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PC133 SDRAM Registered DIMM

**Design Specification**

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Prepared By IBM and Reliance Computer Corporation

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# PC133 SDRAM Registered DIMM Design Specification

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## Product Description

This specification defines the electrical and mechanical requirements for 168-pin, 3.3 Volt, 133MHz, 72-bit wide, Registered Synchronous DRAM Dual In-Line Memory Modules (SDRAM DIMMs). These SDRAM DIMMs are intended for use as main memory when installed in systems such as servers and workstations.

Reference design examples are included which provide an initial basis for Registered DIMM designs. Modifications to these reference designs may be required to meet all system timing, signal integrity and thermal requirements for 133MHz support. All registered DIMM implementations must use simulations and lab verification to ensure proper timing requirements and signal integrity in the design.

This specification largely follows the JEDEC defined 168-pin 8-Byte Registered SDRAM DIMM product. (Refer to JEDEC standard 21-C, Section 4.5.7, at [www.jedec.org](http://www.jedec.org)).

## Product Family Attributes

DIMM Organization	x 72 ECC
DIMM Dimensions (nominal)	5.25" x 1.5"/1.7" x .157"/.320"
Pin Count	168
SDRAMs Supported	64Mb, 128Mb, 256Mb
Capacity	64MB, 128MB, 256MB, 512MB, 1GB
Serial PD	Consistent with JEDEC Rev. 2.0
Voltage Options	3.3 volt ( $V_{DD}/V_{DDQ}$ )
Interface	LVTTL

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