



Colcor:

A format for real time transmission

30/09/2015

The thermosalinometer data (TSG) can be transmitted in real time to the Coriolis data center who will include them into the GOSUD database. A simple ASCII format, called COLCOR has been designed to hold both the metadata and the TSG measurements. Although not mandatory, using this format will greatly speed up the data processing.

Colcor Header

Each line of the header corresponds to a specific sensor. It gives the dates of calibration and of installation, the serial number of the sensor and the calibration coefficients if relevant. In the example provided below:

- line 1 corresponds to the TSG conductivity sensor
- line 2 corresponds to the TSG temperature sensor
- line 3 corresponds to the temperature sensor installed at the water inlet.
- line 4 gives the immersion (depth) of the water inlet

Header of a Colcor V2 file

```

#$xxCOR, date, SBE21, CONDUCTIVITY, serial_number, install_date, calib_date, g, coef,
h, coef, i, coef, j, coef, cp, coef, ct, coef, slope, coef, offset, coef,
#$xxCOR, date, SBE21, TEMPERATURE, serial_number, install_date, calib_date, g, coef,
h, coef, i, coef, j, coef, f0, coef, slope, coef, offset, coef,
#$xxCOR, date, SBE3, TEMPERATURE, serial_number, install_date, calib_date, g, coef,
h, coef, i, coef, j, coef, f0, coef, slope, coef, offset, coef,
#$xxCOR, date, SBE3, IMMERSION, immersion,

xx = vessel code (AT = Atalante, PP = Pourquoi Pas ? ...)
date = date of the first measurement in the file (DD/MM/YYYY)
serial_number = serial number of the sensor
install_date = date of installation on board of the sensor (DD/MM/YYYY)
date_calib = date of the last calibration of the sensor (DD/MM/YYYY)
coef = value of each calibration coefficient
immersion = immersion (meter) of the sensor
        
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Colcor datablock

Column	Field	Format	Value / Unit	Length	Comments
Header of data block					
1	Header	XXXXXX	\$PIFM	5+1	"+1" corresponds to the comma separating each field
2 (2 first digits)	Vessel code	XX	AT, SU, TS...	2	AT = Atalante, SU = Suroît, TS = Thalassa ...

2 (3 last digits)	Scientific data code	XXX	COR	3+1	
3	Date	DD/MM/YYYY		10+1	
4	Hour	HH:MM:SS		8+1	
5-6-7	Latitude	S,DD,MM.MMM	N/S,degrees, minutes.hundredths	11+1	Example : N,45,22.235
8-9-10	Longitude	W,DDD,MM.MM M	E/W,degrees, minutes.hundredths	12+1	Example : W,025,33.435
11	Precision of the point	X	0,1,....9	1+1	If the precision of the point is unknown, the default value is 9
12	Origin of the point	XXX	GPS, GPD,GPN,LOR,SYL	3+1	If the origin of the point is unknown, the default value is 999
13	Referential	XXXX	WG84,WG72,ED50	4+1	If the referential is unknown, the default value is 9999
Thermosalinograph data					
14	TSG data	XXXXXX	THSAL	5+1	
15-16-17-18	Reduction mask	XXX,XXX,XXX,XXX		15+1	Number of reduced data for each parameter described columns 19 to 22
19	Temperature at water intake	XXX.XXX	Celsius degrees (T90)	7+1	Default value : 999.999
20	Temperature in the tank	XXX.XXX	Celsius degrees (T90)	7+1	Default value : 999.999
21	Conductivity	XXX.XXX	Siemens/m	7+1	Default value : 999.999
22	Salinity	XXX.XXX	PSU (SAL78)	7+1	Default value : 999.999
Meteorology					
23	Meteo	XXXXXX	METEO	5+1	
24-25-26-27-28-29-30	Reduction mask	XXX,XXX,XXX,XXX, XXX,XXX,XXX		27+1	Number of reduced data for each parameter described columns 31 to 37
31	Temperature of wet air	XXXX.XXX	Celsius degrees (T90)	8+1	Default value : 9999.999
32	Water temperature	XXX.XXX	Celsius degrees (T90)	7+1	Default value : 999.999
33	Humidity	XXX.XX	%	6+1	Default value : 999.99
34	Atmospheric pressure	XXXX.XX	mbar	7+1	Default value : 9999.99
35	Solar radiation	XXXX.XX	mW/cm2	7+1	Default value : 9999.99
36	Pluviometer	XXXX.XX	mm	7+1	Default value : 9999.99

37	Dew-point	XXXX.XXX	Celsius degrees (T90)	8+1	Default value : 9999.999
Wind					
38	Vent	XXXXX	VENTS	5+1	
39-40-41-42	Reduction mask	XXX,XXX,XXX,XXX		15+1	Number of reduced data for each parameter described columns 43 to 46
43	Apparent wind speed	XXX.X	m/s	5+1	Default value : 999.9
44	Apparent wind direction	XXX.X	Degrees	5+1	Default value : 999.9
45	True wind speed	XXX.X	m/s	5+1	Default value : 999.9
46	True wind direction	XXX.X	Degrees	5+1	Default value : 999.9
Water flow					
47	Water flow data	XXXX	FLOW	4+1	
48	Reduction mask	XXX		3+1	Number of reduced data for each parameter described column 49
49	Flow	XXXX.XX	l/mn	7+1	Default value 9999.99
	End of record	XX	CRLF	2	
	Record length			278	

Example of a Colcor V2 file (Header and data block)

```

#$ATCOR,03/08/2013,SBE21,CONDUCTIVITY,3237,24/10/2012,09/09/2011,g,-
4.22398567E+00,h,4.98817133E-01,i,-2.38667412E-04,j,4.11567046E-
05,cp,0.00000000E+00,ct,3.25000000E-
06,slope,1.00000000E+00,offset,0.00000000E+00,
#$ATCOR,03/08/2013,SBE21,TEMPERATURE,3237,24/10/2012,02/02/2007,g,4.230844
40E-03,h,6.32560572E-04,i,1.88067311E-05,j,1.26910909E-
06,f0,1.00000000E+03,slope,1.00014800E+00,offset,-1.40000000E-03,
#$ATCOR,03/08/2013,SBE3,TEMPERATURE,0217,24/10/2012,05/09/2011,g,4.0000000
0E-03,h,2.00000000E-
04,i,0.00000000E+00,j,0.00000000E+00,f0,1.00000000E+03,slope,1.00005600E+0
0,offset,-8.00000000E-04,
#$ATCOR,03/08/2013,SBE3,IMMERSION,3.50000000E+00,

$PIFM,ATCOR,03/08/2013,06:00:55,N,42,20.008,E,05,10.225,0,GPS,14,THSAL,020
,020,020,024.678,025.154,005.740,038.108,METEO,120,120,120,120,120,000
,120,0024.500,024.700,083.00,1018.00,0167.00,0000.00,0021.400,FLOW,001,999
    
```

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9.99,  
$PIFM,ATCOR,03/08/2013,06:03:31,N,42,20.008,E,05,10.348,0,GPS,14,THSAL,020  
,020,020,020,024.656,025.145,005.739,038.106,METEO,120,120,120,120,120,000  
,120,0024.500,024.700,083.00,1018.00,0174.00,0000.00,0021.400,FLOW,001,999  
9.99,  
$PIFM,ATCOR,03/08/2013,06:05:07,N,42,20.007,E,05,10.424,0,GPS,14,THSAL,020  
,020,020,020,024.669,025.139,005.738,038.105,METEO,120,120,120,120,120,000  
,120,0024.500,024.700,083.00,1018.00,0178.00,0000.00,0021.400,FLOW,001,999  
9.99,  
$PIFM,ATCOR,03/08/2013,06:08:01,N,42,20.006,E,05,10.561,0,GPS,14,THSAL,020  
,020,020,020,024.667,025.124,005.736,038.103,METEO,120,120,120,120,120,000  
,120,0024.500,024.700,082.00,1018.00,0188.00,0000.00,0021.200,FLOW,001,999  
9.99,
```

Data transmission

The file must be compressed (.tar.gz or .gz) and sent as attachment to the mail at:

co_no_ts@ifremer.fr