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Application Notes

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### Regain Location Information by Leveraging the 1-Wire Chain Function—A Simple Signaling and Protocol Method Determines Device Physical Location

Abstract: As technology has evolved towards lower-cost serial bus systems using protocol-based addressing, the knowledge of the physical location of a component has been lost. This can be a problem if the serial bus is used for instrumentation or control purposes, e.g., to measure temperature at multiple locations. This app note details how to regain location information with lower-cost serial bus systems, such as 1-Wire, through the new built-in chain function of the DS28EA00.

More: <http://www.maxim-ic.com/an4037>

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### Implementing a Software UART on the MAXQ3210

Abstract: An asynchronous UART (serial port) is common on many microcontrollers, and provides a simple way for two devices to communicate without having to match system clock rates. This application note describes how to implement a 10-bit asynchronous UART in software on the MAXQ3210 microcontroller using two standard port pins. This simple modification allows the serial port to communicate over RS-232 and RS-485 networks, or to connect to a PC COM port.

More: <http://www.maxim-ic.com/an4041>

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### Three is a Crowd for Instrumentation Amplifiers

Abstract: Three-op-amp instrumentation amplifiers have long been the industry standard for precision applications that require

high gains and/or high CMRR. However, these amplifiers have serious limitations when operating from the single-supply voltage rails required in many modern applications. This article explains the limitations of the conventional three-op-amp architecture for instrumentation amplifiers, and introduces Maxim's patented indirect current-feedback architecture† that offers specific advantages for single-supply operation of instrumentation amplifiers. Detailed analysis is supported by laboratory waveforms.

†U.S. patent #6,559,720

More: <http://www.maxim-ic.com/an4034>

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### How to Increase the Operating Speed on the MAX4007

Abstract: The MAX4007 is a precision, high-side, high-voltage current monitor specifically designed for monitoring photodiode current in fiber applications. This application note describes a simple way to increase the MAX4007's response time for GPON Burst-Mode® operation.

More: <http://www.maxim-ic.com/an4057>

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Maxim Integrated Products  
120 San Gabriel Dr, Sunnyvale, CA 94086