WinADCP
User's Guide

TELEDYNE
RD INSTRUMENTS
A Teledyne Technologies Company

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WinADCP User's Guide

1 Introduction

This guide is an overview on using the *WinADCP* software provided with your system.

> **NOTE.** This guide covers version 1.14 or earlier.

> **CAUTION.** *WinADCP* is not compatible for viewing and/or exporting *WinRiver* data, or data collected in Ship or Instrument coordinates. Using *WinADCP* to display and/or export *WinRiver* data results in an incorrect naming structure. Data is called Earth coordinates when it is actually Ship coordinates.

1.1 How to Contact Teledyne RD Instruments

If you have technical issues or questions involving a specific application or deployment with your instrument, contact our Field Service group:

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1.2 System Requirements

WinADCP requires the following:

- Windows Vista®, Windows XP®, or Windows 2000®
- Pentium III 600 MHz class PC (higher recommended)
- 64 megabytes of RAM (128 MB RAM recommended)
- 50 MB Free Disk Space plus space for data files (A large, fast hard disk is recommended)
- One Serial Port (two or more High Speed UART Serial Port recommended)
- Minimum display resolution of 1024 x 768, 256 color (higher recommended)
- CD-ROM Drive
- Mouse or other pointing device

1.3 Software Installation

To install the software, do the following.

a. Insert the compact disc into your CD-ROM drive and then follow the browser instructions on your screen. If the browser does not appear, complete Steps "b" through "d."

b. Click the **Start** button, and then click **Run**.

c. Type **<drive>:launch**. For example, if your CD-ROM drive is drive D, type **d:launch**.

d. Follow the browser instructions on your screen.

Once, installed, you will have a shortcut added to your Windows® **Start** menu. The **Winadcp** shortcut will start *WinADCP*.

> **NOTE.** The default directory for WinADCP installation is C:\program files\RD Instruments\Winadcp.

2 Using WinADCP

WinADCP is a software package for use with RDI Acoustic Doppler Current Profilers. This software package supports both the Narrowband and the Broad-band/Workhorse Binary Output Data Formats.

In general, *WinADCP* gives the user a visual sense of the entire set of data. It also allows the user to zoom in on a portion of the data for closer analysis.

2.1 Opening Data Files

You can open BroadBand, NarrowBand, or WorkHorse raw binary data files. Binary data files that have segmented consecutive file names (i.e. DEMO001r.000, DEMO001r.001, DEMO001r.002) will be read in as one file if **MultiFile** is enabled on the **File** menu.

a. On the **File** menu, check that **MultiFile** is checked. Click **Open**.

b. Select the data file to be opened.

c. Click **Open**.

2.2 Whole Set

WinADCP has two main graphic display forms. The form located in the upper right portion of the screen is called the **Whole Set**. The form located across the bottom half of the display is called the **Sub Set**. Each of these forms displays a portion of the entire data set as a color contour. In addition to the color contour, **Sub Set** displays the user selected **Profile**, **Series**, and **Ancillary** data.

The **Whole Set** form is displayed in the upper right-hand portion of *WinADCP*. When a file containing a Binary Output Data Format is opened, the entire set of the selected data type is displayed as a color contour located within the **Whole Set** form.
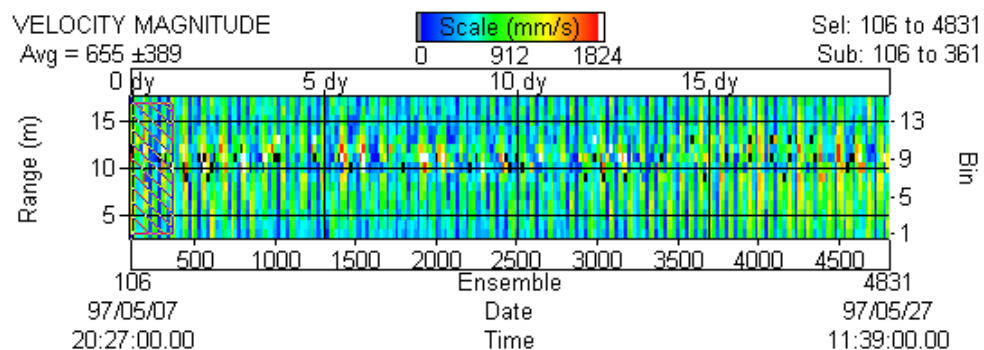
Figure 1.   Whole Set
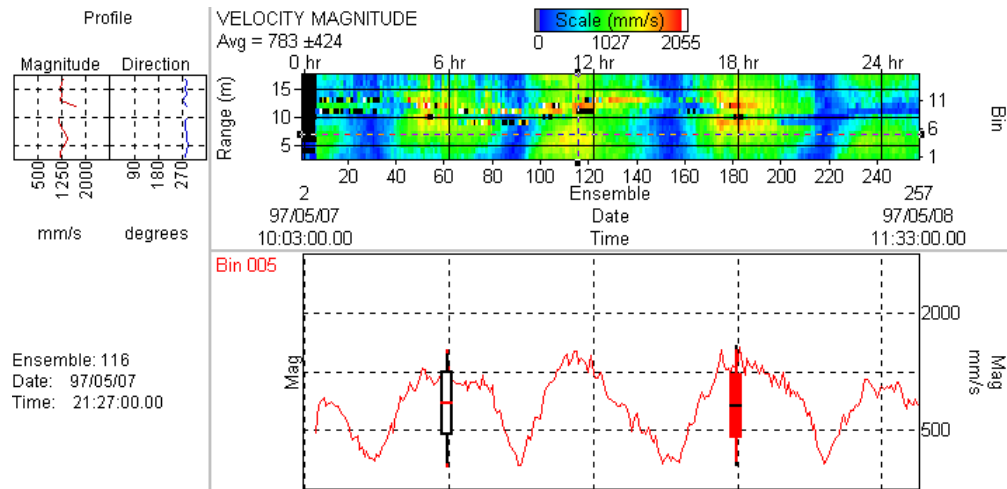
Figure 2.   Sub Set

2.3   Selected Set

By holding down the **Spacebar** and then pressing the **Left** mouse button, the user can drag the mouse to select a portion of the entire data set. When the mouse button is released, the selected portion of the **Whole Set** is marked by a blinking box outline. The blinking box outlines a set of data called the **Selected Set**. A second blinking box is also created when the mouse is released. This second box is striped or solid depending on your graphics card. The solid blinking box marks a region of data called the **Sub Set**. The width of the **Sub Set** box may not be as wide as the **Selected Set** box. The width of the **Sub Set** is dependent upon the **Options**, **Ensembles** setting selected from the main menu.

Figure 1 shows an example of the **Whole Set** contour display. The **Sub Set** contour display is identical except it does not show the **Selected** and **Sub Set** ensemble numbers (located in the upper right corner of the chart).

Figure 3.   Selected Set

2.4   Profile Chart

The Profile chart, located on the left side of the **Sub Set** form, displays a user selected ensemble in several two dimensional (2D) charts. Each of these "sub charts" contains a different data type taken from the ensemble. The user can select the profile ensemble by double clicking the left mouse button just above or just below the **Sub Set** color contour.

> **NOTE.** Use the **left** and **right** keyboard arrows to scroll through the ensembles. Use the **Animate** menu to automatically scroll through the data file. To quickly select an ensemble, double-click a point just above or below the **Sub Set** color contour plot.
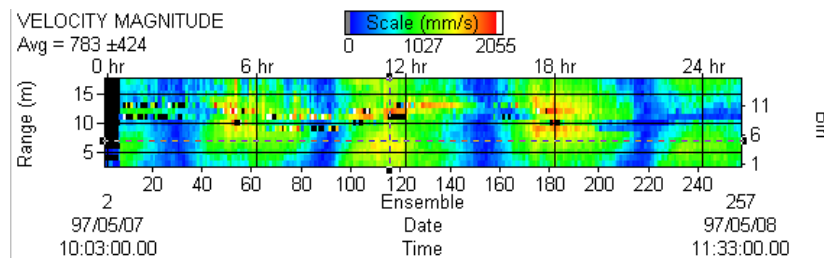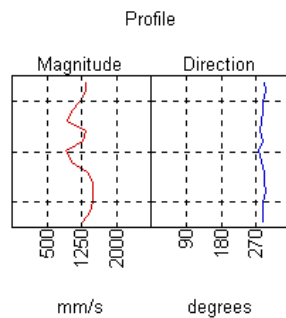
Figure 4.   Profile Chart

2.5   Series Chart

The Series and Ancillary chart, located in the lower left-hand portion of **Sub Set**, displays user selected bins of user selected data types. In addition, the user may select any of the ancillary data types for display in this chart.

The candle chart shows the statistical information about the series chart. Use the **Options**, **Chart Options** menu to select the **Averaging Interval**. The candle chart will be centered on the averaging interval.

- The red line is the mean

- The middle rectangle shape is the Standard Deviation

- The long line shows the minimum and maximum values

> **NOTE.** Double-click the candle chart to display the Series Trend and Residuals chart.

> **NOTE.** Use the **up** and **down** keyboard arrows to scroll through the bins. Use the **Animate** menu to automatically scroll through the data file. To quickly select multiple bins, double-click a point just to the left or right of the color contour plot on the **Sub Set** color contour plot. Double clicking the same point will unselect the bin.
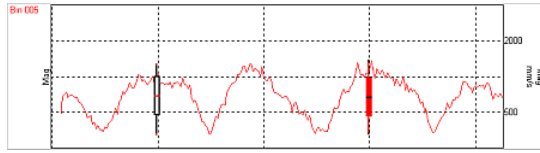
Figure 5.   Series and Ancillary Chart
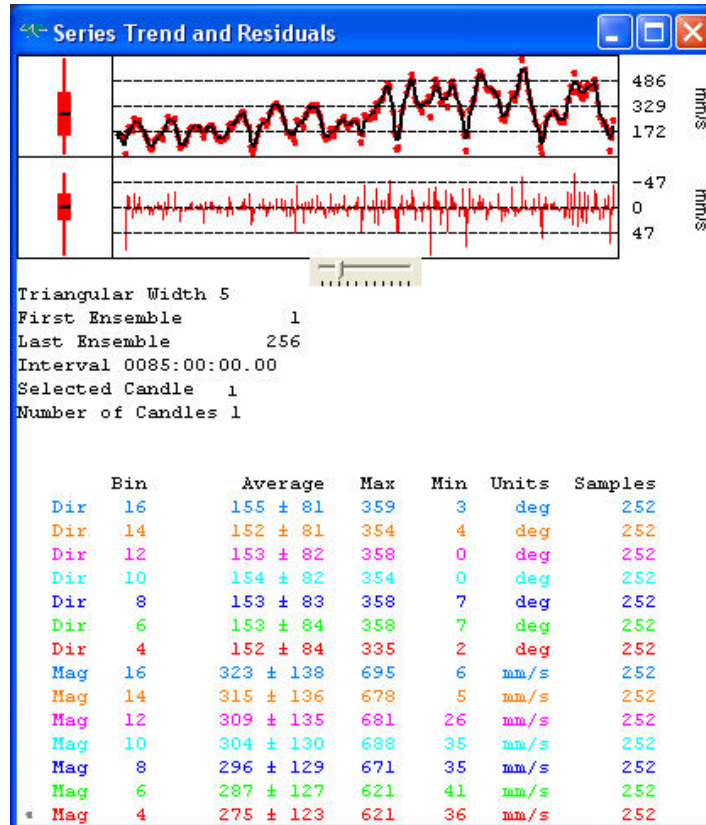
Figure 6.   Series Trend and Residuals Chart

2.6   Track Vector Time Series

The **Track Vector Time Series** window displays two current vectors: one along a selected track and the other orthogonal to it (90 degrees). The user can select three different tracks: **Navigation**, **Bottom**, and **Projected**. **Navigation** and **Bottom** use actual data contained within the ADCP ensemble. The **Projected** angle is input by the user.

An application where this display is useful is in cable laying. Ocean currents across the path of a ship tend to pull a cable off to the side. Information about current magnitude and direction relative to the ship track helps to guide the ship for better cable placement.
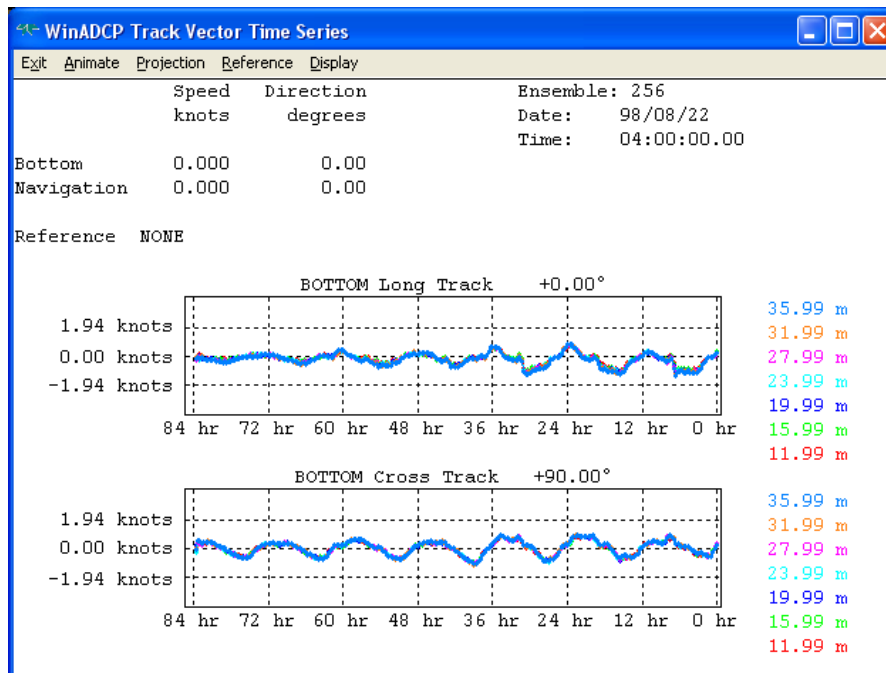
Figure 7.   Track Vector Time Series

The **Track Vector Time Series** window has its' own menu.

Exit – Exits the **Track Vector Time Series** window. To display the window again, click **Window**, **Track Vector**.

Animate – Choose **Go** to animate the chart. **Stop** will stop the animation and **Rewind** will rewind the chart to the beginning of the file.

Projection – Choose between **Bottom Track**, **Navigation Track**, or **Manual**. If you select **Manual**, you can select your own projection angle.

Reference – Clicking **Reference** will display the **Chart Options** menu, **Processing** tab. Choose a reference from the list.

Display – Clicking **Display** will let you choose the **Units**, and **Font** for the display. Selecting **Time Origin on Left** will toggle the time origin being displayed on the right, to the left side of the display.

Clicking anywhere on the **Track Vector Time Series** display will display the **Chart Options** menu, **Series** tab. Choose the bins to display by selecting the bin box on the list.

> **NOTE.** The **Animation** and **Reference** menus are disabled on the **Track Vector** window when the **Monitor** mode is enabled. All other menus are available.
>
> Negative range numbers are shown when the system is downward facing (bins are below transducer). If the system is upward facing the range numbers are positive.

2.7   Saving Files

The **Selected** and **Sub Set** plots may be saved to new data files as needed.

2.7.1   Save a Sub Set File

On the **Whole Set** color contour plot, use the **Zoom** feature (see Selected Set) to select the portion of the **Whole Set** to be displayed in the **Sub Set** color contour plot. You can use the zoom feature on the **Sub Set** color contour plot to further zoom in on the data.

a. On the **File** menu, click **Save Sub Set**.

b. Give the file a unique name. *WinADCP* does not add an extension type to the file. To organize data files, you may want to add the *.000 file extension.

c. Click **Save**.

> ⚠ **CAUTION.** If the file name already exists as a closed data file, then the file will be written over. You will be prompted if it is OK to overwrite the file.

> **NOTE.** If the file name you select is the *same* as the currently open file then the **Sub Set** of data is not written to the file.
>
> The **Sub Set** has a limit of 8,192 ensembles.
>
> If the Binary Data File that was opened had segmented consecutive file names (i.e. DEMO001r.000, DEMO001r.001, DEMO001r.002) when you save the **Sub Set**, it will be saved as one file. Make sure you use a unique name to avoid overwriting a data file.
>
> The format of the **Sub Set** file is the same as the raw ADCP Binary Data File format. **Sub Set** files may be opened with other RDI Software.

2.7.2   Save the Selected Set

On the **Whole Set** color contour plot, use the **Zoom** feature to select the **Selected Set**.

a. On the **File** menu, click **Save Selected Set**.

b. Give the file a unique name. *WinADCP* does not add an extension type to the file. To organize data files, you may want to add the *.000 file extension.

c. Click **Save**.

> ⚠ **CAUTION.** If the file name already exists as a closed data file, then the file will be written over. You will be prompted if it is OK to overwrite the file.

> **NOTE.** If the file name you select is the *same* as the currently open file then the **Sub Set** of data is not written to the file.
>
> The Selected Set does not have a limit on the number of ensembles.
>
> If the Binary Data File that was opened had segmented consecutive file names (i.e. DEMO001r.000, DEMO001r.001, DEMO001r.002) when you save the Selected Set, it will be saved as one file. Make sure you use a unique name to avoid overwriting a data file.
>
> The format of the Selected Set file is the same as the raw ADCP Binary Data File format. Selected Set files may be opened with other RDI Software.

2.8   Printing Charts

Charts may be copied to the Windows® clipboard so that they may be pasted or printed in other programs.

a. On the **Edit** menu, click **Copy**.

b. Select either the **Whole Set** or the **Sub Set**.

c. The chart will be placed on the Windows clipboard.

d. Open the graphic program (or Word) and select **Edit**, **Paste**.

e. Use the graphic program (or Word) to print the chart.

> **NOTE.** If you use the **Edit**, **MSPAINT** menu the **Whole Set** or **Sub Set** will be placed as a Bit Map image on the Windows clipboard and will open the Microsoft Paint program. In Paint, select **Edit**, **Paste** to display the Bit Map.
>
> The shortcut to the Microsoft Paint program expects the program to be in the default directory C:\Windows.

2.9   Flip

Selecting **Flip** from the **Edit** menu causes the file to be re-read with the orientation bit inverted. In other words, an upward facing data set appears as a downward set when **Flip** is clicked.

2.10   Data Viewer

When the Mouse is positioned over a point within the Sub Set color contour charts, data associated with the bin and ensemble are shown on the **Viewer** form. If the Viewer is not visible, select the **Window** menu and click on **Viewer**. A sample of the Viewer is shown below.
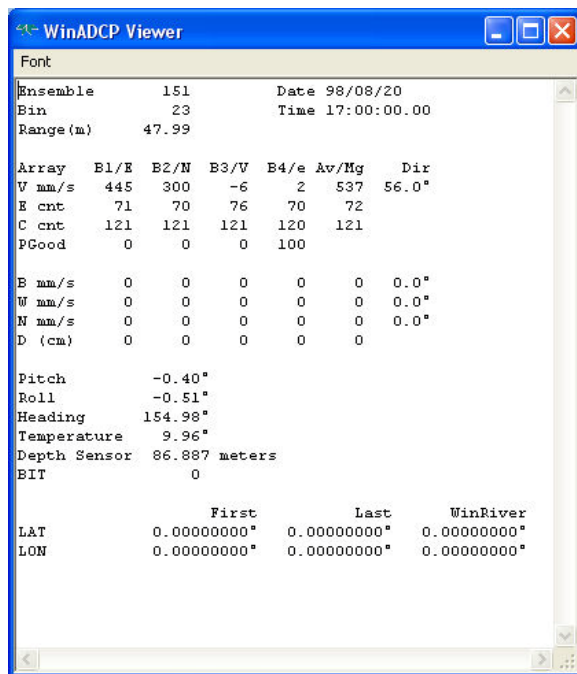
Figure 8.   **Data Viewer**

Most items are self-explanatory, however the ARRAY data in the center requires explanation. There are three rows of data:

a.   The top row contains Velocity data (V). The first value is -462; this is the Eastward velocity component in millimeters per second. The 95 is the Northward followed by the Vertical, error, Magnitude, and Direction of the velocity.

b.   The middle row contains Echo Intensity data in counts. The 150 is Beam 1's Echo Intensity followed by Beams 2, 3, and 4. The last value (149) is the average of the four Echo Intensity values.

c.   The last row contains Correlation data if the ADCP is a Broadband or WorkHorse otherwise Spectral width for the Narrowband ADCP. If the data are not available then zeros are displayed.

```
WINADCP Viewer                                        _ □ ×
Font
Ensemble       40        Date 01/10/10
Bin             5         Time 15:48:01.34
Range(m)    -11.11

Array   B1/E  B2/N  B3/V  B4/e Av/Mg    Dir
V mm/s-32768-32768-32768-32768-32768-32768°
E cnt    41    43    39    39    40
C cnt    16    17    10     7    12
PGood     0     0   100     0

B mm/s    0     0     0     0     0   0.0°
W mm/s    0     0     0     0     0   0.0°
N mm/s    0     0     0     0     0   0.0°
D (cm)    0     0     0     0     0

Pitch       -0.06°
Roll        -0.36°
Heading    109.74°
Temperature  24.02°
Depth Sensor  0.00 meters
BIT           0

                First    Last  WinRiver
LAT            0.00°    0.00°    0.00°
LON            0.00°    0.00°    0.00°

MicroCAT String:
01, 00000,  5.8367, 3.44771,  367.068,  35.1059, 01 Jan 1980, 09:17:11
```

Figure 9.   Data Viewer with MicroCAT Data

NOTE. Lat/Lon and MicroCAT data will not be visible unless the data was collected.

2.11   File Details

On the **Utilities** menu, click **File Details**. Select the data file to be examined. The file utility window will show you everything there is to know about the file contents.
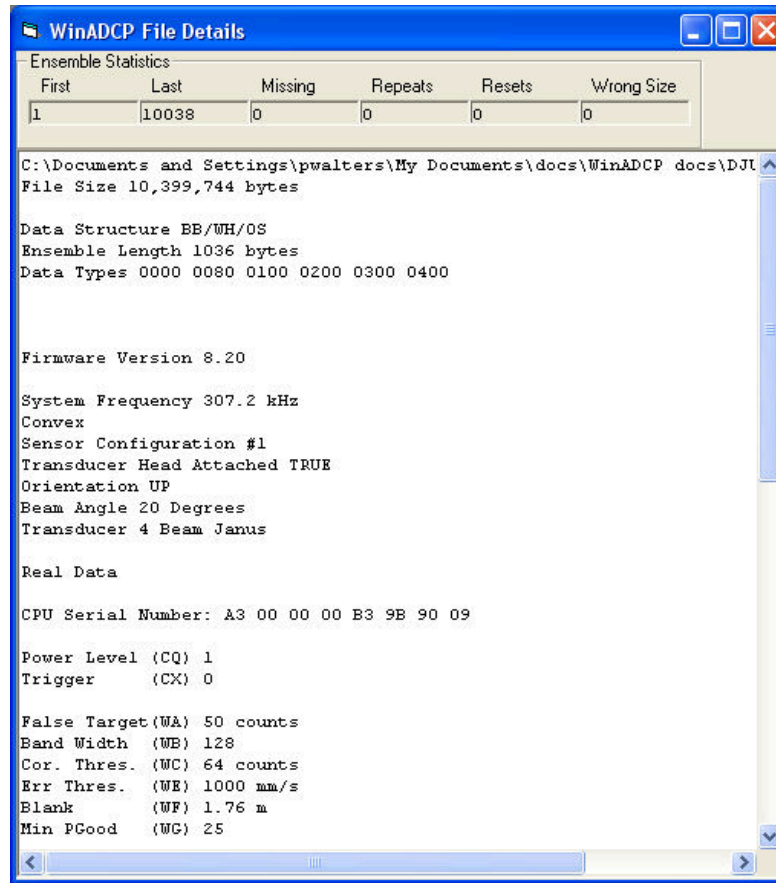

Figure 10.   File Details

3   Chart Options

The **Options** menu controls how the displays are shown. Selecting **Chart Options** under the **Options** Menu brings up the **Chart Options** dialog box. There are five tabs on the dialog box:

- Contour Tab
- Profile Tab
- Series Tab
- Ancillary Tab
- Processing Tab

Five buttons are positioned along the bottom of the **Chart Options** dialog box.

Load - reads in, from a selected file, a previously saved set of option pages.

Save - writes out, to a named file, the contents of the option pages.

OK - updates the screen to the new setting(s) and close the options dialog.

Cancel - close the options dialog.

Apply - update the screen to the new setting(s) but **does not** close the options dialog.

> **NOTE. Max Ensembles**, under the **Options** menu, is used to set the maximum number of ensembles shown in both the **Sub Set Color Contour** and **Series** charts.

3.1   Reset to Default Settings

When *WinADCP* is closed, the current chart settings are saved in two files located in the *WinADCP* install directory for Windows XP® computers. For Vista® computers, the path is C:\Users\User Login Name\App Data\Local\Virtual Store\Program Files\RD Instruments\WinADCP. The next time *WinADCP* is opened it will access these two files and open with the previously used settings. Sometimes these user settings make it difficult to read or make sense of different data sets.

To reset *WinADCP* back to the default settings, with *WinADCP* closed, delete *WADPFile.txt* and *WADPOps.Txt*. Once the files have been deleted, open *WinADCP*. *WinADCP* will create a new *WADPFile.txt* and *WADPOps.Txt* with the default chart option settings for *WinADCP*.

3.2   Contour Tab

The **Contour** tab has five control groups for controlling the **Whole Set**, **Sub Set** and color contour charts.
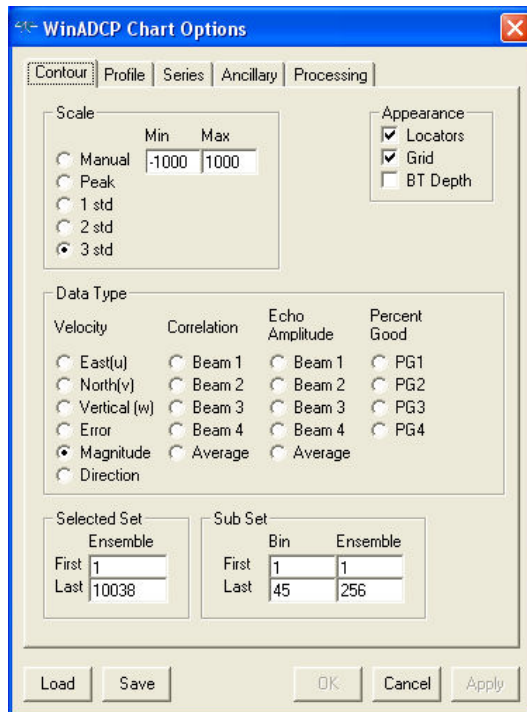
Figure 11.   Contour Tab

Scale - Five choices for selecting the maximum and minimum values of the color scale.

- **Manual** - user entry of values.

- **Peak** - Automatic setting to the max/min values contained in the data set.

- **1 std** - Automatic setting to data mean plus and minus ONE standard deviation.

- **2 std** - same as above but TWO standard deviations.

- **3 std** - same as above but THREE standard deviations.

Appearance - Three check boxes.

- **Locators** - turn on/off the blinking boxes of the **Whole Set** color contour.

- **Grid** - turn on/off the grid that overlays both color contour charts.

- **BT Depth** – When checked and Bottom Track depth data is available, a bottom contour line is drawn on top of the color contour plot. If beam 1 through 4 RSSI or correlation is selected for display, the beams depth is shown. Any other selection will show the contour line as the average of the four beams.

Data Type - Used to select one of the data types for display.

Selected Set - Used to select the first and last ensembles of the Selected Set.

Sub Set - Used to select the first and last ensembles of the **Sub Set**.

3.3 Profile Tab

The **Profile** tab has four control groups for controlling the Profile chart.
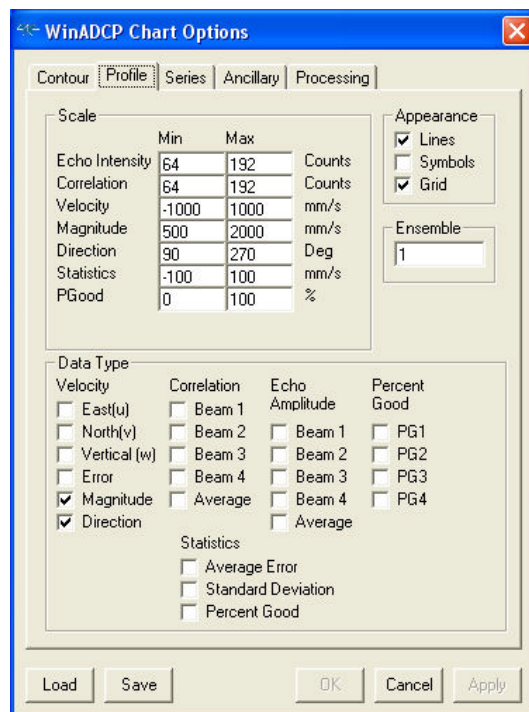
Figure 12.   Profile Tab

Scale – The **Scale** setting allows manual selection of the maximum and minimum values for each data type.

Appearance - Three check boxes.

- **Lines** - Turn on/off the connection of lines between data points.

- **Symbols** - Turn on/off a symbol at each data point location.

- **Grid** - Turn on/off the grids that overlay the profile charts.

Ensemble - Used to select the current ensemble.

Data Type - Used to select several of the data types for display.

3.4   Series Tab

The Series tab has five control groups for controlling the Series chart.

Figure 13.   Series Tab

Scale - The **Scale** setting allows manual selection of the maximum and minimum values for each data type.

Appearance - Four check boxes.

- **Combo** - When selected each bin of a data type is plotted on the same chart.

- **Lines** - Turn on/off the connection of lines between data points.

- **Symbols** - Turn on/off a symbol at each data point location.

- **Grid** - Turn on/off the grids that overlay the series charts.

Data Type - Selects several of the data type for display.

Statistics - Selects the time interval over which statistics are calculated.

- **All** - The total time of the **Sub Set** data.

- **User** - Used when several statistic sets over the **Sub Set** interval are desired.

Bins - Selects which bin to display.

3.5   Ancillary Tab

The Ancillary tab has three control groups for controlling the Ancillary chart.
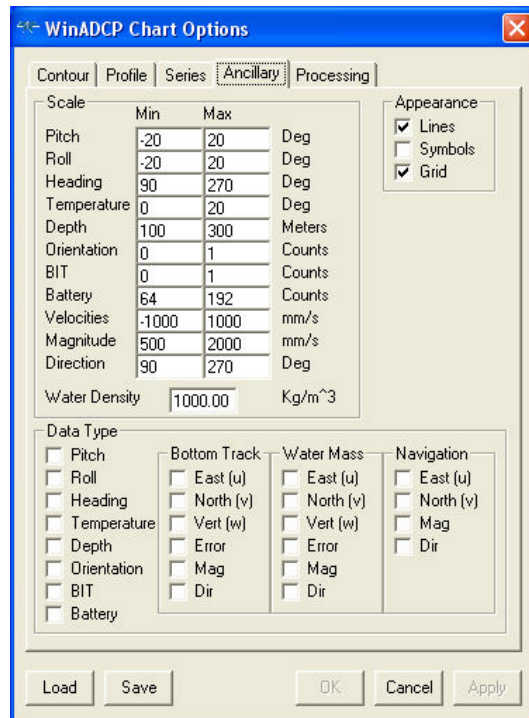
Figure 14.   Ancillary Tab

Scale – The **Scale** setting allows manual selection of the maximum and minimum values for each data type.

Appearance - Three check boxes.
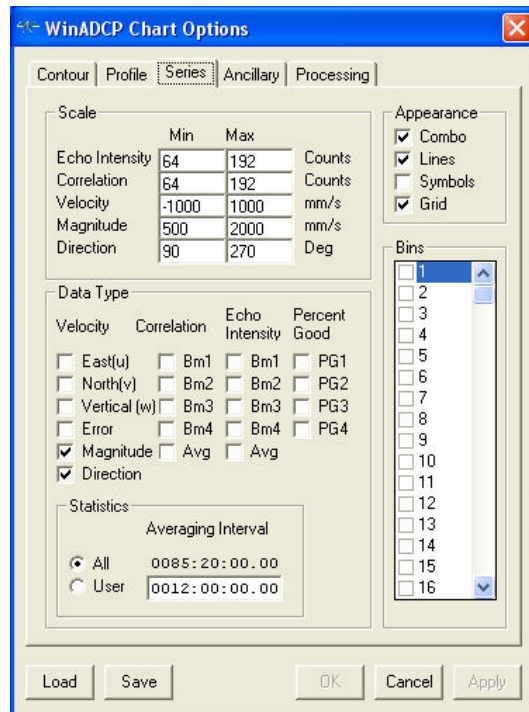
- Lines - Turn on/off the connection of lines between data points.
- Symbols - Turn on/off a symbol at each data point location.
- Grid - Turn on/off the grids that overlay the ancillary charts.

Data Type - Selects several of the data type for display.

> **NOTE.** Water density is used to convert pressure to depth, if the pressure data is available.

3.6   Processing Tab

The Processing tab allows the selection of a velocity reference, velocity scale, and how the end of the water profile is determined

Velocity Reference:

- **None** – No velocity reference used.

- **Bottom Track** – Use Bottom Track as the reference

- **Navigation (VmDas)** - The Navigation (VmDas) is VmDas format only, don't use this for WinRiver.

- **GPS (GGA)** or **GPS (VTG)** - GPS (GGA) and GPS (VTG) are in WinRiver format.

- **Water Mass (BK <>1)** - Use Water Mass as the reference

Velocity Scale: These values should not be changed. Used for expert testing only.

End of Profile: Items may be multi-selected.

- **BT Depth** – Cut off at the Bottom Track depth.

- **RSSI Bump Detection** – Cut off where the RSSI bump is detected.

- **Cos(BeamAngle)** – Cut off at the Cos(BeamAngle)

- **Cut 1 Bin** – Cut off one extra bin.

- **Cut 2 Bins** – Cut off two extra bins.
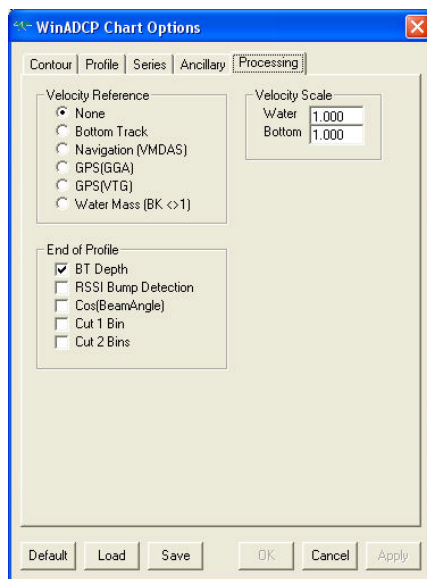
Figure 15.   Processing Tab

4   Exporting Data

Clicking the main menu item **Export** brings up the *WinADCP* **Export Options** dialog box. There are three styles of export: **Contour**, **Profile**, and **Series**/**Ancillary**.

The MAT file output has a MatLab compatible binary format. From MatLab type load filename.mat then type who. The Column = Bin and Row = Ensemble. A list of variables for each output format is shown.

4.1   Contour

Exporting contour data allows the selection of one data type (**Velocity**, **Magnitude**, **Amplitude**, **Correlation**, and **Percent Good**), the first/last ensembles, the first/last bins, and the file format.
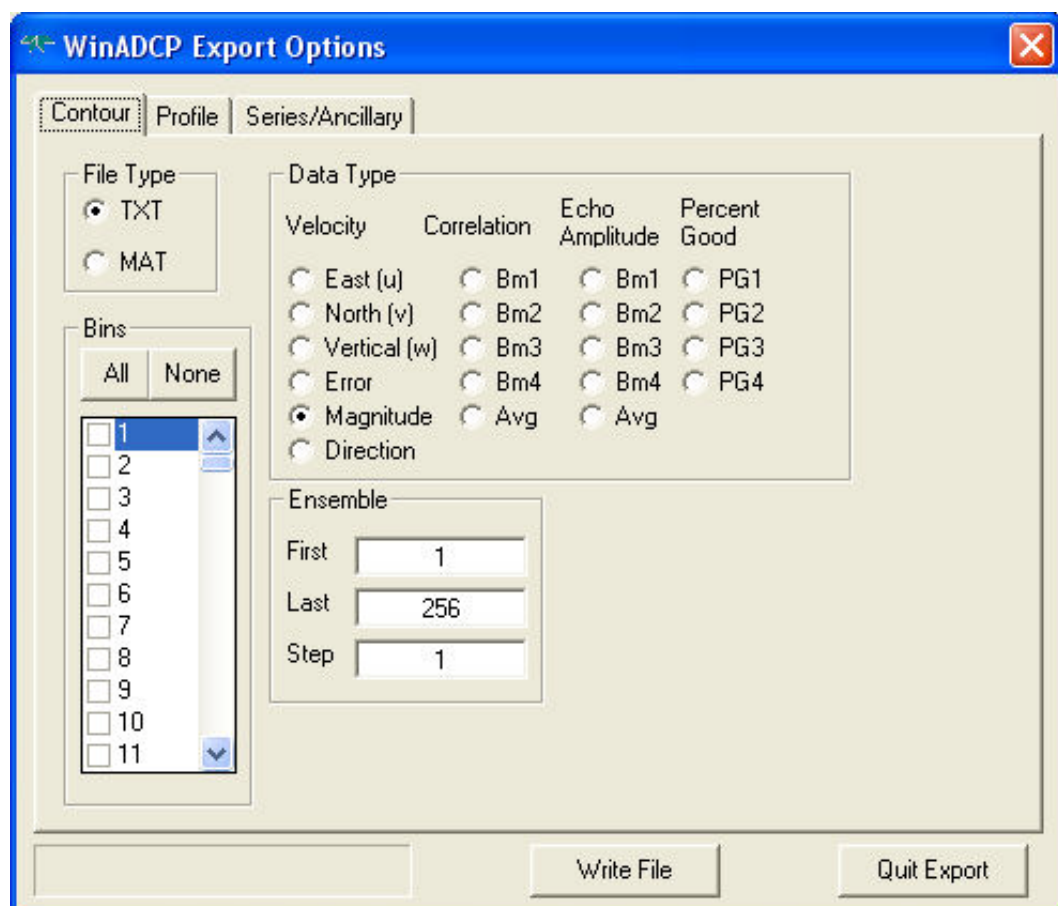
Figure 16.   Export Data – Contour

NOTE. To quickly select bins, use the **All** or **None** buttons.

The Contour export variables are: (Con refers to Contour)

```
ConBins              RDIBinSize          RDIPingsPerEns
ConEnsembles         RDIEnsDate          RDISecPerPing
ConTitle             RDIEnsInterval      RDISystem
ConVel               RDIEnsTime
RDIBin1Mid           RDIFileName
```

For the Profile export the variables are: (Pro refers to Profile)

```
ProCor1cnts          ProEAmpBmAvgcnts    RDIEnsTime
ProCor2cnts          ProEmmpersec        RDIFileName
ProCor3cnts          ProErmmpersec       RDIPingsPerEns
ProCor4cnts          ProMagmmsec         RDIProfileBins
ProCorAvgcnts        ProNmmpersec        RDIProfileEns
ProDir10thDeg        ProVmmpersec        RDISecPerPing
ProEAmpBm1cnts       RDIBin1Mid          RDISystem
ProEAmpBm2cnts       RDIBinSize
ProEAmpBm3cnts       RDIEnsDate
ProEAmpBm4cnts       RDIEnsInterval
```

An example of the "TXT" format is shown below between the dashed lines.

The row of numbers 1, 6, 11, 16 are the selected bin numbers.

The columns of numbers 1390 through 1400 are ensemble numbers.

The data set, which has 3598 in the upper left-hand corner, contains velocity magnitude data in mm/s.

```
------------------------------------------------------------------------------
"Contour Data = Velocity Magnitude mm/s"
"C:\DATA\Sampdata.000"
"Broadband 614.4 kHz"
"Pings/Ens =" 5
"Time/Ping = 00:00.00"
"First Ensemble Date = 95/03/21"
"First Ensemble Time = 03:44:23.78"
"Ensemble Interval (s) = "  1.71
"1st Bin Range (m) = "   0.33
"Bin Size (m) ="  0.10


           1       6       11      16

1390       3598    2619    3099    998
1391       2867    2464    2919    491
1392       2350    3040    2357    805
1393       3156    2438    2682    2138
1394       3025    2520    2096    2305
1395       2303    2918    2121    271
1396       1990    3129    3232    421
1397       3006    2079    947     644
1398       2341    2027    1804    657
1399       2390    1334    1854    616
1400       2426    2175    2135    514
------------------------------------------------------------------------------
```

4.2 Profile

Exporting Profile data allows the selection of many data types, one ensemble, the first/last bins, and the file format.
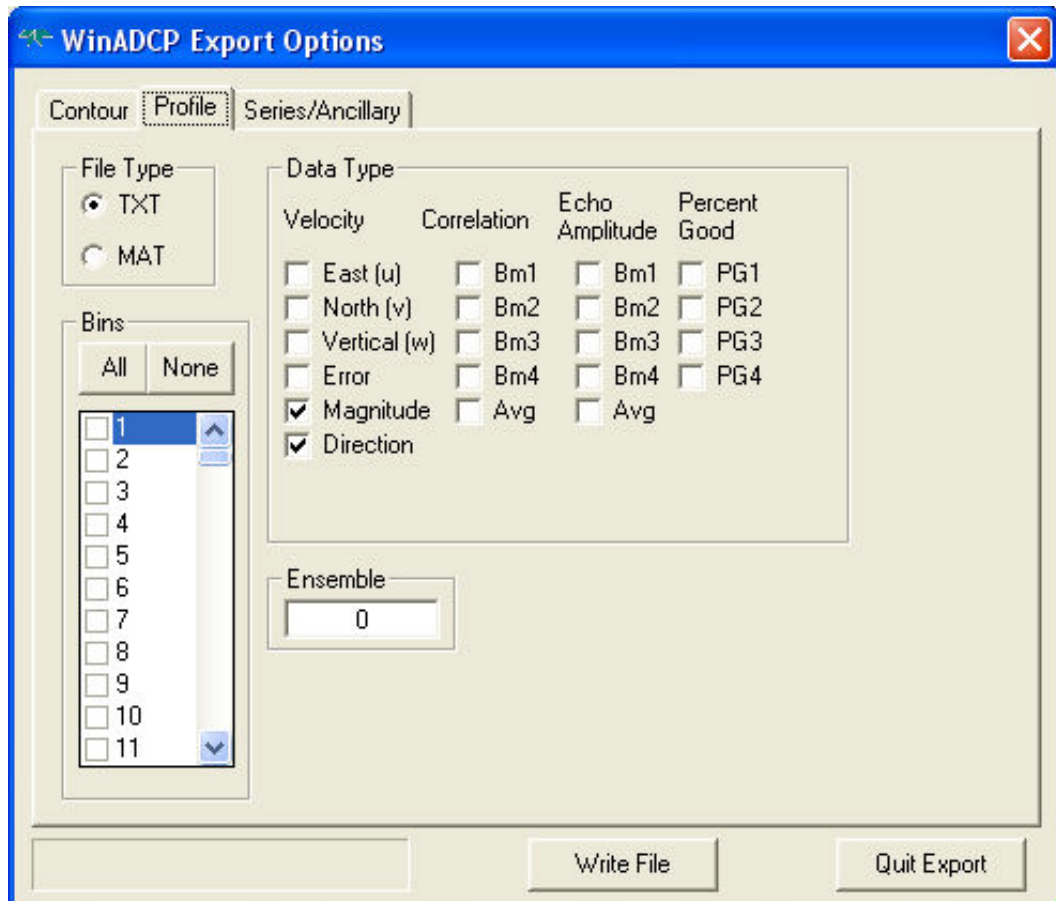
Figure 17.   Export Data – Profile

> **NOTE.** To quickly select bins, use the **All** or **None** buttons.

An example of the "TXT" format is shown below between the dashed lines.

The row of numbers 1, 5, 9, 13, 17 are the selected bin numbers.

The left-hand column contains data type titles (16 possible):

- "EAA" is Echo Amplitude Average (average of the four beams).
- "CA" is Correlation Average (average of four beams).
- "Mag mm/s" is the velocity Magnitude in millimeters per second.
- "Dir deg" is the velocity Direction in degrees.

```
--------------------------------------------------------------------------
"Profile Data Ensemble Number = "  1341
"C:\DATA\Sampdata.000"
"Broadband 614.4 kHz"
"Pings/Ens =" 5
"Time/Ping = 00:00.00"
"First Ensemble Date = 95/03/21"
"First Ensemble Time = 03:43:02.46"
"Ensemble Interval (s) = "  1.71
"1st Bin Range (m) = "   0.33
"Bin Size (m) =" 0.10

                        1     5     9     13    17

"EAA cnts"            173   169   152   148   122
"CA cnts"            138   156   100   132   122
"Mag mm/s"          1499   612   799   608  1344
"Dir deg "           91.3  54.9  163.3 92.7  80.0
--------------------------------------------------------------------------
```

4.3   Series/Ancillary

Exporting Series/Ancillary data allows the selection of many data types, the first/last ensembles, the first/last bins (of the series data), and the file format.
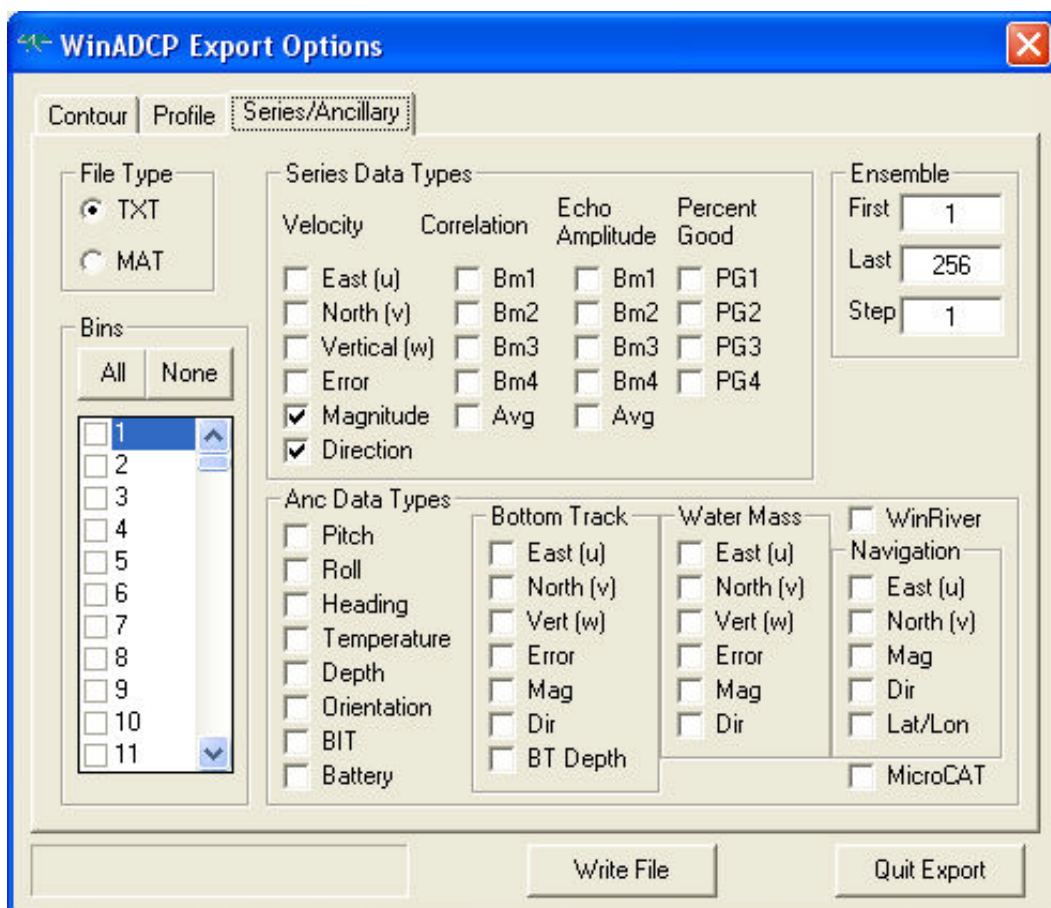

Figure 18.   Export Data – Series/Ancillary

NOTE. To quickly select bins, use the **All** or **None** buttons.

NOTE. If you are exporting navigation data form a data file collected with WinRiver, make sure to check the **WinRiver** box. This lets WinADCP know where to look for the navigation data.

An example of the "TXT" format is shown below between the dashed lines.

The row of numbers 1, 7, 13, 19 are the selected bin numbers.

Ancillary data does not have a bin number above it.

The columns of numbers 1390 through 1400 are ensemble numbers.

```
-------------------------------------------------------------------------------
"Series Data"
"C:\DATA\STEIN\BIGGE\TRANDATA\Bigg020r.000"
"Broadband 614.4 kHz"
"Pings/Ens =" 5
"Time/Ping = 00:00.00"
"First Ensemble Date = 95/03/21"
"First Ensemble Time = 03:44:23.78"
"Ensemble Interval (s) = "  1.71
"1st Bin Range (m) = "   0.33
"Bin Size (m) =" 0.10


                "Hea"  "Mag"  "Mag"  "Mag"  "Mag"  "Dir"  "Dir"  "Dir"  "Dir"
                "deg"  "mm/s" "mm/s" "mm/s" "mm/s" "deg"  "deg"  "deg"  "deg"
                  1    7    13   19   1    7    13   19

        1390    178.62 3598   3182   1289   1627   87.8   102.9  71.5   68.7
        1391    177.85 2867   2958   1474   1736   80.9   87.4   61.9   57.6
        1392    179.65 2350   2435   2154   1986   82.6   91.3   80.9   84.8
        1393    179.30 3156   2533   1831   2156   91.1   100.3  82.5   94.0
        1394    179.75 3025   2514   1463   1107   91.7   62.7   99.7   92.0
        1395    178.53 2303   2475   1652   1407   100.6  83.4   92.0   73.8
        1396    179.53 1990   2884   1989   2621   85.9   93.0   100.5  90.5
        1397    177.95 3006   2652   1379   1396   92.3   84.7   78.5   79.4
        1398    177.62 2341   2257   1127   1468   87.1   85.0   83.1   66.0
        1399    177.52 2390   2069   1184   630    88.2   93.8   75.4   115.2
        1400    174.92 2426   2625   2901   1655   87.3   85.0   75.4   63.3

-------------------------------------------------------------------------------
```

MicroCAT export is available as TXT format only.

```
"Series Data"
"C:\My Documents\TEST2"
"Broadband 614.4 kHz"
"Pings/Ens =" 6
"Time/Ping = 00:01.00"
"First Ensemble Date = 01/10/10"
"First Ensemble Time = 11:13:50.72"
"Ensemble Interval (s) = " 10.00
"1st Bin Range (m) = " 3.11
"Bin Size (m) =" 2.00


Ens HH  MM  SS  HH      "Pit"   "Rol"    "BIT"    "MicroCAT"
                        "deg"   "deg"     ""


1  11  13  50  72      -0.13   -0.36     0    01, 00000, 5.8361, 3.44779,  366.974,  35.1075, 01 Jan 1980, 04:43:00
2  11  14  00  72      -0.13   -0.35     0    01, 00000, 5.8365, 3.44779,  366.972,  35.1070, 01 Jan 1980, 04:43:10
3  11  14  10  72      -0.14   -0.36     0    01, 00000, 5.8364, 3.44779,  366.991,  35.1072, 01 Jan 1980, 04:43:20
4  11  14  20  72      -0.14   -0.36     0    01, 00000, 5.8363, 3.44779,  366.995,  35.1072, 01 Jan 1980, 04:43:30
5  11  14  30  72      -0.14   -0.35     0    01, 00000, 5.8363, 3.44779,  366.997,  35.1072, 01 Jan 1980, 04:43:40
```

```
6   11  14  40  72      -0.13   -0.36   0   01, 00000,  5.8363, 3.44778,  367.000,  35.1071, 01 Jan 1980, 04:43:50
7   11  14  50  72      -0.13   -0.35   0   01, 00000,  5.8362, 3.44778,  366.993,  35.1073, 01 Jan 1980, 04:44:00
8   11  15  00  72      -0.14   -0.36   0   01, 00000,  5.8363, 3.44779,  366.995,  35.1073, 01 Jan 1980, 04:44:10
9   11  15  10  72      -0.13   -0.36   0   01, 00000,  5.8362, 3.44778,  367.006,  35.1073, 01 Jan 1980, 04:44:20
10  11  15  20  72      -0.13   -0.35   0   01, 00000,  5.8362, 3.44778,  367.000,  35.1072, 01 Jan 1980, 04:44:30
11  11  15  30  72      -0.13   -0.35   0   01, 00000,  5.8361, 3.44779,  366.998,  35.1075, 01 Jan 1980, 04:44:40
12  11  15  40  72      -0.13   -0.35   0   01, 00000,  5.8360, 3.44778,  366.990,  35.1074, 01 Jan 1980, 04:44:50
13  11  15  50  72      -0.13   -0.36   0   01, 00000,  5.8363, 3.44778,  366.984,  35.1071, 01 Jan 1980, 04:45:00
14  11  16  00  72      -0.13   -0.36   0   01, 00000,  5.8363, 3.44779,  366.980,  35.1072, 01 Jan 1980, 04:45:10
15  11  16  10  72      -0.13   -0.35   0   01, 00000,  5.8359, 3.44779,  366.984,  35.1077, 01 Jan 1980, 04:45:20
16  11  16  20  72      -0.13   -0.36   0   01, 00000,  5.8363, 3.44778,  366.982,  35.1071, 01 Jan 1980, 04:45:30
17  11  16  30  72      -0.13   -0.36   0   01, 00000,  5.8361, 3.44779,  366.993,  35.1075, 01 Jan 1980, 04:45:40
18  11  16  40  72      -0.13   -0.36   0   01, 00000,  5.8363, 3.44778,  366.999,  35.1071, 01 Jan 1980, 04:45:50
19  11  16  50  72      -0.13   -0.36   0   01, 00000,  5.8364, 3.44777,  366.989,  35.1069, 01 Jan 1980, 04:46:00
20  11  17  00  72      -0.13   -0.36   0   01, 00000,  5.8362, 3.44778,  366.986,  35.1072, 01 Jan 1980, 04:46:10
21  11  17  10  72      -0.13   -0.36   0   01, 00000,  5.8362, 3.44778,  366.984,  35.1072, 01 Jan 1980, 04:46:20
22  11  17  20  72      -0.12   -0.36   0   01, 00000,  5.8361, 3.44778,  366.985,  35.1074, 01 Jan 1980, 04:46:30
23  11  17  30  72      -0.13   -0.36   0   01, 00000,  5.8361, 3.44778,  366.981,  35.1074, 01 Jan 1980, 04:46:40
24  11  17  40  72      -0.13   -0.35   0   01, 00000,  5.8360, 3.44778,  366.984,  35.1074, 01 Jan 1980, 04:46:50
25  11  17  50  72      -0.12   -0.36   0   01, 00000,  5.8363, 3.44778,  366.977,  35.1072, 01 Jan 1980, 04:47:00
26  11  18  00  72      -0.12   -0.36   0   01, 00000,  5.8363, 3.44778,  366.990,  35.1072, 01 Jan 1980, 04:47:10
27  11  18  10  72      -0.12   -0.35   0   01, 00000,  5.8363, 3.44778,  366.980,  35.1072, 01 Jan 1980, 04:47:20
28  11  18  20  72      -0.12   -0.36   0   01, 00000,  5.8363, 3.44777,  366.980,  35.1070, 01 Jan 1980, 04:47:30
29  11  18  30  72      -0.12   -0.36   0   01, 00000,  5.8362, 3.44778,  366.996,  35.1072, 01 Jan 1980, 04:47:40
30  11  18  40  72      -0.12   -0.34   0   01, 00000,  5.8362, 3.44778,  366.996,  35.1073, 01 Jan 1980, 04:47:50
31  11  18  50  72      -0.11   -0.35   0   01, 00000,  5.8365, 3.44778,  366.997,  35.1070, 01 Jan 1980, 04:48:00
32  11  19  00  72      -0.11   -0.35   0   01, 00000,  5.8365, 3.44778,  366.989,  35.1069, 01 Jan 1980, 04:48:10
33  11  19  10  72      -0.11   -0.35   0   01, 00000,  5.8362, 3.44777,  366.983,  35.1072, 01 Jan 1980, 04:48:20
34  11  19  20  72      -0.09   -0.36   0   01, 00000,  5.8361, 3.44778,  367.017,  35.1074, 01 Jan 1980, 04:48:30
35  11  19  30  72      -0.11   -0.35   0   01, 00000,  5.8365, 3.44778,  366.991,  35.1070, 01 Jan 1980, 04:48:40
36  11  19  40  72      -0.08   -0.35   0   01, 00000,  5.8360, 3.44777,  366.992,  35.1073, 01 Jan 1980, 04:48:50
37  11  19  50  72      -0.11   -0.36   0   01, 00000,  5.8362, 3.44778,  366.994,  35.1073, 01 Jan 1980, 04:49:00
```

5   Monitor Mode

WinADCP has the ability to automatically update the reading of a file as real-time data collection is occurring. When the file size increases, (due to real-time data collection in another program such as *VmDas*) **Monitor** will automatically reread the file at selected intervals and display the contents. When **Monitor** is enabled and the file size is changing, all menu items except **Monitor** will be unavailable. You can change the interval by clicking **Monitor**, **Interval**. Enter the monitor interval in seconds.

6   Software History

Version 1.14 (Jan09 to Present)

- Added Vista compatibility.

- Updated icons and copyright information.

- Renamed 'High Power (CQ)' to 'Power Level (CQ)' and decoded it properly in 'File Details' window.

- Fixed problem with exporting depths in Matlab (AnBTDepthcmB1,2,3&4 variable).

- Renamed 'GCA' string to 'GGA'.

- Fixed problem with inverting surface track data (mode 15) when profiles were referenced to it.

- Removed Default button from Chart Options

Version 1.13 (16APR03 – Jan09)

- Changed resolution of latitude and longitude data during export from 0.0001 to 0.00000001 degrees.

- Fixed problem with exporting Bottom Track depth in Matlab.

Version 1.12 (14NOV02 - 16APR03):

- Changed resolution of latitude and longitude data during export from 0.01 to 0.0001 degrees.

- Added feature to clip profile data at the bottom or surface (using surface detection).

- Export Options can now select All bins or None by clicking a button.

- Changed resolution of depth (pressure) data during export from cm to mm.

Version 1.11 (03DEC01 - 12NOV02):

- Fixed sign error in along/cross track velocity calculation

- Fixed error velocity and standard deviation profile scale

- Fixed sign error in decoding of NB data

- Added support for Seabird MicroCAT data

- Added view and export of Lat/Lon data

- Added Year, Month, and Day export to TXT and MAT files

- Added additional parameters, including CPU serial number to Utilities/File Details display

Version 1.10 (29DEC00 - 03DEC01):

- Added export of BT, WM, and Nav velocities

Version 1.08 (1MAY00 - 29DEC00):

- Added capability to reference to navigation data collected through the VMDAS and WINRIVER programs

Version 1.07 (20DEC99 - 1MAY00):

- Added capability to be called by the VMDAS program for real time display

- Added capability to reference to bottom track data

Version 1.05 (28APR99 - 20DEC99):

- First release of the program.

<u>NOTES</u>