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RELEASE NOTES

DAARC500 (Gen-2)

DAS & Adaptive Aeromagnetic Real-Time Compensator

Host Firmware Release RMS11030-03-G

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.

Compatibility:

(D)AARC500 Front End –	*Requires firmware RMS1877-04-E or later*
DAARC500 Support Software –	*Requires v. Apr/2020 or later*

1. Support of streaming Ethernet (TCP/IP) output of magnetics data (including, if applicable, GPS and Front-End analog data). Data blocks are transmitted embedded within TCP/IP packets. The DAARC500 acts as a *server* over the TCP/IP connection. ASCII-text and binary output formats are supported – see also point #2.

   [User's Guide: Section 3.4.3]

2. Support of a fixed-length binary output format for magnetics data. This complements the well-established ASCII-text and variable-length (BiSync-like) output formats.

   [User's Guide: Section 2.4.3]

3. Output of a broad calibration-quality measure.

   A measure of the overall quality of a calibration flight (GOOD, FAIR or POOR) is reported immediately after the summary of solution statistics, and is also encoded in the background color of the Accumulation Matrix indicator (top-right corner of the main screen: GREEN, YELLOW or ORANGE).

   This broad performance quality designation allows operators to quickly assess results. The measure is calculated based on user-defined thresholds for the targeted residual errors.

   [User's Guide: Section 3.5.1.3]

4. Added a configuration parameter that allows the system to (unconditionally) always clear initial conditions for the recursive algorithms. When this option is enabled, operators eliminate the risk of inheriting any potential negative effects from preceding calibrations.

   With this option disabled (the Factory default setting), the system continues to operate as it always has: if necessary, initial conditions must be explicitly re-initialized. This maintains the inherent benefits of "continuous learning" of the recursive approach, whereby a new calibration starts-off from the final state of the preceding one.

   [User's Guide: Section 3.5.1.3]

5. Minor adjustments, protective measures:

   a. When redundant recording is enabled, on power-up allow ample time for both the *primary* and *secondary* recording devices to be ready.

   b. Added protection against ill-specified user-defined gradients.

   c. Factory initialization of serial parameters file to reasonable values.

   d. Miscellaneous preventive measures associated with X-Y plotting function.