

OCKAM
INSTRUMENTS, INC.

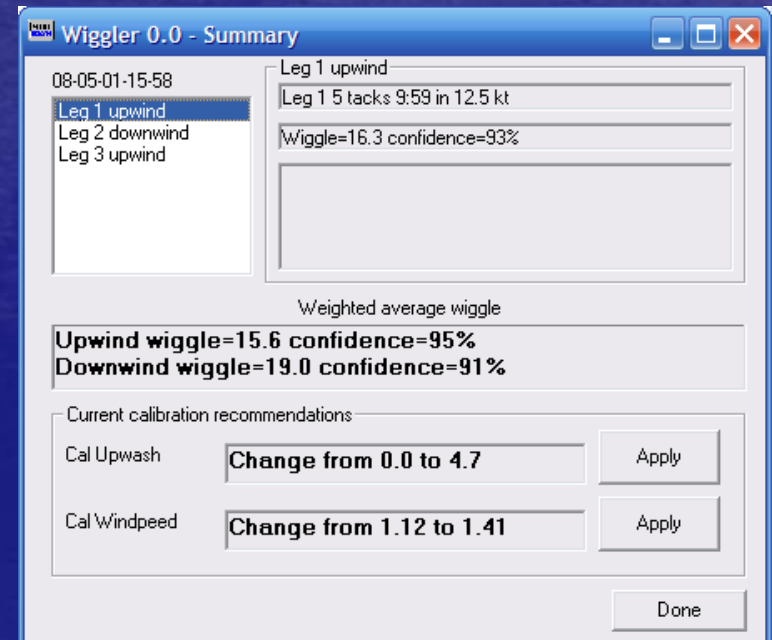
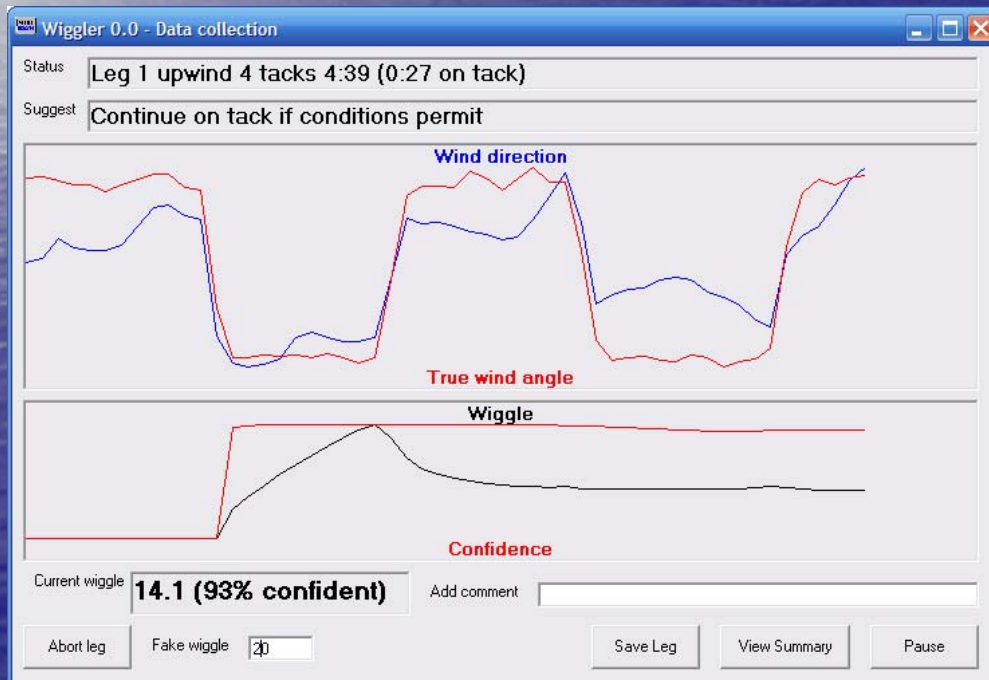
DeWiggler



Get your calibrations
under control

DeWiggler Pro

- DeWiggler Pro comes aboard with a calibration professional.
- Calibrations are determined and set in real-time.
- When the calibrator leaves, Pro goes with him.



DeWiggler Analyst

DeWiggler Analyst 1.2 - Main

Boat & Owner
Boat name
Phone
Email address

Test management
To receive on-deck test guidance and results, enter the tag on which output should be posted.

Status
Instrument status **Instruments OK.**
Upwind tests
Downwind tests
Spd & Hdg tests
Recommendation

Available tests

Checklist

Record Ockam bus data	Downwind jibing test
Speed & Heading test	Send data files for processing
Upwind tacking test	Apply suggested cals

Cals loaded. Press 'View Cals' to view and change

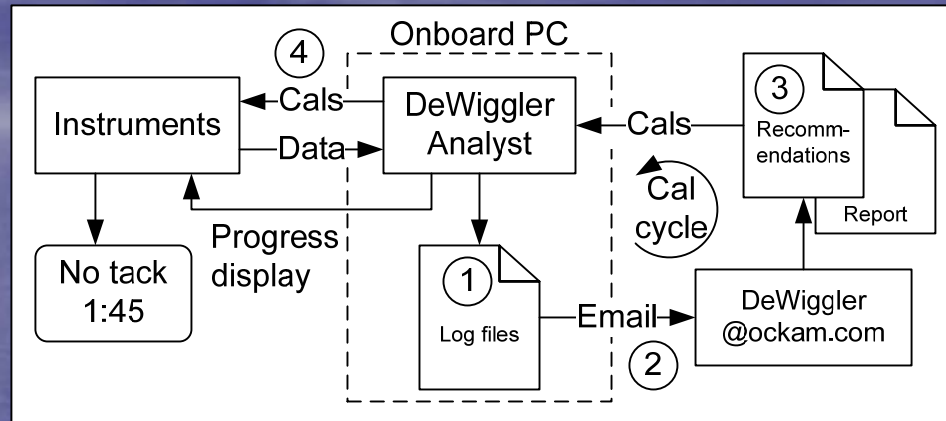
Test results
No upwind tests yet
No downwind tests yet
Press button to email test results and comments to Ockam for processing. When results are emailed back, drag them to this window and they will be applied.
No suggestions file

Drop replies here

Need results right away? Arrange for an authorized calibrator to come aboard with DeWiggler Pro.. (203) 877-7453

- Analyst is a free program you install on your onboard PC.
- After you have logged some sailing, you send the data files in for analysis.
- A report and recommended cal changes are returned and set into the instrument system.

Analyst How it works



1. Analyst records data from the instrument system.
2. Log files are sent to DeWiggler@ockam.com for analysis.
3. A report and recommendations file are returned.
4. The recommendations are dragged into Analyst where the calibration changes are applied to the instruments.

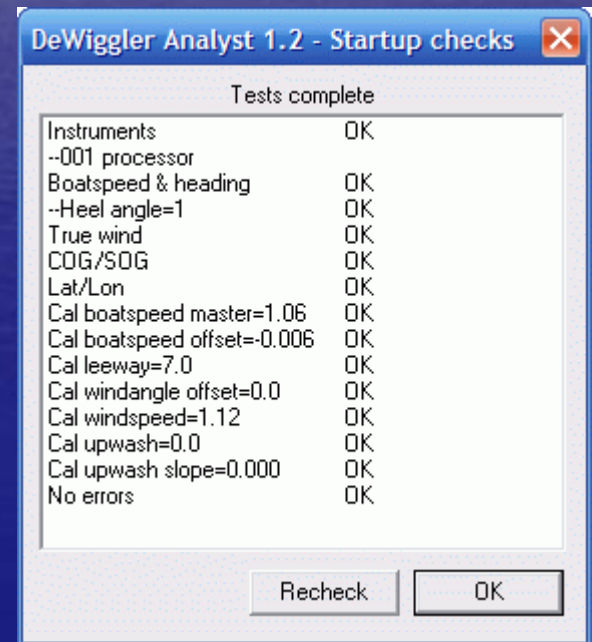
While the program is free, Ockam charges for the analysis. Your dealer can help you set up and use Analyst, perform the data transfer and apply the recommended calibrations if you desire.

Analyst installation

- Requirements:
 - Onboard PC attached to your Ockam system. The PC must be running Analyst to gather data. Check with your dealer or call Ockam if you need to modify your system to use Analyst.
 - For the speed & heading test, a GPS must be connected to the instrument system for COG/SOG and Lat/Lon.
- Download and install OckamSoft 4:
<http://www.ockam.com/os4>.
- Download and install DeWiggler Analyst:
<http://www.ockam.com/dewiggler>.

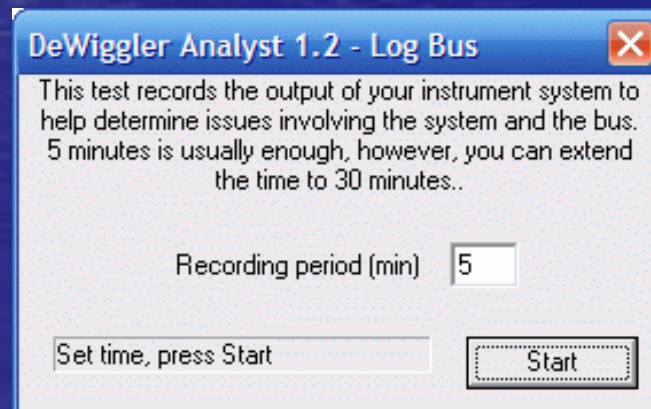
Analyst Startup

- When you run Analyst, it checks out the instrument system to determine if the necessary data is present, and if there are any anomalous readings or errors.
- If there are any items marked, you should address them before testing.



Analyst Record Bus

- This test records a few minutes of your instrument output. This will be used to troubleshoot any configuration or hardware issues with your system.
- If you experience intermittent instrument operation or strange readings, you should record some bus output to help us determine the source of the problem.

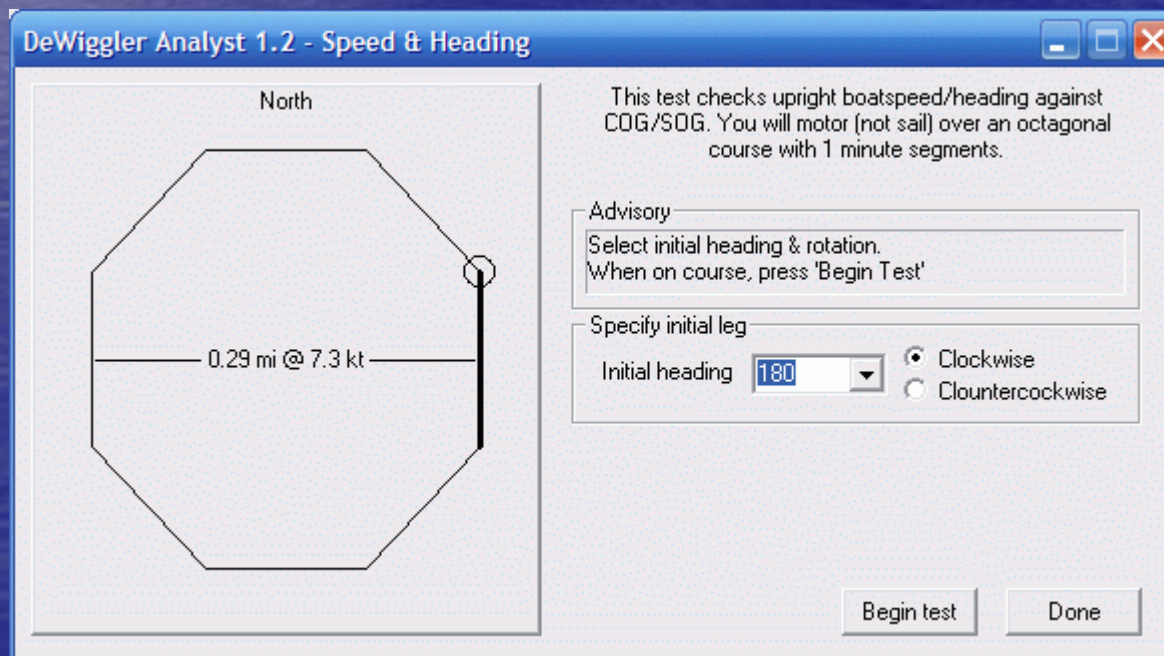


Analyst Speed & Heading Test

- This test calibrates boatspeed and heading against GPS COG/SOG.
- You motor (upright) around an octagon about $\frac{1}{4}$ mile in diameter. This method eliminates leeway and heel issues.
- Boatspeed and heading are vital for correct calculation of wind and current.

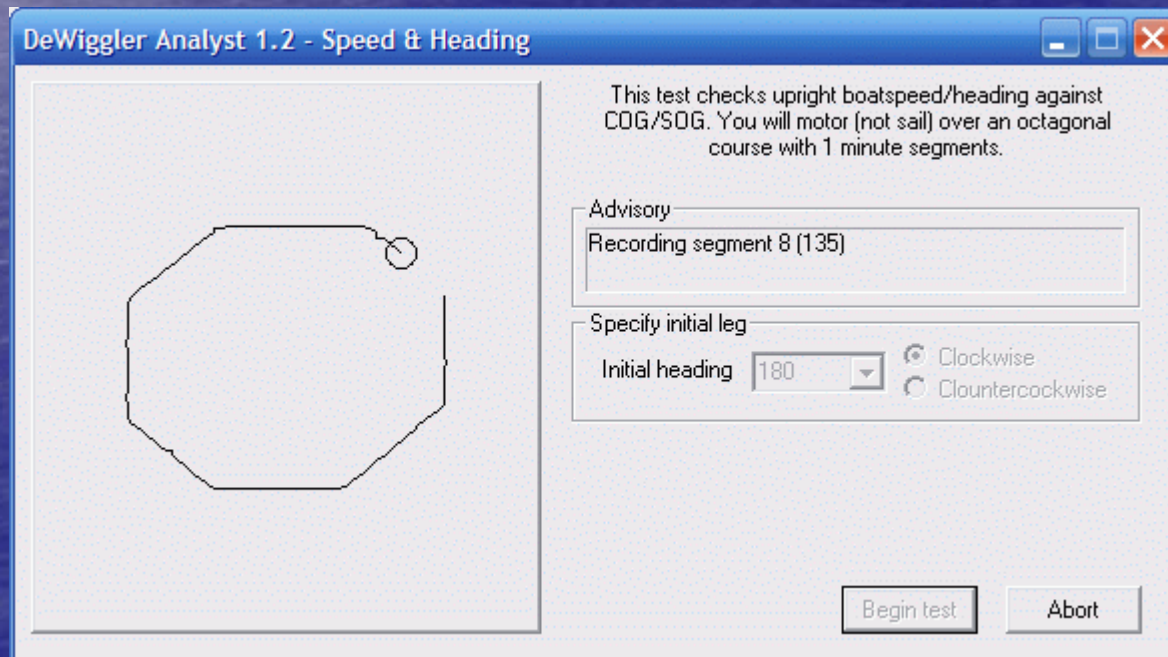
Analyst Speed & Heading Test Setup

- Choose a venue with no current. Boatspeed should be at least 5 kt.
- Pick an initial heading and rotation. Changing these items locates your starting point relative to the test area.
- Position the boat at your chosen starting point, at speed.
- When on the chosen heading and location, hit the **Begin test** button.



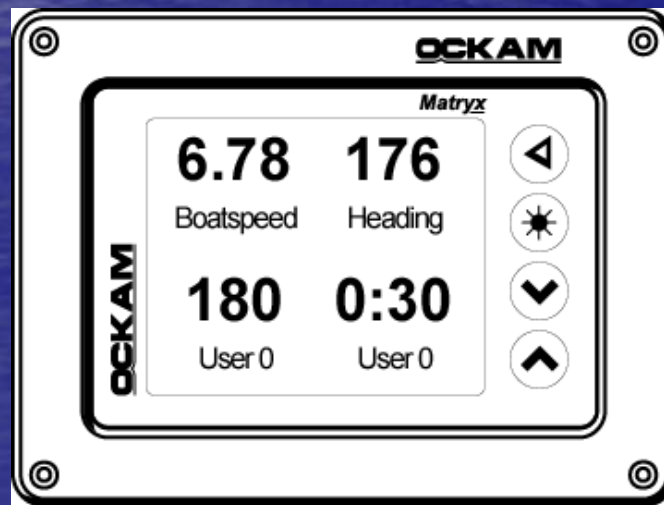
Analyst Speed & Heading Test Recording

- Maintain constant boatspeed and heading during each segment.
- As you proceed, Wiggler prompts for new headings.
- Here you see the 8th segment being recorded. Initial heading was 180° clockwise, so the last segment is 135°.



Analyst Remote Display

- Analyst outputs status information to the instrument displays, so you don't have to have somebody below to monitor test status.
- Here you see the display during the speed & heading test. The display alternates the segment heading with the elapsed time.
- When the first segment ends, the display shows "Seg:2" alternating with "->225".

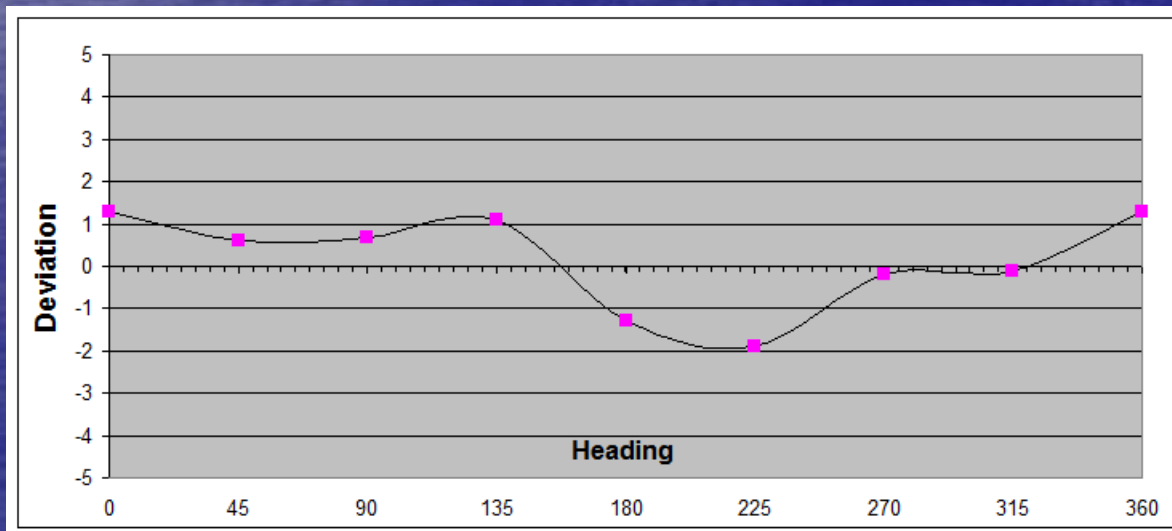


* Two User 0 items are shown here for clarity. In the actual display, 180 alternates with 0:30 on a single item.

Analyst Speed & Heading Test Results

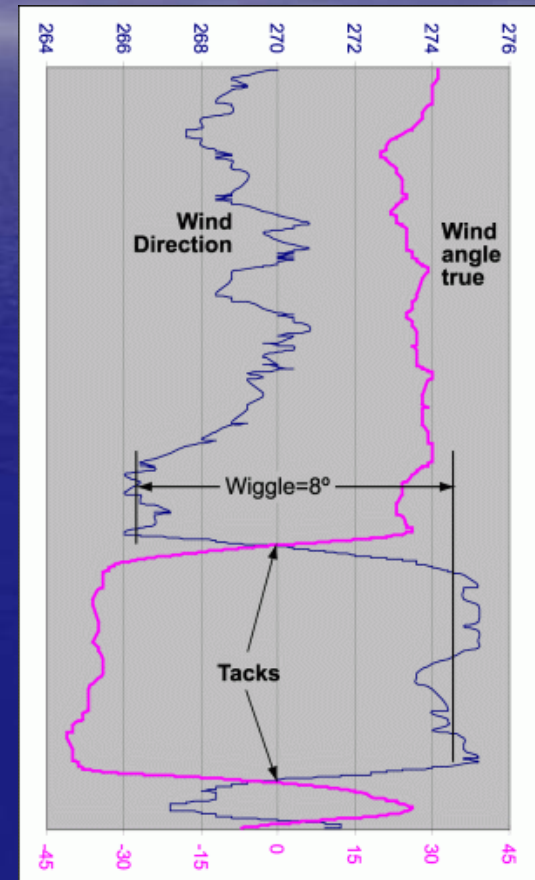
There are three items included when the results for the speed & heading test are returned.

- Boatspeed master calibration change.
- Compass lubber offset.
- Compass deviation table.



Analyst Wind Test

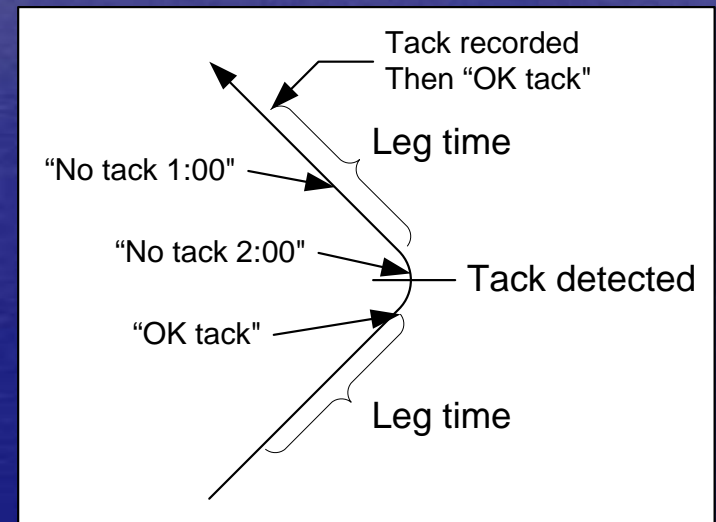
- Analyst tests for 'Wiggle' in wind direction when tacking or jibing.
- From these numbers, **Upwash**, **Upwash slope** and **Windspeed** calibration changes are deduced.
- Many tacks and jibes in a range of wind speeds need to be recorded.



Analyst Wind Test

How it works

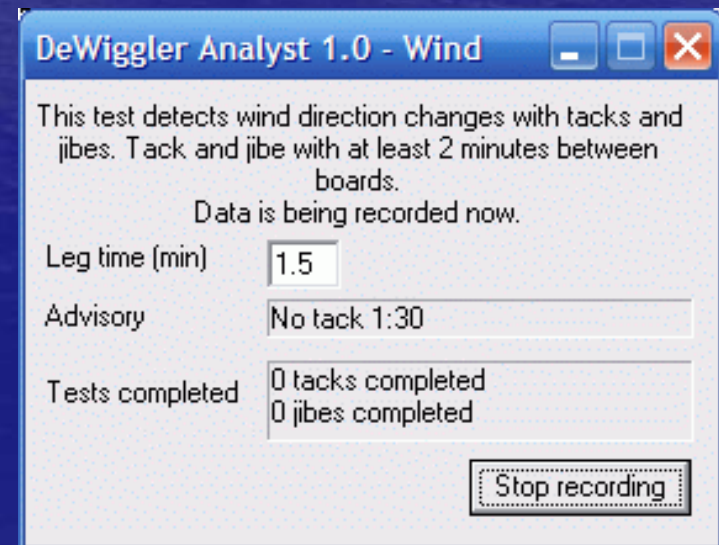
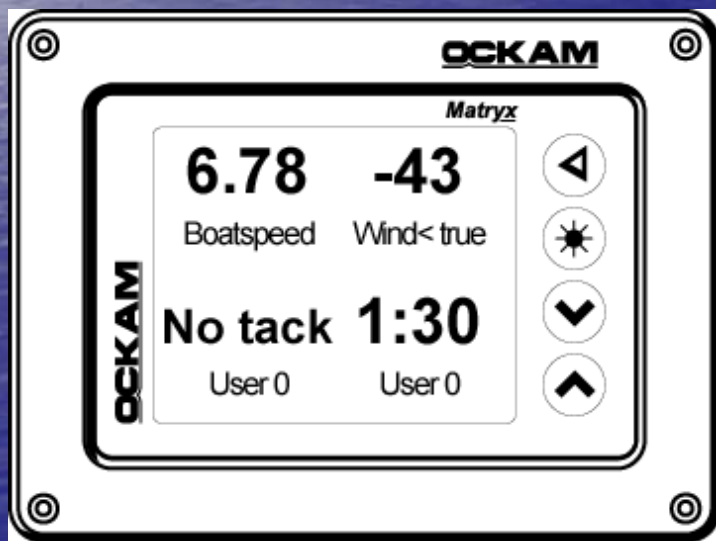
- Analyst maintains a continuous history of instrument data.
- When it detects a tack (or jibe), it summarizes the previous leg information, then sets a timer.
- After the leg time expires, the successor leg data is summarized, and the tack is recorded.
- If the previous or successor leg is too short because of tacking or whatever, the tack is not recorded.



Analyst Wind Test

How to record

- For the wind test, press the **Wind Test** button and go sailing.
- The remote display will tell you when it's recording a tack.
- No, it doesn't mean you can't tack! It means that if you do, the previous tack won't be recorded.



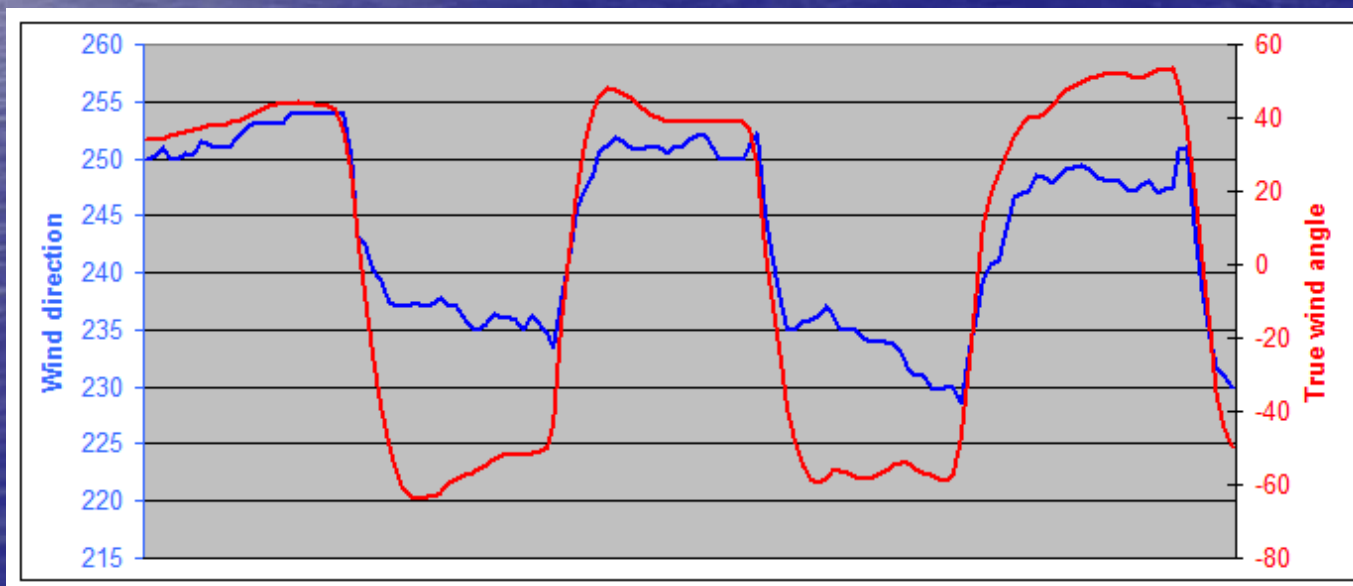
Analyst Wind Test

While recording...

- Do not tack on lifts. This will be interpreted as miscalibration.
- Do not change calibrations. Do not run other onboard software which might change them.
- Be on your game. Sub par or inconsistent sailing will be reflected in the result.
- The more tacks and jibes, the more reliable the result.
- Tack and jibe in as great a range of wind speeds as possible. Lack of wind range prevents determining Upwash Slope.

Analyst Wind Test Results

- Upwind tests result in recommendations for Cal Upwash.
- Downwind tests result in recommendations for Cal Windspeed.
- Tacks in a range of wind speeds result in recommendations for Cal Upwash Slope.



Analyst

Sending Files for Analysis

DeWiggler Analyst 1.2 - Send data files

To: dewiggler@ockam.com

From:

Subj: Wiggler log file

Attachments: DeWiggler.ini, DeWiggler2.log

Please include any special instructions or problems encountered.
Also include complete contact information.

2 attachments (1.7 Kb)

Cancel Send

- When you have enough tests for an analysis, press the **Email Tests** button.
- If you haven't already, fill in your email address. Test results will be returned to that email address.

Analyst

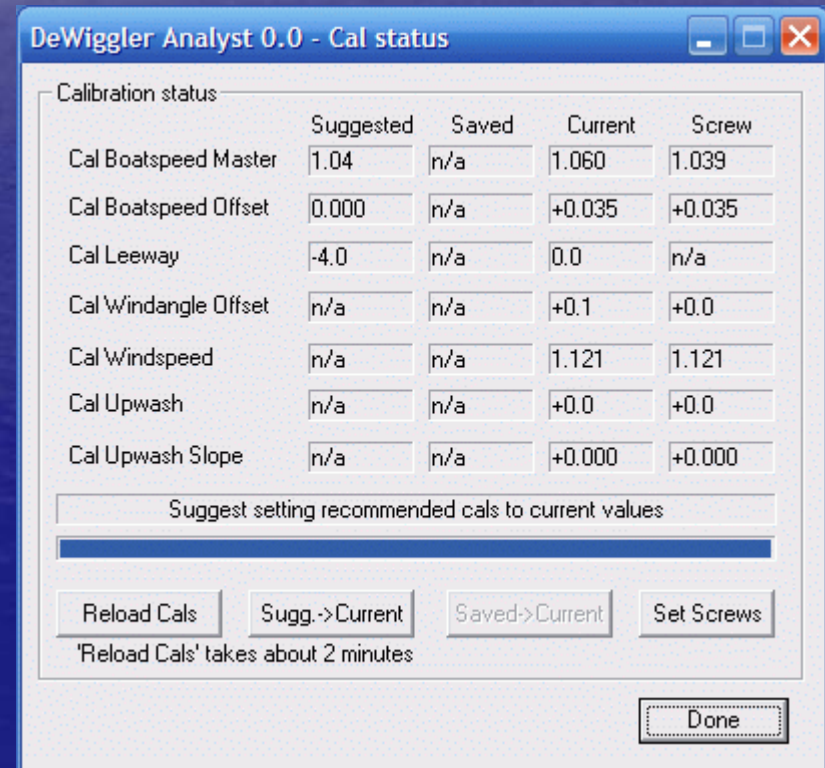
Transferring Cals

- When you receive the analysis, there will be a report with comments on the data, and a 'Recommendations.txt' file.
- You can see a sample report at <http://www.ockam.com/dewiggler>.
- Drag the files into Analyst, and they will be copied into the DeWiggler directory.
- You can read the report by pressing the **View Report** button.
- Analyst scans the recommendations file for suggested cal changes, and displays them in the View Cals dialog (**View Cals** button).

Analyst

Setting Calibrations

- The **Calibrations** dialog shows you the 7 Ockam calibrations, and their 4 possible states:
 - **Suggested** values are those from the recommendations file. If there is no recommendation, the field will be “n/a”.
 - **Saved** values are the values from the previous run of Analyst.
 - **Current** values are the values currently in effect.
 - **Screw** values are the values the screw calibrations are set to.



Analyst

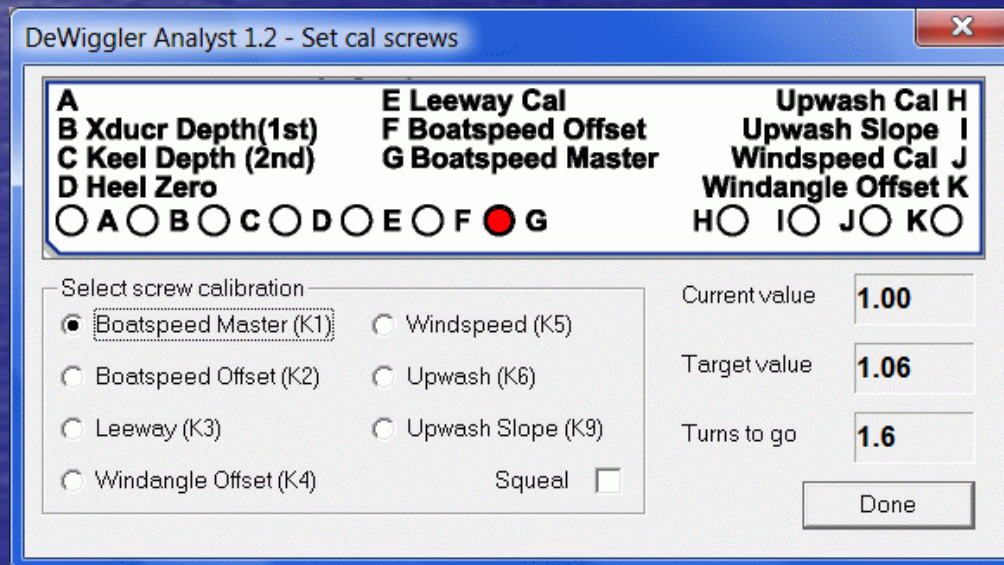
Setting Current Calibrations

- If the current calibrations do not equal the saved calibrations, and you don't know why, you might consider using the **Saved->Current** button.
- If there are suggested calibrations that you wish to use, press the **Sugg.->Current** button. The recommendations will be sent to the instrument.
- The final step is to lock in your calibrations by entering them into the screws. As long as the screws hold the correct calibrations, a master reset of the processor will return all calibrations to the correct state from wherever they have wandered off to.

Analyst

Setting Screw Calibrations

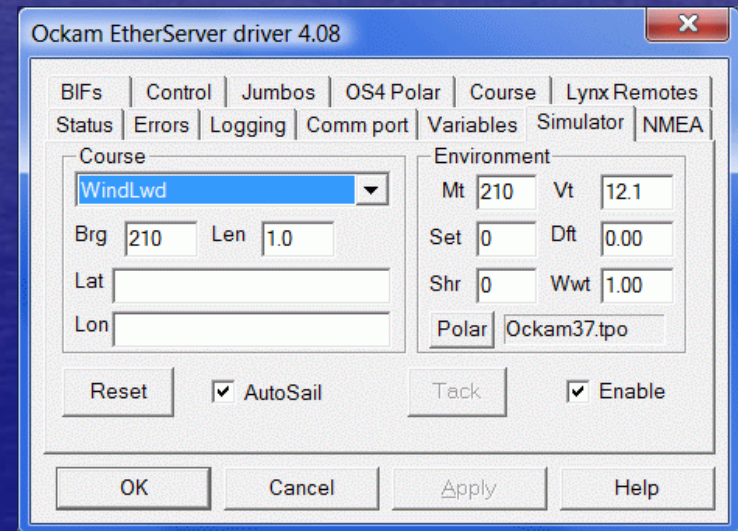
- If you want to set the screw calcs (and we highly recommend it), press the **Set Screws** button.
- When you activate this dialog and pick a calibration, Analyst sends the command to return the instrument cal to the screw setting.
 - The **Current value** is now the current screw value.
 - The **Target value** is the old Current value, the number you will be setting the screw to.



Analyst Practice

In conjunction with driver's simulator, you can practice using Analyst.

- Run the driver (Start/All Programs/OckamSoft 4/Driver).
- Open the driver by clicking the icon in the 'tray' (next to the clock).
- Go to the **Simulator tab** and **Enable** it.
- Select WindLwd course and **Reset**. This provides maximum tacking and jibing.
- The simulator continuously sails around the selected course, tacking or jibing at about 2.5 minute intervals.
- As long as you are not on a layline, you can force a **Tack**.



Analyst Links

- System manual (<http://www.ockam.com/docs/sysman.pdf>).
- Analyst manual (<http://www.ockam.com/dewiggler/DeWigglerAnalyst.pdf>).
- Calibration overview (<http://www.ockam.com/docs/caloverview.html>).
- GPS input (<http://www.ockam.com/docs/NMEAdistribution.pdf>).
- Technical hub (<http://www.ockam.com/technical.html>).
- Forensic system troubleshooting (<http://www.ockam.com/docs/TroubleshootingSystem.pdf>).
- The organizational implications of calibration (<http://www.ockam.com/docs/TheZenOfCalibration.pdf>).
- Wind shear (<http://www.ockam.com/windshear.html>).