

### SIO Sea Beam Merge Format - Documentation

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Scripps Sea Beam data is merged with navigation and stored on disk with a record length of 50 16-bit signed integer words (100 byte). Comments about the data can be embedded in the data, the comments can be recognized by the year being greater than 7000 (the usual string to start a comment with is "#"). The comment records are an ascii string of 100 bytes. Note that on an earlier version of the software which ran on an IBM 1800, a record of zeros was used to pad the tape records to 1000 bytes. These records can be recognized by the year being 0 and should be ignored.

SIO merge format data file

| word  | logical data description  |
|-------|---|
| ----- |   |
|       | time data   |
| 1     | year (4 digits)   |
| 2     | julian day (day-of-year, 1-366)   |
| 3     | no of minutes from beginning of day (0-1439)  |
| 4     | seconds from beginning of minute (0-59)   |
|       | position data   |
| 5     | number of minutes east of prime meridian  |
| 6     | fraction of minute times 10000  |
| 7     | number of minutes North of 90 South   |
| 8     | fraction of minute times 10000  |
|       | spare   |
| 9     | unused  |
| 10    | unused  |
| 11    | unused  |
|       | Sea Beam data   |
| 12    | Sea Beam computer clock time<br>(known to drift - 1 to 2 minutes per day) It is a 16-bit positive integer representing a count of 10ths of seconds from start of hour in the range of 0 to 36000. There is no provision of determining the hour from the data sent by Sea Beam. |
| 13    | heading of ship received from Sea Beam<br>This is a 16 bit positive integer<br>000 degrees = 0<br>0.0055 degrees = 1<br>090 degrees = 16384<br>180 degrees = 32768<br>270 degrees = 49152<br>359.99 degrees = 65535<br>360 degrees = 0  |
| 14-29 | 16 depths from Sea Beam<br>In uncorrected meters. using 1500 m/sec. as speed of sound.  |
| 30-45 | 16 cross track distances<br>In meters from ship, port values are negative and starboard values are positive.  |

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position ellipse data (not implemented)
46 azimuth of semi-major axis in degrees
47-48 length of semi-major axis in meters
      32bit integer
49-50 length of semi-minor axis in meters
      32bit integer

#end doc
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