

Wind Data Retriever

Version 10

Theory of Operation

A Wind Explorer™ is installed, assigned a Site number, and started logging.

The Wind Explorer™ writes Raw data into the DataPlug™ in 10 minute averages.

This data will require scaling and offset at a later time (defaults supplied).

The scaling, offsets, and other important information for each Site are stored in a Site File on your computer.

Via a DataPlug™ Reader, the Wind Data Retriever Software reads the Raw data out of the DataPlug™.

The Wind Data Retriever Software combines the Raw data with the Site File information to create a Raw File.

The Raw File now has the Site information and the contents of the DataPlug™ in it.

In order to view the data with the scaling and offset calculated, you will need to Convert the Raw file into a Converted ASCII file.

System Requirements

Any computer running Windows™ 3.0 or later

80386 or higher microprocessor

CGA, EGA, VGA, 8514, Hercules, or color other display compatible with Windows™

1MB hard disk space

8MB memory

1 9-pin serial port available

Installation

1. Connect a null modem cable to the available serial port (cable supplied)
(null modem cable pinout: 1-7&8, 2-3, 3-2, 4-6, 5-5, 6-4, 7&8-1, 9-9)
2. Connect the DataPlug™ Reader to the cable
3. Close all other programs you are using
4. Insert the software disk into an appropriate drive (a: for example)
5. Go to the Windows™ Run menu option
Windows™ 3.x choose File, Run
Windows™ 95 choose Start, Run
Windows™ NT choose Start, Run
6. Type <a:setup> and then <Enter>, or click the OK button using the mouse
7. Follow the setup prompts

If you get an error about *.DLL or *.VBX files in use, this means they are already loaded on your system and you may ignore the error.

Running the Software

Double click the Icon to run the software.

The software will now search for the DataPlug™ Reader.

When it has found it, you will see the main screen as follows...

<i>DataPlug Reader Information</i>	
Model Number	2539
Firmware Version	01
COM Port	COM 1

<i>Wind Explorer Information</i>	
Logger Serial #	
Logger Model #	
Firmware Version	
Units	

<i>DataPlug Gust Information</i>	
Gust Speed	
Gust Direction	
Gust Time (HH:mm)	00:00
Gust Date (m/d/y)	00/00/0000

<i>DataPlug Information</i>	
DP Serial Number	
Percent Full	
Erased (Y/N)	
Read (Y/N)	

<i>Site Information</i>	
Site Number	0000
Site Description (from Site file)	

<i>DataPlug Start Information</i>	
Start Time (HH:mm)	00:00
Start Date (m/d/y)	00/00/0000
Battery at Start (V)	0.0

<i>DataPlug Stop Information</i>	
Stop Time (HH:mm)	00:00
Stop Date (m/d/y)	00/00/0000
Battery at Stop (V)	0.0

COM Setting:
19200,N,8,1

You are now ready to retrieve your data.

Creating a Site File

Each logger in the field should have its site number set to a unique Site Number. A Site File should be created before you read the first DataPlug™ from a new site. From the pull down menu on the main screen select File, Site, New. You will now see the following screen...

Site Information		Sensor Information	
Site #	0000	Channel #	1
Site Desc.	New Site	Description	NRG #40 Maximum Anemometer
Project Code	New	Serial Number	None
Project Desc.	New Project	Height	0 Feet
Site Location	City, State, Zip	Scale Factor	1.711 mph/Hz
Site Elevation	0 Feet	Offset	.78 mph
Time Zone	0	Print Precision	###.#
Latitude	0 S	Units	mph
Longitude	0 W		
Units	English		

Previous Channel ← → Next Channel

Select Sensor Type

Get an existing Site File Edit Site Note Save This Site to a File Close

The units will be defaulted according to your system setting.

If you are in dd/mm/yy format you will get Metric.

If you are in mm/dd/yy format you will get English.

Edit the screen to reflect the setup for a given site.

Remember to edit the default Site Number from 0000 to your site's number.

Site Number 0000 is a sample site. Start your sites at 0001.

You will likely be using the pre-defined sensors, which are available from the Select Sensor Type screen.

In the event you are using a non-standard sensor there are User Defined sensors which you can select to allow for editing the Scale and Offset.

When you are done editing the Site information, press the <Save This Site to a File> button.

When done creating Sites, press the <Close> button to close this screen.

Reading a DataPlug™

Insert the DataPlug™ into the end of the DataPlug™ Reader.

From the main screen, press the <Load Header> button.

You should now see something similar to this...

The screenshot shows the 'Wind Data Retriever' application window. The interface is divided into several sections, each with a title bar and a table of data. At the bottom, there are several buttons and a 'COM Setting' field.

<i>DataPlug Reader Information</i>	
Model Number	2539
Firmware Version	01
COM Port	COM 1

<i>Wind Explorer Information</i>	
Logger Serial #	0102
Logger Model #	2333
Firmware Version	05
Units	English

<i>DataPlug Gust Information</i>	
Gust Speed (mph)	056
Gust Direction (Degrees)	006
Gust Time (HH:mm)	05:07
Gust Date (m/d/y)	09/17/1999

<i>DataPlug Information</i>	
DP Serial Number	00034
Percent Full	100.%
Erased (Y/N)	NO
Read (Y/N)	NO

<i>Site Information</i>	
Site Number	0102
Site Description (from Site file)	
DCB 10K Bergey Tower	

<i>DataPlug Start Information</i>	
Start Time (HH:mm)	06:48
Start Date (m/d/y)	09/01/1999
Battery at Start (V)	8.4

<i>DataPlug Stop Information</i>	
Stop Time (HH:mm)	18:20
Stop Date (m/d/y)	04/15/2000
Battery at Stop (V)	6.8

Buttons: Load Header, Read Data, Exit, Erase DataPlug

COM Setting: 19200,N,8,1

If necessary, you may edit some of the DataPlug™ header information now.

This is only for the possibility that the logger was been interrupted in the middle of logging data during the whole time the DataPlug™ was in the logger.

This can occur when the batteries are not changed in time, or when a nearby lighting strike causes the logger to reboot.

If there is the need to change the Site Number (i.e. it was set wrong in the logger at the time the logger was installed and you want to change it now), then edit the Site Number in the main screen. When you leave the Site Number field, it will search for a matching Site File. If no matching Site File exists, you will be prompted to create one.

When you are satisfied with the header information, press the <Read Data> button to read the data.

Converting a Raw File

Raw files have a formatted name.

The format has the following convention:

Filename = SSSSmdd.\$yy

Where:

SSSS=Site #

mm=Month

dd=Day

\$=A-M

yy=Year

All files are forced to mmdd in the name to provide NRG with one format for universal conformity.

When a Converted file is created, the name is the same as the Raw file with the exception of the first character after the decimal which follows the convention...

\$=N-Z

Where a Raw file with .A corresponds to a Converted file with .N

Raw file .Byy to Converted file .Oyy

Raw file .Cyy to Converted file .Pyy

and so on until Z (up to 13 files per site/date code)

From the pull down menu on the main screen, select File and then Convert.

Select one file at a time.

The converted file contains both Site File information and converted data (data which has been scaled and offset).

The converted file is comma delimited, and text is qualified with double quotes “ “.

This format allows for easy importing into a spreadsheet program like Excel™.