RMS INSTRUMENTS
Data Recording Systems

6877-1 Goreway Drive
Mississauga, Ontario
Canada, L4V-1L9

Tel: (905) 677-5533
Fax: (905) 677-5030
e-mail: rms@rmsinst.com
http://www.rmsinst.com

RELEASE NOTES

AARC500 Adaptive Aeromagnetic Real-Time Compensator

DAARC500 DAS & Adaptive Aeromagnetic Real-Time Compensator

Front End Firmware Releases RMS1877-03-E, 03-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:

AARC500 – requires Host firmware RMS1878-02-F or later
DAARC500 – requires Host firmware RMS1936-02-F or later
AARC510 – requires Host firmware RMS1999-01-C or later

RMS1877-03-E:

1. GPS data now includes the *GPS quality indicator*, per NMEA standard GGA sentences. It is embedded in the same 4-byte word originally used to encode only the *altitude*. With this, the size of Front End data packets remains unchanged.

RMS1877-03-D:

[This release of the firmware was *internal* only, not distributed to end users.]

2. When error '30' occurs (no PPS detected when operating with *External-PPS* triggering mode), it is now reflected not only in the Event-3 field (as other error conditions are), but also in the Event-0 field in the *event tags*. The Event-0 field is set to '1' for every subsequent data packet.

   This achieves two things: (a) prevents data recording by the Host from "locking up" while awaiting a pulse at the Event 0 input; and (b) further emphasizes to data processors the error condition, and the consequent asynchronous nature of the recorded data.

3. *Silent warnings* are not reflected in the Event-3 field of Front End data packets. This leads to consistent behaviour between the Error LED on the unit's front panel, and the error indicator on the main screen of the user interface.

4. The timing of pulses SYNC0/1 (Pulse Output 0/1, at J30), has been changed to be concurrent (within $1/F_s$) with the pulse from the PPS signal (when operating in External-PPS triggering mode). In the past, SYNC0/1 had a 100-msec lead.