



Iridium Internet

Datawell - Oceanographic Instruments

Turn your Waverider into an internet server

The Iridium system expands your Waverider with an easy to use communication option that lets you

- receive up to 48 periodic data **updates** per day.
- **download** all logged files, including raw displacement data.
- have **two-way communication**, allowing remote reconfiguration.
- do all that from **anywhere on earth**.

The ability to download logged data is ideal to “zoom-in” on certain time frames. If the periodically transmitted spectral data shows that something interesting happened during a certain period, the raw displacement data of that period can be downloaded from the logger for further analysis.

How it works

The Iridium network is a satellite based cellular phone - network that is built upon a constellation of 66 low earth orbit (LEO) satellites. Iridium is the only truly global network that covers any region of the earth.

The Datawell implementation uses the **full 2400bps data service** of Iridium. In this mode, a direct internet connection is set up between the buoy and a (destination) computer. This allows data of any size and type to be transmitted. To save battery power, data is transmitted at programmable transmission intervals. Transmission intervals are freely programmable at any value between once every half hour to once every day.

Iridium Internet supports Datawell Message Format (DMF) messages defined in the DWTP specification, a.o.:

- GPS position
- spectral parameters
- heave spectrum
- directional spectrum
- current speed and direction

More precisely, on the MkIII, DWR-G and WR-SG all primary DMF messages are implemented, adding up to 93 bytes. On the DWR4(/ACM) nearly all extension format DMF messages are supported, varying from 9 to 459 bytes per message. Each DMF message can be requested once or sent periodically. Period intervals range from ½ hour to 1 day. Any combination of messages and intervals is possible. Settings can be changed remotely in the field using Datawell software.

On the user side, the interface software (“iBuoy” or Waves4) handles all internet communication and stores the data. In addition, in a user-friendly environment the software is capable of changing the Iridium Internet settings remotely. It seamlessly integrates with W@ves21 or Waves4 presentation and processing software. Still users can write their own interface software, based on the freely available DWTP specification. A single application on a single computer can handle a network of Iridium Internet buoys.

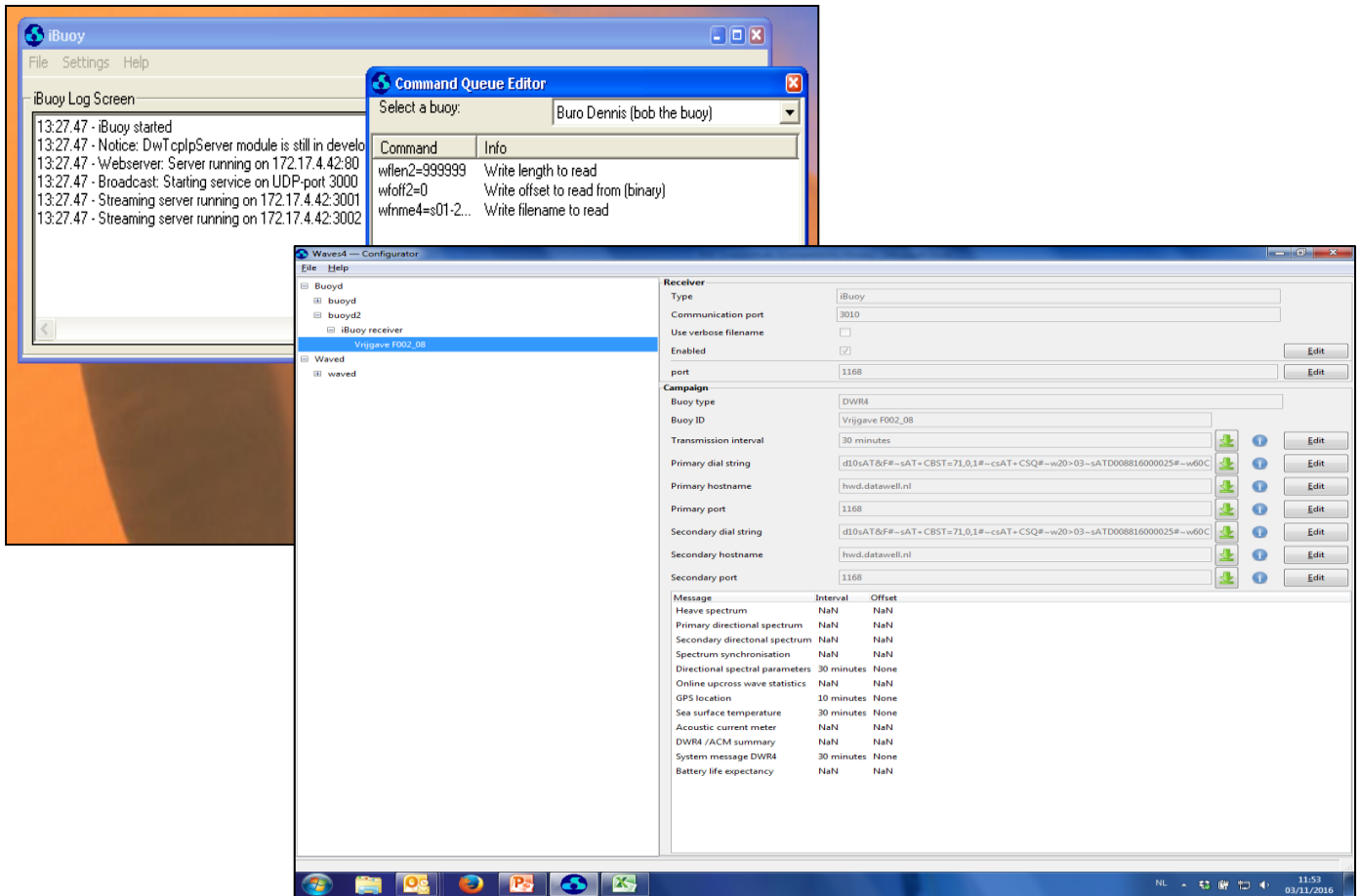
The Iridium Internet option is available for DWR-MkIII, DWR-G, WR-SG and DWR4(/ACM) buoys.





Iridium Internet

Datawell - Oceanographic Instruments



Left: iBuoy for MkIII, DWR-G and WR-SG buoys; Right: Waves4 for DWR4(/ACM) buoys

Specifications

General	Coverage	Truly global, two way, real time, including polar regions
	User interface	Internet, PC server
	Data	Datawell Message Format (DMF) messages DWR-MkIII, DWR-G, WR-SG: (0x)0, 3, 5, 6 and 9 DWR4: (0xF)20, 21, 25, 26, 28, 80, 81, 82, C1 and C3
	Intervals	½ - 24 hours or once or never (can be set independently for each DMF message)
	Software	iBuoy/W@ves21 for DWR-MkIII, DWR-G and WR-SG Waves4 for DWR4(/ACM)
	Availability	DWR-MkIII, DWR-G, WR-SG DWR4(/ACM)