RDA 8.07.3 Release Notes (22 Nov 2004)

These release notes cover changes made to the SIGMET Radar Data Acquisition platform, including primarily the RVP8 and RCP8 products. The last public release was RDA-8.07.1 dated 17 November 2004. If you are upgrading from an earlier version please also read the release notes that have been published since then.

New Features

1. The shaft encoder A/B/Index inputs are now filtered by the IO62 card to remove any impulsive noise (pulses less than 180μsec in duration) that may be present.

2. While running the Shaft encoder automatic calibration routine the RCP8 will now display "LockCal" on the front panel status display. Also, we added a special signal when the encoder calibrates. This means it no longer reports an apparent antenna position error.

3. The RCP8 elevation shutdown limits are disabled whenever the elevation encoders are uncalibrated.

4. On power up, the initial antenna position was causing a warning message to signal starting in 8.06.14. This signal is now suppressed. The signal was causing the RVP8 to flag that it has failed power up diagnostics.

RDA 8.07.1 Release Notes (17 Nov 2004)

These release notes cover changes made to the SIGMET Radar Data Acquisition platform, including primarily the RVP8 and RCP8 products. The last public release was RDA-8.07 dated 5 November 2004. If you are upgrading from an earlier version please also read the release notes that have been published since then.

The primary reason for this release was to add enhanced support in the RCP8 for antenna pedestals which used shaft encoders (such as used by some old Ericsson radars). The most significant interesting feature of these encoders is that they supply only a series of motion pulses plus index pulse(s). The index pulses are needed to determine absolute position. This means that the position is not known on power up until the antenna is scanned part way around. This is know as "calibrating the encoder".

Data Format Changes

1. The antenna serial data formats from the RCP to IRIS were enhanced to supply additional bits indicating whether the shaft encoder has been calibrated yet or not. We have used spare bits in formats RCV01, RCV02, RCV03, and RCV05 for this purpose.

New Features

1. There is a new setup question added to the end of the "site custom" section:

   ### Enable Shaft Encoder Simulator: YES

   The RCP8 can simulate the shaft encoder signals at 400 Hz. This will only work at relatively slow antenna speeds. It produces outputs using the auxiliary control lines. Please see section 4.4.3 of the *RCP8 User's manual* for more details. The configuration is taken from the "ax az" and "ax el" setups. Output lines are as follows:

   ```
   Limit Hi  C70
   Limit Lo  C71
   Az A:     C72
   Az B:     C73
   Az Index: C74
   Az Prox:  C75
   El A:     C76
   El B:     C77
   El Index: C78
   El Prox:  C79
   ```

2. There is another new setup question added to the end of the "site custom" section:

   ### Automatically Calibrate Shaft Encoder: YES

   The RCP8 bmon thread now includes support for performing an automatic shaft encoder calibration. This will run whenever either encoder is determined to be uncalibrated, and the last calibration attempt on that encoder did not fail. Resetting from shutdown will clear the

last failed state, and setting the *lShaftForceCal* logic control variable will force a new calibration. While running it will block normal control of the antenna, similar to the TTY monitor mode. See section 4.4.3 of the *RCP8 User's Manual* for more details.

3. The **antenna** utility is enhanced to display a red background behind the antenna positions to indicate that they are not calibrated. Note that these, and other fields, are also set red if the RCP has stopped communication.

RDA 8.07 Release Notes (5 Nov 2004)

These release notes cover changes made to the SIGMET Radar Data Acquisition platform, including primarily the RVP8 and RCP8 products. The last public release was RDA-8.06.14 dated 29 October 2004. If you are upgrading from an earlier version please also read the release notes that have been published since then.

Important Upgrade Notes

1. The RDA Installation instructions are now moved to the *Installation Manual* from the *RVP8* and *RCP8 User's Manuals*. This has been added to the **manuals** utility for rda systems. If this does not work after upgrading, check your /usr/sigmet/config/profile file against the template to make sure the environment variable is defined correctly.

New Features

1. An additional option has been added to the RVP8's SNOISE opcode to allow reloading of the powerup default noise levels, w/DSP driver entry point: DspSetDefaultNoise().

Bug Repairs

1. The Rev.A and Rev.B RVP8/Rx cards were occasionally failing two of their powerup diagnostics. This bug was introduced in RDA-8.06.12. Also, the Rev.C card would sometimes misreport its serial number while running diagnostics.
2. Analog input voltages read from the IO62CP backpanel would sometimes be returned with a (normalized) value of –1.0 on busy systems that were experiencing long interrupt latencies.
3. A Dual-Pol Dual-IFD noise sampling problem has been repaired that was introduced approximately in RDA–8.06.9.