screen editor. A single site license enables the user to set up different site names but note that once a site name is changed all previous data will be lost.

The multi-site version allows the user to enter up to 20 different sites.

## Serial Port Setup

In order to communicate with the Aqualogger you must ensure the software speaks to the correct serial port. Again this should be setup in the **COMMUNICATIONS** menu. Select the free serial port on your computer and ensure the baud rate is set to 9600. If a modem is connected ensure the link is set. Normally tone dial is the default setting for the telephone link but if you have an old type pulse setting, ensure this is set. If the unit responds with the error message "Comms port not open" you have not selected the correct comms port for your computer. In this case refer to your computer instruction manual to identify which port number you are communicating on.

## Data Download

Once you have set up your site details data can be downloaded. Connect the cable either direct to the Aqualogger or to the modem (see modem section). Enter **COMMUNICATIONS** and in the site editor choose use this site. Enter **COMMUNICATIONS** again and click on **POLL DATA**. The PC will now automatically download data from the Aqualogger. If a modem is connected it will automatically dial, connect and then download the data.

On the bottom of the main screen you can see the status panels. The first panel tells you the status of your serial port,

the second tells you the file name and its path and the third gives the download status. When data is being downloaded you will see the running transaction count in this panel. If at any time you wish to stop the download click the stop button.

The baud rate for the Aqualogger communications is 9600. When the Aqualogger memory is full the download may take up to 30 minutes to complete.

**Note: When data is being downloaded the Aqualogger operation will be suspended. Once download is complete the Aqualogger will automatically start running again.**

**Note: If you are downloading from a modem you must click the "hang up modem" command when the download is completed. This is found in the Inquisitors "Communications" menu.**

## Data Structures

The Aqualogger memory can be programmed to store summary information at intervals from 2 minutes to 1 hour. The choice of interval dictates the time it takes to fill the memory.

Logger interval 2 minutes = 21 days storage

Logger interval 5 minutes = 53 days storage

Logger interval 15 minutes = 159 days storage

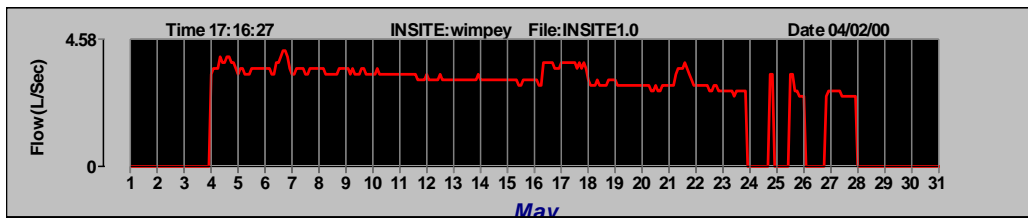
Logger interval 1 hour = 639 days storage

Once the memory is full of data it will wrap around such that new data stored overwrites the oldest data in memory. You should ensure that data retrieval takes place on a regular basis to ensure data is not lost through wrap around.

Once data is loaded into your computer it will build sequentially on the previous data in date order. This file will continue to grow over time as data is collected.

## Displaying Data

Data can be displayed in either raw text format or graphical format.



Text format can be viewed and printed in either summary format or in CSV format.

Summary format gives a table of data summarized over a 24hour period (Midnight to Midnight) whilst CSV(comma separated variable) gives the raw data for each memory location; i.e. if the unit sampling interval is every 2 minutes the CSV presentation for a chosen day will give every 2 minute logged data.

Report Date:19/01/00 Time:12:04

Site: [your company name]

Town: [your address]

Data File:INSITE1.0

Inquisitor Version 5.03

Total daily flow:1000 Max Instant Flow:250 Max pH:14.0 Min pH:0.0 Max Temp:100

---

Date	Totaliser	Max	24 Hour	Max	Min	Average	Max	Min
.	[m3]	Instant Flow	Total	pH	pH	Flow	Temp	Temp
.		L/s	[m3]			L/s	[Deg C]	[Deg C]
29/11/1999	30569	8.08	69	0.5	0.5	1.20	9	7
30/11/1999	30664	9.87	95	0.5	0.5	1.10	12	7
1/12/1999	30817	28.42	153	0.5	0.5	1.78	10	7
2/12/1999	30976	12.17	158	0.5	0.5	1.83	8	7
3/12/1999	31210	33.47	235	0.5	0.5	2.72	9	6

---

To view data select **REPORT** in the top tool bar and then **NEW**.

Enter your start and end dates for which you want to view data.

Single site users will normally only have one source data file which is identified by the site reference.

Report.Dat is the default file name given to the report once it is created. You can change this or leave alone. Once your report is generated it is stored under this name in the Inquisitor main directory (see file manager under Windows). If you choose to keep this name the next time you run a report it will overwrite the previous data.

Since data files can be recreated from the main source data file at any time it is recommended that you do not change this report name.

Multi-site user will have as many source data files as they have sites. By selecting a source file the site reference should change name to the site associated with this file.

Once you have made your choice click **RUN REPORT**.

The report will be displayed in its appropriate format, either Summary or CSV. Files can be also printed out or saved to disk. To save CSV files to disk use the **File** command in Windows. To save Summary files to disk exit Inquisitor and copy from the Inquisitor directory under the file manager. The default file name is normally Report.Dat as mentioned above unless you have changed it when setting the report range.

```
"Inquisitor Version 5.03"
```

```
"DATA=", "Unit No", "Type", "Time", "Date", "Temperature", "Totaliser", "Max Flow", "pH"
```

```
"HEADER=", "Unit No", "Type", "Time", "Date", "Units", "Sample Interval"
```

```
0, "H", "23:21", "3/5/1999", 0, 2
```

```
0, "D", "23:23", "3/5/1999", 14, "53931.340", "3.31", "0.5"
```

```
0, "D", "23:25", "3/5/1999", 14, "53931.720", "3.31", "0.5"
```

```
0, "D", "23:27", "3/5/1999", 14, "53932.110", "3.31", "0.5"
```

```
0, "D", "23:29", "3/5/1999", 14, "53932.490", "3.31", "0.5"
```

```
0, "D", "23:31", "3/5/1999", 14, "53932.880", "3.31", "0.5"
```

CSV files can be exported into spread sheets such as Excell. In the CSV file you will see a header which explains the order of the data generated at each time interval. This is self explanatory except for the first two symbols.

Unit number is the address set in the Aqualogger to identify it. Multi-users should ensure that no two units on the same site have the same address number.

The second symbol is either an **H**, **D** or **I**.

**H** tells you it is a header. This normally is stamped in memory on power up and is used to reference all subsequent data.

**D** tells you it is true data.

**I** tells you that there has been an interruption. This may indicate that someone has entered the Aqualogger programming mode.

## Importing Data Files

Data files can be loaded from floppy disks or other directories into inquisitor. Using file manager, identify the file name first. Return to inquisitor click the File option and follow the import file commands. Ensure the import file correspond with the correct site details

## Graphical Display

Data can be displayed in graphical format for all three variables, Flow, Temperature and pH.

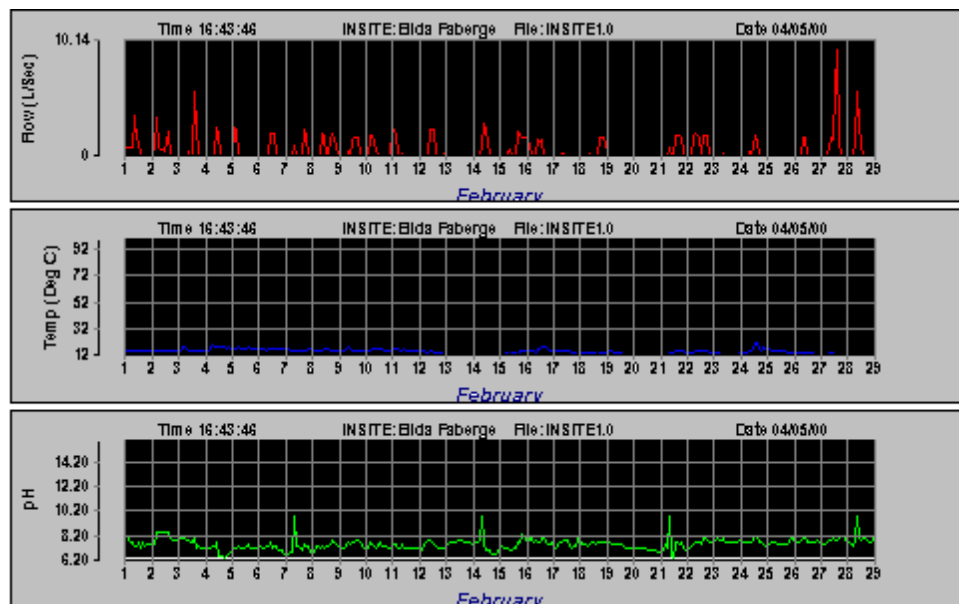
Follow the same procedure above for selecting the data range and select either graphs individually or all three on the same page.

Using the tool bar, graphs can be edited, properties changed such as background colour etc.

The x-y graphical axis can be scaled by placing the cursor on an axis. Once a double barbed cursor is seen double click to get the scaling field and change as appropriate to your data. In this way you can zoom in on data up to a minimum resolution of 15 minutes in time.

An additional feature of the graphical package is the ability to get the data for individual points off the graph itself. Place the cursor on the graph line and double click. A plot parameter screen appears. Choose data and OK. The individual x-y points will now be displayed on the screen in tabular format.

Always ensure that your data is sensibly scaled.



## **Modem**

It is strongly recommended that you purchase your modem pre-configured from Pulsonic Technologies Ltd. Modems use an "at" command to set up their communications. Unfortunately the command structure varies from manufacturer to manufacturer and unless you are modem literate, problems can arise.

Essential settings are as follows:

Baud Rate - 9600

Ignore DTR

Ignores RTS

Reset Modem on DTR drop

Disable software handshaking

## **Fault Finding**

If Inquisitor has been correctly installed it should run error free.

Some Common Faults are:

**Port Contention:** User uses Comm1 assigned to this mouse. In this case Windows will always dedicate Comm1 to the serial mouse driver. If you must use this port disable the mouse driver using a REM statement in the config.sys file.

**Modem cannot connect:** A noise free telephone line is essential for correct operation (at least a 95% error free line is required).

**Aqualogger does not return to run mode once data downloaded from modem:** Again usually signs of a bad line. To ensure the Aqualogger has returned to run mode, enter the Engineering Toolbar on Inquisitor and set Aqualogger running. A confirmation message will be displayed.

**Unit connects but will not download data:** Ensure the unit number in the site set up in Inquisitor is the same number as that in the Aqualogger (found in set up system menu). To read the Aqualogger unit address from Inquisitor, enter engineering toolbar and click Get Device Info). The software version and unit address will be returned from the Aqualogger.

**Data collected but cannot print:** check correct printer driver installed and selected in windows. Reinstall printer driver if necessary.

**Summary Data does not line up correctly when printed:** reports are printed in landscape. Ensure page margins are correctly set.