

SeaSonde10

Classic Radial File Format

Oct 26, 2005

Note that this file format is being replaced by the newer LLUV style. See the File_LonLatUV document. Currently, SeaSonde10 will produce either or both types. The LLUV file format specifies a columnar table of the vectors in longitude, latitude, u, & v as well as Range, Bearing, Velocity and Direction using clockwise degrees from North.

Radial files are text based and require a linefeed character (ASCII 10) as an end-of-line indicator.

File Name Format is normally "RadTXXXX_YY_MM_DD_HHMM.rv"

T is the type of radial produced.

T = ' ' or ' ' space for a radial produced from an ideal pattern and hourly CSA spectra.

T = 'x' for a radial produced from a measured pattern and hourly CSA spectra.

T = 's' for a radial produced from an ideal pattern and merged radials from CSS spectra.

T = 'z' for a radial produced from a measured pattern merged radials from CSS spectra.

XXXX is the four character radial site name

YY-MM-DD is the two digit year month day of radial. Example '02-06-18' Jun 18, 2002

HHMM is the hour and minute of the radial. '0000' is midnight '1300' is 1pm

You can add extra characters to the Radial name and still have them be valid for processing. The separator characters space, underscore, dash, slash " _-/" can be almost anything. Do not insert extra characters.

Here are some valid names:

"RadzPPIN_99-01-10_0000"

"RadsSCRZ_02-05-07_2300"

"Rad MLND 02/05/07 2300"

"RadzPPIN_99-01-10_0000.rv"

Radial Vector Description:

Each radial vector describes the measurable portion of a current vector in relation to the SeaSonde site. The *radial velocity* is measurable portion of the current velocity moving towards or away from the SeaSonde. Current velocities, which run perpendicular to the SeaSonde, will have a zero radial vector component, while current velocities, which run directly towards or away from the SeaSonde, will have a 100 percent radial vector component. A positive radial velocity is moving towards the SeaSonde, while a negative radial velocity is moving away from the SeaSonde.

The *radial bearing* angle indicates the direction out from the SeaSonde to where the radial vector is located.

The *radial range cell* minus one multiplied by the distance between range cells plus the first range cell distance indicates how far away the radial vector is located.

Values may be in Exponent format where 'E+n' means 10 to the nTH. Example 1.2E+3 is 1200

File Contents:

Line 1: First 48 characters: Long Textual Date of Radial

Line 1: After 48th character: Seconds from year 1904 after adding 2^{32} .

Line 2: Site Latitude and Longitude formatted as 00°00.000N,000°00.000E

Line 3: Parameter 1: Distance in kilometers to first range cell

Line 3: Parameter 2: Distance in kilometers between range cells

Line 3: Parameter 3: *Reference Angle* degrees counter-clockwise from East. Typically, this will be 90.0 degrees, which is North.

Line 3: Parameter 4: Time Coverage in hours of Radial Data

Line 4: *Number of Range Cells*

Repeat for *Number of Range Cells*

Line N: Parameter 1: *Number of Vectors* for this Range cell

Line N: Parameter 2: Current Range Cell Index

--*Bearings* in degrees counter clockwise from *Reference angle*

Repeat for *Number of Vectors*

Line N: Bearing values in degrees up to 7 per line

End Repeat

--*Velocities* in cm/s.

Repeat for *Number of Vectors*

Line N: Velocity values in cm/s up to 7 per line

End Repeat

--*Uncertainties*

Repeat for *Number of Vectors*

Line N: Standard Deviation values in cm/s up to 7 per line

End Repeat

End Repeat

End File

Example Radial:

4:00 PM Friday, March 4, 1994 PDT

-1449325696

36°25.9'N, 121°55.0'W

0.3000E+01 0.3000E+01 0.9000E+2 0.1000E+01

2

16 1

0.350E+02 0.400E+02 0.450E+02 0.500E+02 0.550E+02 0.600E+02 0.650E+02

0.700E+02 0.800E+02 0.850E+02 0.900E+02 0.110E+03 0.115E+03 0.125E+03

0.130E+03 0.135E+03

-0.296E+02 -0.323E+02 -0.915E+01 -0.467E+01 -0.105E+01 -0.437E+01 0.215E+02

0.534E+01 0.631E+01 0.250E+02 0.153E+02 -0.151E+02 0.397E+01 -0.534E+01

-0.102E+02 0.323E+02

0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01

0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01

0.250E+01 0.646E+02

15 2

0.250E+02 0.300E+02 0.350E+02 0.500E+02 0.600E+02 0.650E+02 0.700E+02

0.850E+02 0.950E+02 0.110E+03 0.125E+03 0.130E+03 0.135E+03 0.160E+03

0.180E+03

0.296E+02 0.345E+02 0.248E+02 -0.274E+02 0.274E+02 -0.323E+00 -0.771E+01

-0.323E+02 0.129E+02 0.801E+01 -0.118E+02 -0.199E+02 -0.296E+02 0.177E+02

0.226E+02

0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.229E+02 0.250E+01 0.250E+01

0.118E+02 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.250E+01 0.207E+01

0.100E+01