

RAM-SAN™

The World's Fastest Storage®

RamSan-325c

- **3 Gigabytes per Second**
- **400,000 IOPS**
- **Up to 64 GB Storage**
- **2-8 FC Links (1,2 & 4Gb)**
- **Hot-swap Modules**

Solid State Disk Storage

The RamSan-325c is the storage appliance built for speed. Its data storage is based on fast DDR RAM media instead of mechanical rotating drives. With a memory bus architecture similar to high performance servers, the RamSan-325c has the extra bandwidth (3 GB/sec) needed for heavy operations. Its low latency allows support for dozens of servers immediately without any performance degradation. Low latency has two advantages: it provides users with 100x faster response times and allows 100x more users to access the same volume. The RamSan-325c supports 2-8 Fibre Channel ports (1, 2, and 4-Gb) operating at full speed. The RamSan-325c provides an incredible performance improvement over the best disks.

Typical Storage Hierarchy

As computer performance increases faster than rotational disk performance, the traditional, two-level storage hierarchy scheme needs a new performance level. The high-performance RamSan-325c fills this need by allowing users to implement a three level storage hierarchy. Even under heavy load conditions, the RamSan-325c's I/O power and bandwidth make it possible for all of your computers to have immediate access to highly active data files simultaneously.

Installation and Management

The RamSan-325c is as easy to install as a disk drive. In its simplest configuration, it provides a direct link to one server through a host bus adapter (HBA). In its expanded configuration, it can be linked through Fibre Channel switches to hundreds of servers or workstations via SANs. Basic management operations, including manual shutdown and any alerts, are available from the front panel screen. Full monitoring and configuration



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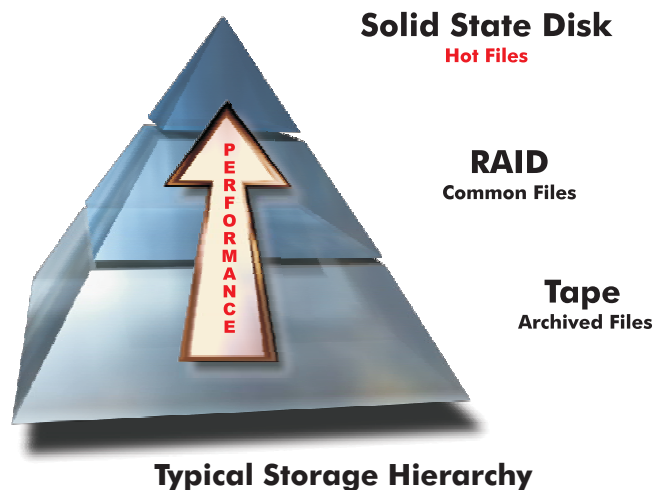
capabilities are available over any browser via a protected Java applet. The RamSan-325c is fully SNMP compatible.

Highly Reliable Storage

With any storage device, reliability is a primary concern. The RamSan-325c is designed to offer superior reliability to other solid state disks and RAID devices. Its standard features include: chipkill-protected RAM, hot swap power supplies, failover Fibre Channel ports, SNMP compatibility, three redundant internal batteries, and four redundant, hot swappable power fail backup disks.

Non-Volatile Backup Methods

The RAM used to give the RamSan-325c record-breaking performance would generally lose its data if power was lost. To ensure non-volatility, the RamSan-325c includes batteries and two distinct backup methods to its redundant internal RAID disks, configurable per LUN, to give the user the ultimate in versatility and reliability.



FIBRE CHANNEL CONNECTION

- 4-Gbit Fibre Channel (2-Gbit capable) or 2-Gbit Fibre Channel (1-Gbit capable) controllers available
- 2 ports standard; up to 8 ports available
- Supports point-to-point, arbitrated loop, and switched fabric topologies
- Interoperable with Fibre Channel Host Bus Adapters, switches, and operating systems

MANAGEMENT

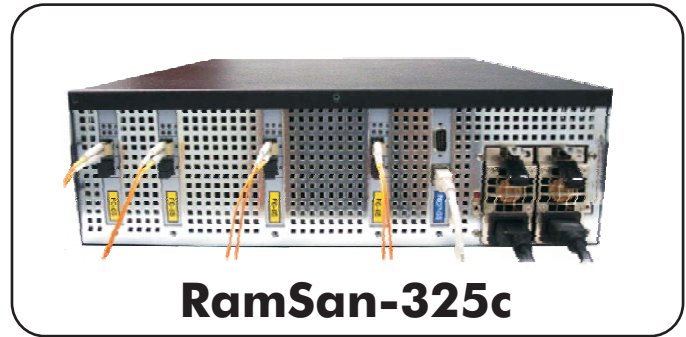
- Browser-enabled system monitoring, management, and configuration
- SNMP supported
- Telnet management capability
- Front panel displays system status and provides basic management functionality

LUN SUPPORT

- 1 to 64 LUNS with variable capacity per LUN
- Flexible assignment of LUNs to ports
- Hardware LUN masking

DATA RETENTION

- Non-volatile solid state disk
- Redundant internal batteries power the system after power loss
- Automatically backs up data to disk if power is lost or manual shutdown



RELIABILITY AND AVAILABILITY

- High availability architecture
- Chipkill technology protects data against memory errors up to and including loss of an entire memory chip
- Internal redundancies
 - Power supplies and fans
 - Backup battery power (n+1)
 - Backup hard disk drives (RAID3)
- Hot swappable components
 - Backup hard disk drives (front access)
 - Power supplies
- Active:Passive Fibre Channel failover (optional)

BACKUP PROCEDURES

Supports two backup modes that are configurable per system or per LUN:

- Data Sync mode - synchronizes data to redundant internal disk drives before shutdown or with power loss.
- Active Backup™ mode (optional) - backs up data constantly to internal redundant disks without impacting system performance.

ABOUT TEXAS MEMORY SYSTEMS

Since 1978, Texas Memory Systems (TMS) has specialized in high bandwidth, low latency, I/O-intensive storage systems. While the primary feature of our products has always been high performance, we achieve this performance without resorting to overly complex circuitry or unwieldy protocols. This emphasis on simplicity allows TMS to deliver outstanding performance using mature technologies and readily available off-the-shelf components.

TMS systems were originally designed to meet the needs of the U.S. defense industry. This market has always demanded the ultimate in performance and TMS has always delivered it. The RamSan-325c delivers a level of performance previously unavailable in a commercial storage product.

Specifications

I/Os per second	400,000
Capacity	16-64 GB (325c)
Bandwidth	3 GB/sec
Fibre Channels: 1, 2 and 4Gb	2 to 8 Ports
Latency	<14 microseconds
Disk Drives	Redundant Hot-Swap
Power Supplies	Redundant Hot-Swap
Batteries	3 Redundant
Size	5.25" (3U) x 25"
Power Consumption (peak)	350 Watts
Weight (maximum)	80 lbs

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