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RELEASE NOTES

DAARC500 (Gen-2)

DAS & Adaptive Aeromagnetic Real-Time Compensator

Host Firmware Release RMS11030-03-E

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/2018 or later

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1. Support of *auto-adaptive mode*. In this mode the system automatically engages and disengages adaptive compensation at user-defined altitudes. This permits "continuous" optimization of a calibration solution, without operator intervention.

    Either a voltage signal (from an altimeter or barometric pressure sensor), or GPS altitude may be used as a control signal.

    The "conventional" adaptive compensation in *manual* mode remains available (i.e., controlled explicitly by the operator).

    [User's Guide: Section 3.5.2.1]

2. Support of *sweep mode* for frequency-domain analysis functions. Sequentially processes and displays sliding windows of data (PSD, coherence), from start to end of a file. Very useful, for example, in troubleshooting installations when trying to identify short bursts of interference that may occur only occasionally.

    [User's Guide: Section 3.10.3]

3. Support of a new (optional) operating mode that automatically checks on start-up the integrity of the file system on '/flash-qnx'. Any problems found are corrected transparently to the user. This mode is enabled/disabled through a pair of commands that may be issued from the terminal interface: AutoCheckOn, and AutoCheckOff.

This feature increases reliability by ensuring the integrity of the file system, without operator intervention, even in the event of power loss while recording. It can also be beneficial for installations in which it is not practical to go through the recommended shutdown procedure, and power to the system is shut off from a main switch (for example, in the power distribution unit).

[User's Guide: Appendix N]

4. New command ('Qq') for the remote control interface: triggers an orderly and safe shutdown of the system. Case sensitive. Accepted regardless of whether the system is idle or in run-mode. Functionally, equivalent to new keyboard hot-key 'CTL+ALT+Q' (point #6).

[User's Guide: Section 3.8.2]

5. New pair of commands ('7' and '8') for the remote control interface: start calibration and compensated run modes, respectively, <u>with</u> file-name checking taking place. This is the same functionality previously offered by commands '1' and '2'.

Commands '1' and '2' remain in place, but now <u>without</u> file-name checking.

[User's Guide: Section 3.8.2]

6. New keyboard hot-key, 'CTL+ALT+Q'. Triggers an orderly and safe shutdown of the system. Accepted regardless of whether the system is idle or in run-mode. Functionally, equivalent to new command 'Qq' for the remote control port (point #4).

[User's Guide: Section 3.8.3]

7. Miscellaneous enhancements to increase safety when working through the terminal interface:

   (a) Command 'rm' (to remove or delete files) now inherently works in a mode that always prompts for confirmation. An alias of 'rm' has also been introduced: 'delete'.

   [User's Guide: Section 4.4.5]

   (b) The new command 'CleanUpUSB' can be used to safely remove any remnant file resulting from a "bad" copy to a USB Flash disk. Such remnant files prevent the system from subsequently identifying any USB Flash disk device plugged into the system.

   [User's Guide: Appendix A]

   (c) The new command 'fcheck' is a short form of the command 'chkfsys –u –r /flash-qnx/'. It provides an easy way to check/repair the file system in embedded Flash.

   [User's Guide: Section 4.4.5.3]

8. Improved mechanism for identification of recording devices attached to the system, to allow proper recognition and mounting of certain high-capacity HDDs that may take 10's of seconds to start up.

9. Minor/cosmetic: The default value of the *gradient-gain* parameter for adaptive mode has changed from 120 to 1. The initial label 'Count' (in red) on the main window has changed to '0' (in black). Potential redundant replication of messages in the text section of the main user interface window is now avoided.