

**NavMonPc  
User's Guide  
Supplement**

**Version 1.13 Update, November 6, 2012**

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## Contents

About This Document .....	3
Disclaimer and Warning .....	3
Changes in Version 1.13 .....	3
RapidAIS Server .....	4
Calibration .....	5
NMEA HDG Generator .....	6
Virtual Serial Ports in Win7/64 Systems .....	7
For More Information .....	7

## About This Document

This document is a supplement to NavMonPc User's Guide Version 1. It covers the changes to NavMonPc introduced in Version 1.13

## Disclaimer and Warning

NavMonPc is a work in progress, and almost certainly contains bugs, errors, and omissions. It may or may not be useful to you. I make no promises that it will not cause your computer to explode, but if it does, be assured that it was accidental and I am very sorry. However, I won't be sorry enough to pay for any damages: direct, incidental, or imaginary.

NavMonPc is the sole property of Paul M. Elliott, and is offered on a limited basis free of charge for non-commercial use.

I reserve the right to change the terms of this offer at any time.

NavMonPc is not a substitute for proper navigation and seamanship. I am not responsible for any damages caused by the use (or mis-use) of NavMonPc.

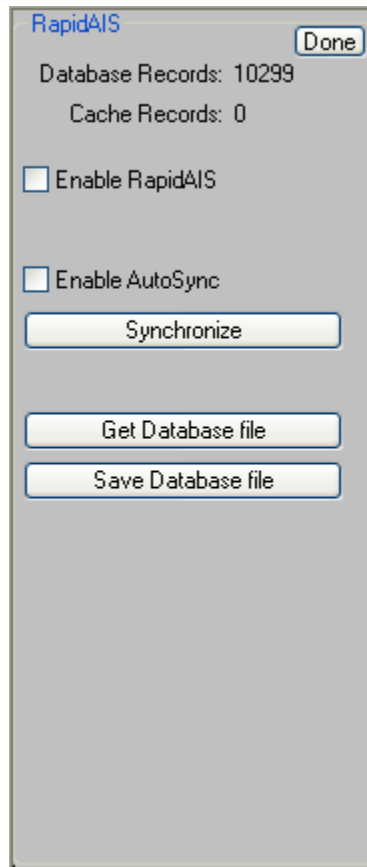
By installing and/or running NavMonPc you are agreeing to the above disclaimer and warnings.

## Changes in Version 1.13

- NavMonPc v1.13
  - RapidAIS Server is now enabled, no license required
  - Bugs in NMEA route table fixed. Now saves and restores properly with alpha or reverse-alpha sorted table.
  - TWS not always displayed properly. Fixed fault recovery in dial code.
  - Depth offset wasn't working. Fixed
  - Explicit route captured NMEA now inherits the existing default port routing (can be edited later).
  - Added calibration for Depth, Temperature, AWS, TWS, STW, HDG, AWA, TWA
  - Added NMEA HDG generator

The new features are described below.

## RapidAIS Server



RapidAIS has been part of NavMonPc for some time now, and is described in previous user's guides. In previous NavMonPc revisions, RapidAIS has been limited to internal operation only. In NavMonPc Version 1.13, the RapidAIS data is now available to external programs and equipment via the serial ports, the Virtual ports, and the TCP/IP server. RapidAIS can be enabled or disabled from the configuration window ("Options / RapidAIS"), and can be routed to any or all of the output ports via the NavMonPc NMEA Routing capability ("Options / NMEA Routing").

Normally, RapidAIS only generates output messages when a vessel is first spotted. Since external equipment and programs may have been activated at different times, the RapidAIS Server provides an **AutoSync** feature. This causes the RapidAIS output messages to be generated at regular intervals for all vessels. The **Synchronize** button causes RapidAIS messages to be immediately sent for all vessels. In most cases, the **AutoSync** feature will provide good RapidAIS performance, at only a slight increase in the output port data flow.

## Calibration

**Calibration** Done

Scale AWS  
Multiplier

Scale TWS  
Multiplier

Scale STW  
Multiplier

Scale Depth  
Multiplier   
Adjust offset with Depth dial

Scale Temperature  
Multiplier   
Offset

**HDG and Angle Calibration** Done

Compensate Hdg

000°	000	180°	180
045°	045	225°	225
090°	090	270°	270
135°	135	315°	315

Compensate AWA

000°	000	180°	180
045°	045	225°	225
090°	090	270°	270
135°	135	315°	315

Compensate TWA

000°	000	180°	180
045°	045	225°	225
090°	090	270°	270
135°	135	315°	315

There is now the ability to scale, and in some cases offset many of the data decoded by NavMonPc. Two windows contain the calibration options. The calibration factors entered here are applied to the data inputs. The corrected values are shown on the NavMonPc displays, and are used by the NMEA generators. The original NMEA sentences received by NavMonPc are not modified, and are sent out the output ports as-is.

“Options / Calibration / General Calibration” brings up the **Calibration** window. Here are the controls for Apparent Wind Speed, True Wind Speed, Speed Through the Water, Depth, and water Temperature.

AWS, TWS, STW, Depth, and Temperature each have a Multiplier (scale factor). The received value is multiplied by the Multiplier. For example, with a received AWS of 20 kts, and a Multiplier of 0.95, the displayed AWS will be 19 kts. These multipliers are “dimensionless” i.e. it makes no difference if the Depth is displayed in Feet or Meters.

Temperature also has an offset value (Depth also has an offset, but this is accessed via the Depth Dial). The offset is applied after the multiplier:  $Output = (Input * Scale) + Offset$ .

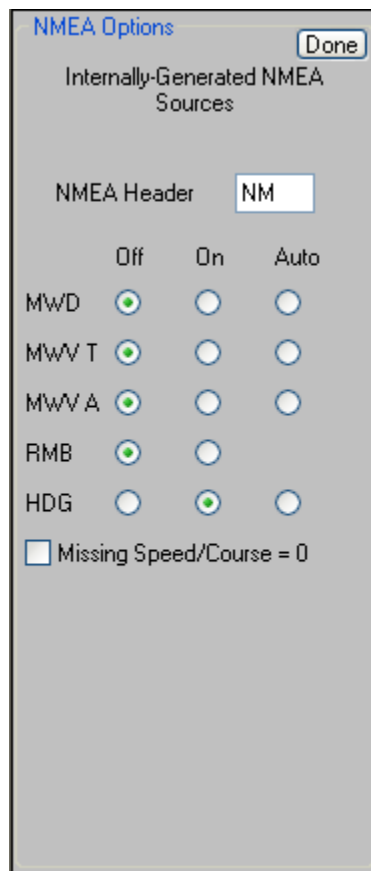
“Options / Calibration / HDG and Angle Calibration” brings up the **HDG and Angle Calibration** window. Here, Heading, Apparent Wind Angle, and True Wind Angle can be corrected. Each of these has a table

of eight correction values (000, 045, 090, 135, 180, 225, 270, 315). For example, if your compass displays a heading of 000, but the actual heading is 003, enter “003” for the first parameter (if the actual heading is 355, enter “355”). If your compass is accurate at all other headings, leave these parameters at their default values. The correction factors are applied using simple linear interpolation between these eight values.

Be aware that a non-numeric entry (including a blank entry) in the compensation parameter boxes will result in the last previously-valid entry being used. Be sure that all of the boxes contain valid numbers. The parameter box will turn yellow should an invalid value be entered.

NavMonPc may implement a more flexible compensation technique in the future, but this simple method should be adequate for most needs.

## NMEA HDG Generator



NavMonPc provides several “generated” NMEA outputs, as described in the user’s guide. This revision adds HDG, which sends the magnetic HDG as displayed on the NavMonPc dials. HDG also sends the magnetic variation as used by NavMonPc.

## Virtual Serial Ports in Win7/64 Systems

As downloaded, NavMonPc does not support Virtual Serial Ports in Windows 7 / 64-bit systems. This is due to limitations in the serial port driver code used. There is a way to work around this problem though. Here's how I did it on one of my computers:

- I started with a clean install -- no traces of NavMonPc or the Franson drivers.
- I then downloaded and installed Franson's "GpsGate Client" ([http://gpsgate.com/products/gpsgate\\_client](http://gpsgate.com/products/gpsgate_client)). This is free (and is a useful program in its own right).
- I then installed NavMonPc, and when asked if I wanted to install Franson SerialTools, I declined.

And that's it -- just that easy! NavMonPc now has working Virtual Ports on my new Win7/64 machine. GpsGate is free (for the "lite" version). The "paid" version has some additional features that may be valuable to you, but either version will install the necessary drivers on your system.

## For More Information

See the NavMonPc website: [www.NavMonPc.com](http://www.NavMonPc.com)

Email: [info@NavMonPc.com](mailto:info@NavMonPc.com)

Join the Yahoo NavMonPc discussion group: <http://tech.groups.yahoo.com/group/NavMonPc/>