RMS INSTRUMENTS
Data Recording Systems

RELEASE NOTES

DAARC500 DAS & Adaptive Aeromagnetic Real-Time Compensator

Host Firmware Release RMS1936-02-D

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 include information about enhancements, adaptive changes, and corrections to known problems. Please read this documentation carefully.

Compatibility:

(D)AARC500 Front End –   Requires firmware RMS1877-02-E or later

1.   The firmware now includes a new, general-purpose X-Y plotting facility, that allows to continuously monitor data blocks transmitted to the DAARC500 from external devices. The values of contiguous data points are plotted along the vertical axis, against the index on the horizontal axis.

The data to be plotted may be contained within "blocks" (or packets) received through any of the serial ports, or through the Ethernet port.

The function (available when the system is not operating in *run mode*) is ideal, for example, to monitor the spectrum from a gamma-ray spectrometer in graphical form.

2.   The firmware now supports the *GPS receiver option*.

The option is available in an internal form (in which the GPS receiver itself is embedded within the DAARC500 chassis), and in an external form (in which an external receiver is connected to dedicated I/O ports in the DAARC500).

GPS data (time, latitude, longitude and altitude) are directly appended at the end of recorded and transmitted magnetics data. GPS data rates up to 10 Hz are supported.

This option greatly simplifies the process of time-aligning and merging all data.

The embedded GPS receiver can be selected from variety of options, within Novatel's OEMV-1 and OEMV-2 families.

GPS variables can be monitored on the screen in real-time, both graphically and numerically.

Note: The GPS receiver option is available as a retrofit for older DAARC500 units.

3.	Enhancements to transmission of data packets via serial channels. Two blocks of *miscellaneous* characters are now supported (up to 32 bytes each), one towards the beginning of the packet, and one towards the end.

	Four serial blocks, in any combination of the 8 channels supported, can be transmitted in the same packet. In the past, only a single block was supported.

	Analog data can now also be optionally included in data packets for transmission.

	Data packets for transmission on any of the 8 serial channels can now be up to 191 bytes long (instead of 64 bytes).

4.	The user can now easily scroll through the different *graph configuration files* by simply clicking on a button ("up" or "down") on the real-time graphic display window. In many cases this may be preferable to the alternative, which is to explicitly select the graph configuration file from *options → graph configuration*.

5.	A copy of the `monasc.txt` log file for every session is now saved together with data files. In the past, the file was stored only in RAM and had to be copied before the system was shut down at the end of a flight.

6.	Two new sets of signals have been added to those available for real-time monitoring: fourth-difference of compensated TFs, and first-difference of compensated TFs.

7.	Analog inputs can now be monitored in real-time, not only graphically, but also numerically.

8.	The *event inputs* trigger mode is now user-selectable: falling edge (default), or rising edge.

9.	A USB Flash disk is now automatically detected and mounted. There is no longer need to explicitly request the mounting of the device.

10.	The system now incorporates support for touchscreen displays using Egalax controllers (e.g., those made by Lilliput Electronics).