

Errata: CS5531/32/33/34 – AS Rev. D

(Reference CS5531-AS, CS5532-AS, CS5533-AS and CS5534-AS Rev D silicon.)

1. Uncalibrated Gain Error:

Details: There is a systematic initial gain error of 8% on all devices. When the part is operated without calibration, the digital readings from the device are 8% lower than the expected value. Mathematically, this means that the actual full-scale input value is at 1.08 times the expected full-scale input value. For example, if the converter is set up for a full-scale value of 1.25 V with the gain register set to 1.0 (which is the default un-calibrated value after a reset), the part will not produce a full-scale code until the input voltage reaches 1.35 V.

Workaround: In a system that calibrates for gain, no workaround is needed. The gain calibration will correct for the initial gain error.

In a system which does not calibrate for gain, but relies on the uncalibrated gain accuracy of the device ($\pm 1\%$ typically), the gain register can be adjusted by a factor of 1.08 to compensate for the initial 8% error. In the gain register, the decimal value of 1.08 is equal to a hexadecimal value of 0x01147AE1.

If there are any questions concerning this information, please contact any of the Data Acquisition support team members or send email directly to atacq@crystal.com. Also, please visit our web site at <http://www.crystal.cirrus.com> or call our literature department at 1 (800) 888-5016, ext. 3594 or 1 (512) 912-3594 for data sheets and application notes.
