**SERIAL DATA RECORD FORMAT Revised September 1999**

**Notes on the data fields** **(Steve Lock)**

Significant

Character

1 Filler, very occasionally may have characters other than '000A'.

5 Record type, Main = 2, Continuation = 3.

6 Sequential record number, 01 ‑ 99.

8 Data Identifier, used for data management by the HO, usually a space.

**Basic Header**

9 Data Use code (DUC), used for data management by the HO.

10 File code, used for data management by the HO.

12 Marsden square, generated from the geographicals.

15 Degree square, generated from the latitude and longitude degrees.

17 Geographical position in degrees and minutes (to tenths),

South and West shown as negative values.

32 Quadrant, ICES code (NE = 0, SE = 2, SW = 3 & NW = 1).

33 Position Determination, MIAS code for the fixing device used as

the prime navigational aid in determining the position of the

station.

Code

0 Unspecified method of position determination.

1 Celestial navigation.

2 Satellite navigation.

3 Inertial navigation.

4 Long range radio‑fixing, eg OMEGA, LORAN.

5 Medium range radio‑fixing, eg DECCA.

6 Short range radio‑fixing on temporary/semi‑permanent

shore stations, eg HI‑FIX.

7 RADAR/visual fixing to land.

8 RADAR/visual/radio‑fixing from land.

9 Others, including dead‑reckoning.

34 Position Accuracy code. The estimated drift in station position or

the estimated accuracy in the determination of the position of

the station, whichever is the greater.

Code Accuracy/Drift (nautical miles)

0 Unspecified positional accuracy.

1 <0.1 (HI‑FIX, LORAN‑C)

2 0.1‑0.5 (DECCA, Satellite)

3 0.5‑1

4 1‑5 (OMEGA, dead reckoning, Morning Star, Sextant)

5 5‑10

6 >10

35 Additional positional reference.

47 Archive Year. Field used for data management by HO.

49 Date. Date observation collected.

57 Time. Time observation collected (Greenwich Mean Time).

61 Country code (ICES)

63 Ship number, ICES code is used, where possible, for data processed

at Taunton.

65 Ship number code, if 1 inserted then the Ship number is ICES code.

66 Originator's Cruise number.

74 Station number in ascending order for each ship in each country

commencing at 000001 in each year for data processed at Taunton.

80 Institute number, MIAS code normally used.

Code

001‑199 Government or Government aided Organisation/Laboratories.

200‑399 University/Polytechnic Departments.

400‑499 Commercial Organisations.

599 Unspecified British Institute.

999 Unspecified Foreign Institute.

(016 is the Hydrographic Office, Taunton)

83 Institute number code, if it contains 1 it indicates the MIAS

code has been used.

84 Land check indicator. Field used for data management by H0.

85 Filler, a space or 0.

86 Number of depth levels. Indicates how many depth levels are

held on the record.

**Additional Header**

88 Depth to Seabed.

93 Minimum depth of observation.

97 Maximum depth of observation.

101 \*Depth correction. [±nn ; sign, tens, units (of metres)]

104 Filler, a space.

105 \*Temperature correction. [±.nn ; sign, tenths, hundredths (of degree)]

**Note: If the instrument code is 31(MBT) the format of the field is: ±n.n; integer, tenths(of degree).**

108 \*Salinity correction. [±.nnn ; sign, tenths, hundredths, thousandths (of psu)]

112 \*Sound velocity correction [±n.n ; sign, units, tenths (of m/s)]

\*Corrections. Values are given in the same units as the original data

(plus or minus prefix as required). These fields represent the

corrections which have been applied to the observed values.

115 Units. Refers to the units used in the original data.

Code

0 Unspecified units.

1 Feet,  F, ppt and ft/sec.

2 Metres, C, ppt and m/sec.

If Units code = 1 the corrections are given in imperial units.

However all other data have been converted to metric units.

116 Instrument code.

Code Instrument

00 Unspecified instrument.

01 Water (Nansen) bottles.

02 RN RTPME (SV).

03 NL RTPME (T,S,SV,pH).

04 MORS SV Meter.

05 CTD (undulating probe).

06 XCTD.

07 Valeport 600 CTD or SIS 500 CTD.

08 Unspecified CTDV.

09 Unspecified CTD.

10 Unspecified STD or STDV.

11 9040 STD probe.

12 9040 STD‑SV probe.

13 9060 STD probe.

14 IOS T‑S bridge.

15 9050 STD‑SV probe.

16 Neil Brown CTD‑IR.

17 Neil Brown Mk III CTD probe.

18 Inter ocean (IR probe).

19 Neil Brown smart probe.

20 Unspecified velocimeter.

21 Mid 554 D‑SV meter.

22 Plessey SV meter (H0124 H0125).

23 XSV‑01.

24 XSV‑02.

25 Unspecified XSV.

26 Navitronics SVP‑1.

27 SONAR 2004 ‑ velocigram.

28 Jezebel AXBT/SV probe.

29 SBE 19 Seacat Profiler CTD (Seabird Electronics).

30‑39 NEBT data in SERD format.

3D NEBT data in SERD format.

3C SERD data in NEBT format converted back to SERD format.

40 Digibar

41 Marimatech

118 Data type ‑ MIAS code.

Code Type

0 Unspecified data type.

1 Data collected by sensor/probe.

2 Data collected from water samples (Nansen).

3 Data collected by sensor/probe but controlled by data

from a limited number of water samples.

4 Data collected from a variety of instruments.

5 Signalled data.

119 Data Mode.

Code Mode

0 Unspecified mode or mode not applicable, eg Nansen casts.

1 Serial data during descent at fixed position of ship.

2 Serial data during ascent at fixed position of ship.

120 Method.

Code Method

0 Unspecified method.

1 Manually digitised at inflexion points.

2 Manually digitised at standard levels.

3 Semi‑automatically digitised at inflexion points.

4 Observed levels only, eg Nansen data.

5 Inflexion points from digitally recorded data.

6 Digitised at constant intervals, eg every 5 metres.

121 Wind direction, WMO code 0877, true direction, in tenths of

degrees from which the wind is blowing.

Code Code Code

00 Calm 13 125‑134 26 255‑264

01 005‑014 14 135‑144 27 265‑274

02 015‑024 15 145‑154 28 275‑284

03 025‑034 16 155‑164 29 285‑294

04 035‑044 17 165‑174 30 295‑304

05 045‑054 18 175‑184 31 305‑314

06 055‑064 19 185‑194 32 315‑324

07 065‑074 20 195‑204 33 325‑334

08 075‑084 21 205‑214 34 335‑344

09 085‑094 22 215‑224 35 345‑354

10 095‑104 23 225‑234 36 355‑004

11 105‑114 24 235‑244 99 Variable

12 115‑124 25 245‑254

123 Wind speed in knots.

125 Dry air temperature.

129 Wet air temperature.

133 Weather.

Code

0 Clear, no cloud at any level.

1 Partly cloudy, scattered or broken.

2 Continuous layer(s) of cloud(s).

3 Sandstorm, duststorm or blowing snow.

4 Fog, thick dust or haze.

5 Drizzle.

6 Rain.

7 Snow, or rain and snow mixed.

8 Shower(s).

9 Thunderstorm(s).

134 Cloud, WMO code 2700.

Code

0 Cloudless.

1 A trace, up to one‑eighth.

2 One‑quarter.

3 Three‑eighths.

4 One‑half.

5 Five‑eighths.

6 Three‑quarters.

7 Seven‑eighths or overcast with openings.

8 Completely overcast.

9 Sky obscured by fog or other phenomenon.

135 Sea state.

Code Description Height (metres)

0 Calm, glassy 0

1 Calm, ripples 0

2 Smooth, wavelets 0.1 ‑ 0.5

3 Slight 0.5 ‑ 1.25

4 Moderate 1.25 ‑ 2.5

5 Rough 2.5 ‑ 4

6 Very rough 4 ‑ 6

7 High 6 ‑ 9

8 Very high 9 ‑ 14

9 Phenomenal Over 14

136 Wave period, in seconds.

138 Wave height, in half‑metres.

140 Atmospheric pressure in millibars and tenths.

145 Water colour, Forel‑Ule scale.

Code Colour

01 Deep blue.

02 Blue.

03 Greenish‑blue.

04 Bluish‑green.

05 Green.

06 Light green.

07 Yellowish‑green.

08 Yellow‑green.

09 Green‑yellow.

10 Greenish‑yellow.

11 Yellow.

12‑21, 31‑37 - other legitimate codes.

147 Water transparency.

149 Salinity scale code.

Code

0 or Space Parts per thousand.

1 Practical salinity, 1978.

150 Filler, spaces.

OR

150 BT Sea Surface Instrument )

)

151 BT Sea Surface Reference Temperature ) See notes on

)

155 MBT Temperature Correction at the Surface ) Bathythermograph

)

158 MBT Type/XBT Quality code ) data format

)

159 MBT Grade/XBT Quality code )

160 Filler, spaces

215 Number of comment fields used (1 field = 70 characters).

217 Comment fields.

847 Filler, a space.

**End of header data**

848/88 Depth indicator (this field applies to Nansen data only).

Code

0 Unspecified depth indicator.

1 Difference between accepted depth and thermometric depth is 1% or less.

849/89 Depth level, in metres.

853/93 Depth quality.

Code Metres

0 Undetermined.

1 < 0.5

2 0.5 ‑ 0.9

3 1.0 ‑ 1.9

4 2.0 ‑ 3.9

5 4.0 ‑ 5.9

6 6.0 ‑ 10.0

7 > 10.0

8 Interpolated.

9 Questionable.

854/94 Temperature, in degrees celsius to hundredths.

858/98 Temperature quality ‑ see below.

Code C 3x standard deviation

0 Undetermined.

1 <= 0.010

2 0.010 ‑ 0.019

3 0.020 ‑ 0.049

4 0.050 ‑ 0.099

5 0.100 ‑ 0.199

6 0.200 ‑ 0.499

7 >= 0.500

8 Interpolated.

9 Questionable.

859/99 Salinity, parts per thousand to thousandths.

864/104 Salinity quality.

Code Parts per thousand

0 Undetermined.

1 <= 0.0010

2 0.0010 ‑ 0.0029

3 0.0030 ‑ 0.0099

4 0.0100 ‑ 0.0299

5 0.0300 ‑ 0.0999

6 0.1000 ‑ 0.4999

7 >= 0.5000

8 Interpolated.

9 Questionable.

865/105 Sound velocity, metres per second to tenths.

870/110 Sound velocity quality.

Code Metres per second, 3x standard deviation

0 Undetermined.

1 <= 0.10

2 0.10 ‑ 0.19

3 0.20 ‑ 0.29

4 0.30 ‑ 0.49

5 0.50 ‑ 0.99

6 1.00 ‑ 1.99

7 >= 2.0

8 Interpolated.

9 Questionable.

871/111 Sound velocity code.

Code

1 Observed sound velocity.

2 Computed from depth, temperature and salinity using Wilson's second equation.

3 Unspecified sound velocity value.

4 Computed from depth, temperature and salinity using Chen and Millero's equation.