

# Dell PowerVault 220S and 221S SCSI Enclosures



**The Dell™ PowerVault™ 220S and 221S SCSI external storage enclosures offer reliable and expandable storage at surprisingly low prices. Designed to support the full line of Dell servers, the PowerVault 220S and 221S can be installed quickly and cost-effectively for a wide variety of storage requirements.**

Whether you're looking for a quick and temporary solution to support increased departmental workloads or special projects, need spill-over storage capacity or are a small business looking at storage systems for the first time, Dell's SCSI storage enclosures offer high-performance, low costs and scalability. These systems are also ideal for environments requiring highly available cluster-ready external storage such as database applications, collaboration applications and e-mail, or backend storage for file/print or web servers.

## Designed to support a variety of environments

In the data centre or on the desk, the Dell PowerVault 220S and 221S adapt to almost any storage environment. Whether attached directly to a single server, split between two or utilised in business-critical clustered configurations, these enclosures maximise your storage potential whatever the application. For large businesses and data centres the rack-optimised PowerVault 220S supports 14 1-inch SCSI drives in a 3U chassis. For smaller businesses or departments, the PowerVault 221S offers a stand-alone tower for placement on the floor or desk.

## High performance and low cost

Supporting 15,000-RPM hard disk drives up to 36GB and 10,000-RPM drives up to 73GB you get the very latest industry-leading performance. With data transfer speeds up to 160MB/s, the enclosures offer excellent price/performance in database environments.

## Designed for flexibility and scalability

The PowerVault 220S and 221S can provide over 1TB of storage space per enclosure or 8TB per server using 14 73GB drives. You can of course start with two and add more disks as your business grows or needs increase. The PowerVault 220S and 221S can be attached to one server in a 14-drive joined-bus configuration; to one or two servers in a split-bus configuration (each bus controls seven drives); or to two servers with 13 drives as part of a cluster configuration.

## RAID protection and redundancy

RAID protection is host-based and provided by configuring a PERC 3 (PowerEdge RAID Controller) card within the host server. PERC 3 cards support RAID levels 0, 1, 5, 10 and 50. Dell OpenManage™ Array Manager Software is used to configure and manage the storage enclosures' RAID protection. This application also allows system administrators to remotely check the status and environmental condition of the enclosures' various components. The PowerVault 220S and 221S can be configured with either fully redundant or non-redundant power supplies or enclosure management modules (EMM) for improved fault tolerance.

## Designed for maximum uptime and availability

The Dell PowerEdge™ 220S and 221S are designed, tested and integrated to work seamlessly with all Dell Enterprise products. This provides a complete, stable and reliable solution backed by excellent service and support.



Exceptional performance. Easy as **DELL™**

Visit [www.euro.dell.com](http://www.euro.dell.com) for more information.

## PREMIER ENTERPRISE CONSULTING SERVICES

Dell Technology Consulting – solutions design and production readiness

Testing and tuning at Dell's Application Solution Centre

## PREMIER ENTERPRISE DEPLOYMENT SERVICES

Dell Financial Services

Customised e-procurement web pages

Custom Factory Integration

On-site installation

## PREMIER ENTERPRISE SUPPORT SERVICES

### Base Service

1 year's service during local business hours for customers who have in-house support, troubleshooting and repair

Telephone technical hardware support

On-site service with next business day response

24x7 online and email hardware support at support.euro.dell.com

### Dell Premier Enterprise Bronze Support

3 years' service during local business hours for non-critical systems

On-site service with next business day response

Telephone technical hardware support

24x7 online and email hardware support at support.euro.dell.com

Optional network operating system support

### Dell Premier Enterprise Silver Support

3 years' service for systems running time-sensitive applications

24x7 or 12x5 on-site service with 4-hour response

Telephone technical hardware support

24x7 online and email hardware support at support.euro.dell.com

Optional network operating system support

### Dell Premier Enterprise Gold Support

A comprehensive 3-year, 24x7 proactive support service with direct access to Dell's Enterprise Expert Centre

Technical account management services

On-site service with 4-hour response

Telephone technical support from Dell's Gold Queue

Software and storage support resolutions

Seamless support with key third-party vendors

Customer-defined call priority

Change notification services

Online and email hardware support at support.euro.dell.com

### Optional Upgrades

Remote monitoring

On-site troubleshooting

On-site engineer and parts

Customer training

## FEATURES

## DESCRIPTION

<b>System</b>	Cost-effective external SCSI storage solution
<b>PowerVault 220S – Rack optimised 3U chassis</b>	Dimensions (WxHxD) 132.6mm x 445.8mm x 508mm
<b>PowerVault 221S – Floor/desk standing tower</b>	Dimensions (WxHxD) 160.0mm x 495.3mm x 515.6mm
<b>Dell systems supported</b>	Dell PowerEdge™ Dell PowerVault NAS 750/755N/770/775N
<b>Density</b>	Maximum: 14 1-inch hard disk drives (maximum capacity 1,022GB per enclosure using 14, 73GB drives) Minimum: 2 1-inch hard disk drives
<b>Hard disk drive options</b>	Common hard drive carrier for Dell PowerVault storage (SCSI or Fibre Channel) 18GB, 36GB or 73GB 10,000-RPM drives 18GB or 36GB 15,000-RPM drives (Compatible with Ultra 2 (80MB/s) hard disk drives)
<b>Transfer rate</b>	160MB/s SCSI
<b>RAID</b>	Host-based RAID provided by PERC 3 RAID controller card (Compatible with Dell PERC 2 cards)
<b>RAID support</b>	0, 1, 5, 10 and 50
<b>Scalability</b>	1 enclosure per RAID channel Factory installation supports up to 8 enclosures per platform (2 quad channel PERC 3 cards) or up to 8TB
<b>Connectivity</b>	Dual bus – 16 devices per bus Attached to single server in joined mode or two servers in split mode or cluster mode
<b>Hot Plug Components</b>	Hot plug disk drives, cooling modules and power supplies (with optional second power supply)
<b>Redundancy Configuration Options</b>	Power Redundancy – Optional redundant power supplies – Redundant cooling units (as standard) Management Redundancy – Joined, split-bus or cluster configuration – Optional redundant enclosure management module (EMM) (Joined bus configuration). EMM reports the status of components such as power supplies and cooling modules Maximum Redundancy – Joined, split-bus or cluster configuration – Optional redundant power supplies – Optional redundant EMM – Redundant cooling units
<b>Distance</b>	Supports connections up to 12 metres
<b>Enclosure management</b>	Dell OpenManage™ Array Manager
<b>OS Support</b>	Fully managed support for Microsoft® Windows® 2000, Windows® NT and Novell NetWare®
<b>LED Indicators</b>	– Front panel: 5 status LED indicators for power, fault, split-bus, cluster mode and temperature – Hard-drive carrier: 1 single-colour activity LED and 1 two-colour status LED indicator per drive – EMM: 3 status LED indicators for power, fault, and primary or secondary functionality – Split-bus module: 1 LED indicator for power
<b>Temperature</b>	Operating 10° to 35° (50° to 95°F) Storage -40° to 65° (-48° to 149°F)
<b>Relative humidity</b>	Operating 8% to 80% (noncondensing) Storage 8% to 95% (noncondensing)
<b>Altitude</b>	Operating -16 to 3048m (-50 to 10,000 ft)
<b>BTU</b>	2750/hour

Subject to availability, prices and specifications are correct at the date of publication and may change without notice. Dell's Terms and Conditions of Sale and Service apply and are available on request and at [www.euro.dell.com](http://www.euro.dell.com). Response times may vary according to the remoteness or accessibility of product location. Service may be provided via telephone or internet where appropriate. Certain restrictions apply. ©2002 Dell Computer Corporation. Dell, the Dell logo, PowerVault, OpenManage, PowerEdge and PowerApp are registered trademarks or trademarks of Dell Computer Corporation. Microsoft, Windows, Windows logo and Windows NT are registered trademarks of Microsoft Corporation. Novell and NetWare are registered trademarks of Novell Incorporated. Other trademarks or trade names may be used in this document to refer to either the entities claiming the marks and names of their products. Dell disclaims proprietary interest in the trademarks and names of others.

EU776/17October2002

Exceptional performance. Easy as **DELL**

Visit [www.euro.dell.com](http://www.euro.dell.com) for more information.