

## RELEASE NOTES

### AARC51

#### Adaptive Aeromagnetic Real-Time Compensator

#### Host Firmware Release RMS11093-01-C

*These release notes contain important information about the new firmware and how it will affect the performance of instruments in which it is installed. The notes outline functional enhancements, adaptive changes and, if applicable, problem corrections.*

*Please read this documentation carefully. References to pertinent sections in the product's user's guide are shown in square brackets.*

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#### Compatibility:

*(D)AARC500 Front End – Requires firmware RMS1877-04-D or later*

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1. The Post-Flight Compensation (PFC) function now supports On-Board Electronics (OBE) compensation. The last OBE solution obtained is automatically applied when using the PFC function.  
*[User's Guide: Section 3.9.1]*
2. The PFC function will now work with the *current* solution on start-up, even before the Accumulation Matrix (AM) file has been explicitly loaded, or run-mode initiated.  
*[User's Guide: Section 3.9.1]*
3. The user interface now includes a *magnetometer status indicator* on the main screen. While the system is in *run mode*, the indicator reflects the condition of the magnetometer input signal: *green* if the signal is stable and sound, *red* otherwise. The indicator changes in real-time as the signal quality changes. This provides useful feedback to operators while testing or during flight (e.g., magnetometer warming up and not yet locked-in, or signal loss during some maneuver/turn).  
The magnetometer status is also reflected in the *event tags* field in all recorded data.  
*[User's Guide: Sections 3.3.1 and 2.4.1.2]*
4. The system now provides a simple mechanism to return all operating parameters to Factory defaults.  
*[User's Guide: Section K.2]*

5. A warning will be issued, at a user-define threshold level, for missed TCP/IP data blocks. This is useful to alert operators to, for example, a fault in a spectrometer connected to the system through the Ethernet interface. It should be used in conjunction with real-time numerical and graphical monitoring of various data fields in the spectrometer data packets.

*[User's Guide: Section 3.4.6]*

6. In earlier firmware releases, altitude-controlled calibrations (ACCs) required a voltage signal to control the start and end of calibrations at operator pre-defined altitudes. The control signal was expected to originate from an altimeter with output voltage increasing with altitude (i.e., 'normal' sense/polarity).

The new firmware supports two additional modes of operation for ACCs – (a) Control by a voltage signal interpreted with 'reversed' sense/polarity. This allows the use of simple barometric sensors that generate an output voltage which decreases with altitude. (b) Control by the GPS altitude encoded in data packets received from an external GPS receiver.

*[User's Guide: Section 3.5.3]*

7. If applied to very short data files, the PFC function could yield slightly inconsistent statistics if run mode had been active prior to running the PFC function. Initial conditions are now established from the initial records in the data file, thus always yielding consistent results.

8. The time-axis scaling is now displayed on the real-time graphic screen.

*[User's Guide: Section 3.4.5]*