

OEM Software

RBR XR Series Loggers



OEM Commands

RBR XR series loggers are able to respond to some very simple commands that permit operation as an OEM sensor. These commands are designed to permit easy integration with ROV and AUV platforms, as well as data buoys.

This data sheet gives the outline of the commands. Full details may be downloaded from our website.

At the simplest level, there is just one command: to fetch the data. Before that is done, however, it is necessary to wake the logger, since, by default, it will revert to a sleeping state.

All communication is performed on the serial line. The baud rate is 19,200, and the settings are 8 bit, 1 stop bit, no parity. The baud rate may be changed by advanced commands.

Other Features

- Regular interval sampling
- Automatic start on power up
- Keep power on to stabilise sensors
- Inhibit storage in local memory
- Compressed data output

All of these features are available through an extended command set, details of which may be downloaded from our website.

Detailed Procedure

To awaken the logger:

To save power, loggers go to sleep when inactive.

To regain attention:

Send the character "A".

The logger will respond with a string of the form:

"XR-420 012345 4.6<cr><lf>"

where the model number is XR-420, the serial number follows, and then the firmware version number;

The terminator <cr><lf> is the ascii characters for carriage return; line feed.

Once awake the logger will remain alert for 10 seconds.

To fetch some data:

Send the string "F00". A sentence will be returned which has all channel readings in the form:

TIM YYMMDDhhmmss Sxxx.yyyySxxx.yyyy FET <cr><lf>

In this string, the header is "TIM", the date stamp is self-evident, and the **S** is the sign, only used if the data are negative; leading zeroes are suppressed; and the string terminates with "FET<cr><lf>".

Data from individual channels may be obtained by sending "F01" etc. The channel identification will need to be determined separately.

Quick Reference

Send "A" to awaken logger

Send "F00" to request all channels

Response is:

TIM YYMMDDhhmmss xxx.yyyy...FET

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RBR Windows® Software

Data Logger Software

The RBR Windows® software package has been designed for easy use while still providing the necessary features for logger programming, data retrieval and analysis. One piece of software does it all!

Features:

- Intuitive
- Graphical Display
- Real-time data
- Derived Units
- Export to Matlab®
- GPS Integration
- Telemetry ready
- Setup cloning

RBR's Windows®-based data logger software includes a straightforward logger setup display menu that includes options for programming start and stop time, thresholding, sampling rates for both tides and waves (TWR-2050), burst rate, burst length, averaging, and batch programming.

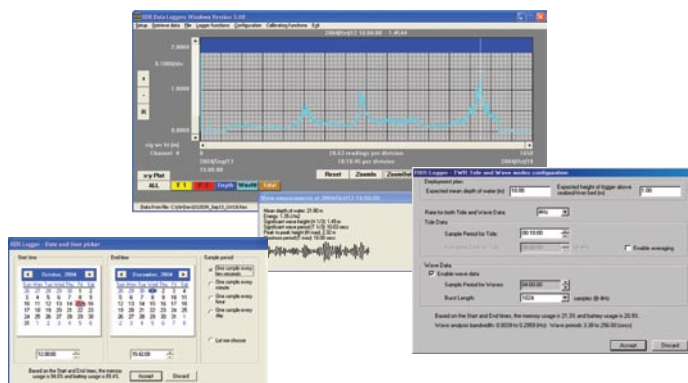
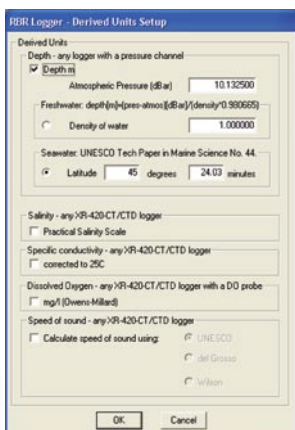
Some basic analysis features are included that allow the user to review the data graphically. Data can also be saved in various file formats for easy import into third party software packages, such as Matlab® or Microsoft® Excel®.

Derived Units

- Salinity (PSS-78)
- Depth
- Speed of Sound
- Density
- Dissolved Oxygen
- Specific Conductivity

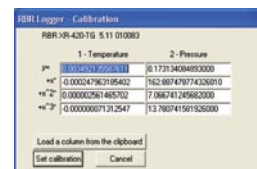
Analysis of waves & wave spectra:

- Mean level
- Tidal slope
- Significant Wave Height
- Min & Max Elevation from Mean
- Mean Period
- Significant Wave Period
- Total Energy



Logger programming is easily achieved by using the 'Setup' dialog, which allows the user to choose Start and End times, Sampling Rate, Averaging, Thresholding, as well as synchronize the logger with the PC clock. The setup dialog also indicates the expected battery and memory usage for the chosen deployment settings.

Re-calibration is done easily by entering the coefficients for each channel of the logger in the appropriate columns. These values are stored in the logger, and a complete calibration history is always available at the click of a button. In order to reduce deployment error, a log file is automatically generated for all logger setup activity.



System Requirements

- Operating System: Windows® 95/98/ME/2000/XP/Vista
- CPU: x86 133Mhz or higher
- RAM: 128MB recommended
- Communications: At least 1 RS-232 serial port, or USB
- Cost: RBR Software is free.



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