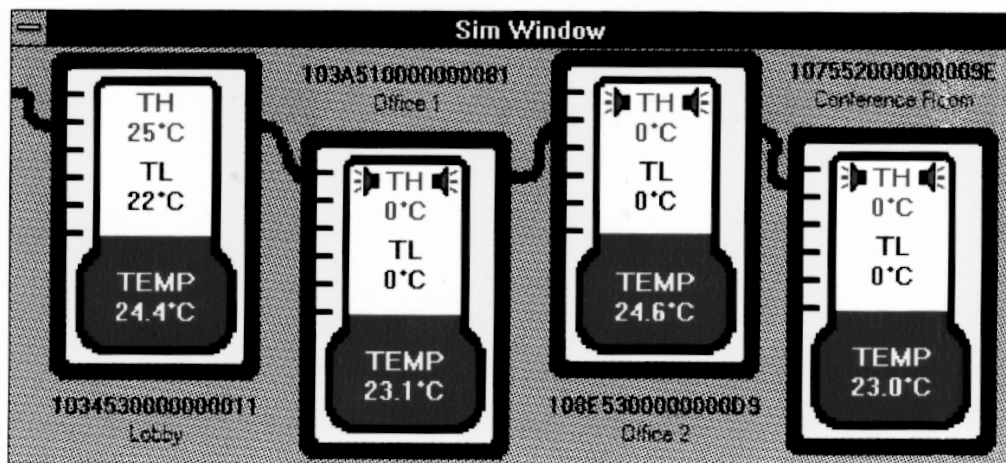# DALLAS
SEMICONDUCTOR

DS1820K
1–Wire^TM Digital Thermometer
Demonstration Kit

The DS1820K demonstration kit allows a potential user of the DS1820 to observe the operation of the DS1820 in an actual, multipoint temperature measurement application.

The DS1820K consists of a connector that attaches to the parallel port of a PC, and two cables with small PC boards attached. These PC boards carry a DS1820 and connector which allows these assemblies to be connected in parallel, so that several DS1820s can be connected to the PC parallel port. The demonstration kit "steals" power from the PC's parallel port, so no additional power supplies are needed.

Each DS1820 contains a unique, 64–bit serial number. The DS1820K software identifies each DS1820 connected to it, and displays the serial number. The user can then assign any name to any device, which can describe what that device corresponds to; for example, "Lobby" or "Office".

In the Simulation window, all devices connected to the PC are shown, along with the current measured temperature. Each DS1820 can also store thermostatic limits; a high limit (TH) and a low limit (TL). These values are displayed for each device. These thermostatic limits can be used to identify to the host which devices are outside their limits, and a corresponding "alarm condition" exists. The Simulation window shows devices in this condition with "alarm icons".

In the "Bus Experimentation" window, the user has full access to all of the registers in the DS1820. Each device which is attached has its ROM code (64–bit serial number) displayed. As more devices are added, the user can learn their ROM code by performing a "Search ROM". Double–clicking on the ROM code brings up a dialog box which allows the user to enter the name of the device.

Clicking on a ROM code allows the user to perform any of the DS1820 commands on that particular device. The user may read and write the scratchpad, and perform a temperature conversion.

The software provided requires Windows 3.1 or higher.

Bus Experimentation

ROM COMMANDS

◉ Match ROM
○ Skip ROM

[Alarm Search]
[Search ROM]
[Read ROM]

DS1820 COMMANDS

[Convert T]   [Read SP]
[Recall EE]   [Write SP]
[Read PS]   [Copy SP]

Write Scratchpad

TH [   ]
TL [   ]

No name found

ROM Code [1075520000000009E]

Register	Dec	Hex	Binary
Temp LSB	46	2E	00101110
Temp MSB	0	00	00000000
TH	0	00	00000000
TL	0	00	00000000
unused	255	FF	11111111
unused	255	FF	11111111
Cnt Rem	57	39	00111001
Cnt Per	89	59	01011001
CRC	240	F0	11110000

23.1°C

ROM SELECTION

* 1034530000000011   Lobby
* 103A510000000001   Office 1
* 108E530000000D9   Office 2
* 1075520000000009E   Conference Room