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To: VLBA Data Acquisition Group
From: Alan E.E. Rogers
Subject: Baseband Converter MCB Protocol Errata

The present version of the baseband converter radiometry firmware (July 1986) is implemented according to the MCB description of VLBA Acquisition Memo #65. The following corrections should, however, be noted:

1] Gain control increment/decrement

The increment/decrement step size is 1 bit (not 0.1 dB) which is 0.07 dB at the nominal gain control level of 80H. In addition, the firmware will not increase the gain above FFH or below 00H i.e., it doesn't wrap around.

2] Auto-level reference increment/decrement

The increment/decrement step size is 0.0673 dB (not 0.1 dB)

3] Maximum averaging period

The maximum averaging period is 409.6 seconds (8000H 80 Hz periods). If this time is reached before a radiometry average request, the 8751 will put out results to the MCB registers (without waiting for a handshake) and start another averaging cycle.

Firmware timing:

- a) Time to auto-level ~ 1.2 ms
- b) Time to normalize outputs ~2.5 ms