US005422807A

United States Patent [19]

Mitra et al.

[11] Patent Number: 5,422,807

[45] Date of Patent: Jun. 6, 1995

[54] **MICROCONTROLLER WITH IMPROVED A/D CONVERSION**

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[21] Appl. No.: **938,907**

[22] Filed: **Aug. 31, 1992**

[51] **Int. Cl.**[6] **G05B 9/02**

[52] **U.S. Cl.** **364/184;** 341/142; 327/544

[58] **Field of Search** ..... 364/184, 492; 341/118, 341/94, 126, 136, 165, 142, 144; 330/255; 128/680; 307/296.3, 465, 469, 296.3, 296 R, 443, 520; 363/17

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[57] **ABSTRACT**

A semiconductor microcontroller includes the capability to perform analog to digital conversions of an analog signal representative of a variable parameter indicative of the need to exercise a control function. While the analog to digital conversions are being performed, the microcontroller processor can be powered down to eliminate noise arising from switching activities of the processor as a source of inaccuracy in the conversion process. At the end of the conversion, the analog to digital converter can either shut itself down or wake up the processor. The powering down is achieved by simply disabling the clock input to the microcontroller so that the processor is still activated but incapable of undergoing switching functions.

17 Claims, 4 Drawing Sheets

