▉▉▉▉ RMS INSTRUMENTS
For Geophysical Exploration

RELEASE NOTES

DAARC500 (Gen-2)

DAS & Adaptive Aeromagnetic Real-Time Compensator

Host Firmware Release RMS11030-04-B

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 Firmware:	≥ RMS1877-05-A, with HW Rev. ≥ 2.10
	≥ RMS1877-04-E, with HW Rev. < 2.10 (excepting Item #9)
(D)AARC5XX Support Software:	≥ Apr/2021

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1. The system now supports two independent logical connections for acquisition and recording of streaming data in the form of TCP/IP packets over the Ethernet interface. Data for the secondary connection are recorded in a separate file ('t2'), analogous to that used for the primary connection ('t').

    [User's Guide: Sections 3.4.9, 4.4.3]

2. Support of a dual-buffered recording mode for TCP/IP connections. This mode is suitable when interfacing to devices that transmit fixed-length data packets at regular time intervals, but with either (a) significant jitter in timing, or (b) packet-concatenation to increase efficiency.

    [User's Guide: Section 3.4.9.2]

3. Support Altitude-Controlled Calibrations (ACCs). This provides a means to conduct full calibrations, without any operator intervention, under control of GPS altitude or an analog signal from an altimeter or barometric pressure sensor.

    This functionality is implemented as an alternative to Auto-Adaptive Mode for full, unmanned calibrations. While essentially accomplishing the same results, ACCs have the advantage of maintaining the same data flow and data structures of manually-controlled calibrations.

    [User's Guide: Sections 3.4.1, 3.5.3]

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4. In the (unlikely) event of conflicting file names when initiating a run mode, the system will prompt the user to choose between (a) overwriting the existing 'd' file (and any 'a', 's', and 't' files associated with it); and (b) leaving the existing files intact, and creating new files with the suffix 'A' at the end of their names.

    [User's Guide: Section 3.4.2]

5. Addition of system variables for monitoring, in graphical and/or numerical form, the recording of data to the various output files (d, a, s, t, t2).

    [User's Guide: Section 3.4.2, Table 3.3]

6. Addition of LED-like indicators on the main screen to indicate active recording on each of the output data files: 'd' (magnetics + GPS + FE-Analog), 'a' (analog), 's' (serial), 't' (Ethernet, primary connection), and 't2' (Ethernet, secondary connection).

    [User's Guide: Sections 3.3.1, 3.4.2]

7. In the user interface dialog for setup of the *magnetics data output and remote control ports*, automatically calculate and display the bandwidth requirement for data transmission via the serial output port. This simplifies setup, as the requirement is a function of a large number of variables (number of mag channels and gradients, sampling/output rate, output data format, baud rate, inclusion/exclusion of GPS data, etc.).

    [User's Guide: Section 3.4.3]

8. Improved feedback to the user when setting up critical Front End parameters relevant to processing power requirements.

    [User's Guide: Section 3.4.1.1]

9. Support embedded barometric pressure and temperature sensors (with HW Rev. ≥ 2.10).

    Allow designation of FE analog channels AN02 and AN03 as either 'general purpose', or dedicated to 'embedded sensors'. Scale signals in engineering units (numerical and graphical output). Enabling is conditional on HW revision and FE-analog option status.

    [User's Guide: Section 3.4.1.1i]

10. Cosmetic/functional improvements to the user interface dialog for setup of the numerical display.

    [User's Guide: Section 3.3.2]