INTRODUCTION
This application note provides the information necessary to determine whether or not the DS1302 is a “drop in” replacement for the DS1202 in existing applications.

REPLACEMENT ISSUES
The DS1302 may provide a replacement for the DS1202 without requiring hardware or software modification of the existing DS1202 application with a couple of exceptions to note.

SOFTWARE 3-WIRE READ CYCLE
Data on the I/O pin must be read after the falling edge of SCLK and before the rising edge of SCLK.

**DS1202 3-Wire Read Cycle Implementation**
Data is output on the falling edge of SCLK and remains valid until the next falling edge of SCLK.

**DS1302 3-Wire Read Cycle Implementation**
Data is output on the falling edge of SCLK and is high impedance on the rising edge of SCLK.

**Potential Software Concern**
If the software in the current DS1202 application reads the I/O line after the falling edge of SCLK, both the DS1202 and DS1302 will provide expected results.
If the software reads the I/O line after the rising edge of SCLK the DS1202 will return expected data but the DS1302 will provide inconsistent data.

**Software Conclusion**
Ensure the data on the I/O pin is read after the falling edge of SCLK and before the rising edge of SCLK.

HARDWARE PIN 1
This pin must be unconnected in current DS1202 applications.

**DS1202 Pin 1**
No connection.

**DS1302 Pin 1**
Vcc2 input. The primary supply in a dual power supply configuration. Internal pull-down resistor provided for proper operation if the pin is left unconnected.

**Potential Hardware Concern**
If pin 1 in the current DS1202 application is not connected, both the DS1202 and DS1302 will provide expected results.
If pin 1 in the current DS1202 application is connected for some reason and the connection provides a voltage level greater than the voltage present on Vcc1 (pin 8), the DS1302 will be powered by this connection therefore drawing unexpected current from the application.

**Hardware Conclusion**
Ensure that pin 1 is not connected in the current DS1202 application.