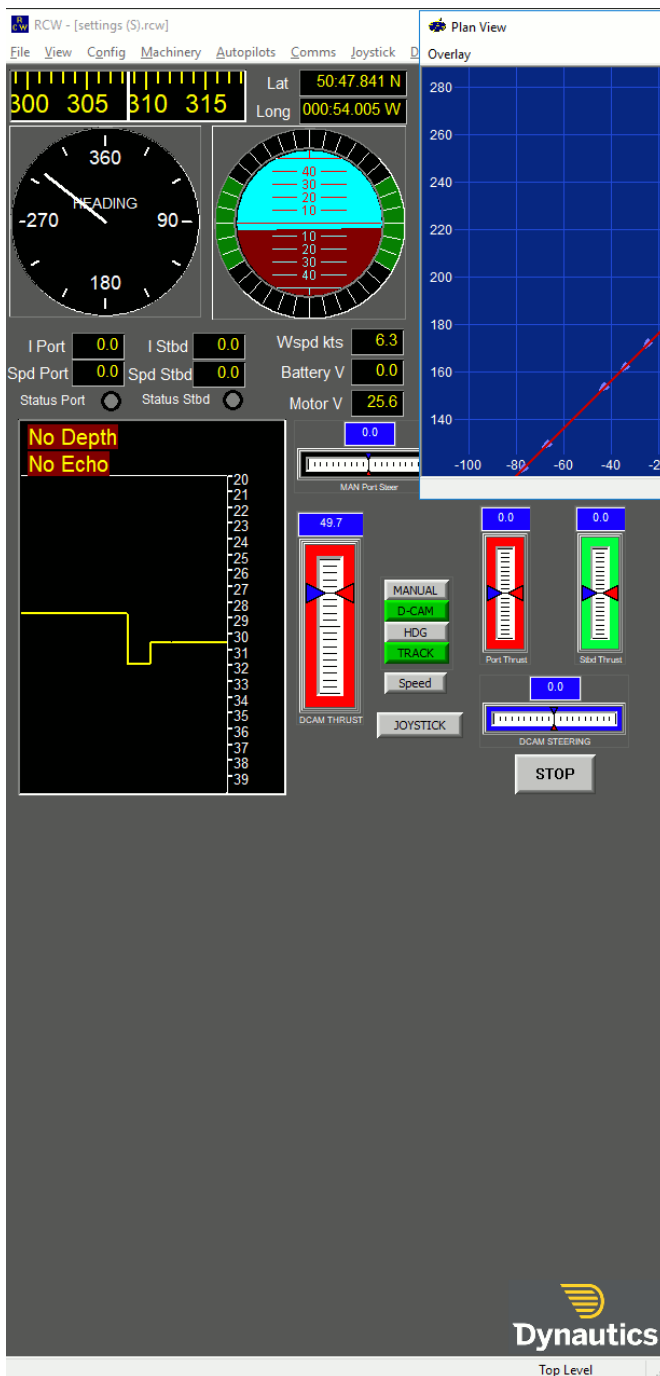# RCW Autopilot interface

Stable and transparent, informative and versatile, the RCW front end software allows the operator to communicate with the autopilot, to interrogate it and to send it commands, changing modes and setpoints.

The GUI-based operator interface is completely user-configurable so it can be set up to suit the vehicle and the application. The example shown here illustrates:

- Operator controls, manual machinery control, buttons to set control modes

- Navigational displays including:
  dials and digital readouts
  artificial horizon
  compass dial and tape

A 'plan view' window shows the vehicle viewed from east, south or from above; this can be customised with a geotiff image.

A Chart view window can also be displayed; this can show a grid (in metres), and optionally a geotiff image superimposed on the chart.

The operator may also be able to access the analogue inputs and outputs on the SPECTRE board, set up sensors, view and modify the autopilot configuration data, and request an Emergency Stop.

Communications Protocols

- RCW supports a proprietary, low bandwidth communication protocol is supported which allows efficient two-way communication between the remote control computer and the vehicle over a typical RF radio link. This interface is available as a DLL allowing the user to tailor their application to use this interface.

- RCW also supports a satellite communications protocol designed to run over Iridium RUDICS, typically for very long range, over-the-horizon control and for retrieving sensor data.

- NMEA 2000 interface (CANbus) is also supported.

- In addition, a NMEA-type interface is supported.

- Other interfaces are routinely added to suit special customer requirements.