Sediment Trap with ethernet, external power, and triggering software
Dalhousie University
29 Feb 2008 - Draft

Ethernet hardware
The Ethernet interface card will be a commercially available RS-232 to Ethernet terminal server. The network configuration will be specified using the existing manufacturer software. The terminal server will pass raw TCP formatted commands to the McLane electronics via RS-232. In the absence of external power, the Ethernet hardware will turn off, and the McLane electronics will draw power from the internal battery and communicate via the standard 3-pin comm connector (RS-232) on the electronics housing.

External Power
The external power supplied by Dalhousie will be 24 VDC nominal.

Underwater Connector
The underwater connector will have 6 pins to carry the Ethernet signals and external power. **Dalhousie to provide additional connector information.**

Software Commands
The sediment trap will have a schedule (array) of 22 bottle rotations (events). The number of the current event will be stored in EEPROM. The sediment trap will execute the events in the array using the real-time clock (RTC) in the TT8 electronics. The following commands will be available during the deployment:

ST
Status request – send status data for sediment trap.
Data returned: <current event #> <aligned/not> <voltage> <previous event time> <current time> <next event time>

RB
Rotate Bottle - change the time of the next event to "now" plus 5 minutes.
Data returned: <current event #> <aligned/not> <voltage> <previous event time> <current time> <next event time>

VE <#>
View Event - view the time of the specified event
Data returned: <event #> <event time>

CE <#> <time>
Change Event – change the time of the specified event to the specified time
Data returned: <event #> <event time>

DM
Display menu – return to the full menu interface.

The time format for the these commands will be MMDDYYHHMMSS. The prompt will list the McLane serial number in the format ML#####.