

3Com® SuperStack® II

Dual Speed Hub 500 and PS Hub Family



The power of 100 Mbps Fast Ethernet with the flexibility of 10 Mbps compatibility

The plug-and-play SuperStack II Dual Speed Hub 500 and PS Hubs provide flexible, troublefree, high-speed connectivity with a low cost of entry—all while preserving existing network equipment investments.



Key Benefits

Easy to use. The Dual Speed Hub 500 and the PS Hub 40/50 work straight out of the box without any configuration needed.

Powerful management.* Both hubs provide SNMP/RMON, graphical Web management, and are shipped with 3Com Transcend® Network Supervisor.

100% compatible. Seamless integration allows the stack to be treated as a single data and management entity.

Fault tolerance. Single points of failure can be backed up to minimize downtime. These include the power supply unit, downlinks to the backbone, and AC main supply.

+5 lifetime limited warranty. Complete peace of mind with lifetime limited warranty and 5 years of advanced hardware replacement.

Preferred brand. †Experience and unrivalled market leadership from a company that can deliver the hubs that meet your workgroup needs. 3Com is the established market leader in 10 and 10/100 hubs.

If you're looking for a stackable hub that will grow with your business, then look no further than the award-winning SuperStack® II Dual Speed Hub 500 and the SuperStack II PS Hub family.

The Dual Speed Hub 500 is an autosensing 10/100 Mbps hub that complements PS Hub 10 Mbps Ethernet hubs. When you need a stackable solution that delivers 10/100 Fast Ethernet connectivity to your network, mix and match the PS Hub family with Dual Speed Hub 500s for a winning combination. The 10/100 Mbps autosensing capability on each port supports 10 Mbps, automatically detecting the speed of the attached PC network interface card (NIC). Designed for the smoothest and most cost-effective migration to Fast Ethernet, the SuperStack II Dual Speed Hub 500 works with existing 10 Mbps NICs, and when used with 10/100 Mbps NICs, automatically upgrades the

connection to 100 Mbps. Plus users can add SNMP/RMON management, when required. The Dual Speed Hub 500 stacks with SuperStack II PS Hub 40/50s, SuperStack II Hub 10s, and LinkBuilder® FMS II hubs, offering the most flexible solution available on the market.

For 10 Mbps-only workgroups, consider the SuperStack II PS Hub family comprising the SuperStack II PS Hub 40 and the SuperStack II PS Hub 50. Both the Dual Speed Hub 500 and PS Hubs offer full RMON support, Web-based management, SNMP management, security, and resilient links. By adding a Dual Speed Hub 500 to your PS Hubs, you can boost the performance of your workgroups by adding 10/100 Mbps users to your existing 10 Mbps network.



*Management is optional on Dual Speed Hub 500.

†Source: Dell® Oro Vendor LANscape 8/98.

10/100 Hubs

Ethernet/Fast Ethernet autosensing hubs

SuperStack II Hubs

Easy to Use

The SuperStack II Dual Speed Hub 500 and PS Hub family offer plug-and-play connectivity for the easiest-to-use, stackable hub system. The self-configuring hubs ensure reliable, troublefree installation from the moment your system is turned on.

Scalability

The SuperStack II Hub 10, PS Hub family, and Dual Speed Hub 500 all stack together, allowing for easy expansion of your network—so you can build and expand 10 Mbps stacks (PS Hubs) and expand to add 10/100 Mbps users (Dual Speed Hub 500) when the time is right.

Advanced RMON Management

Embedded RMON software and dedicated hardware provides support for at least seven RMON groups on all segments. RMON enterprise monitoring and analysis lets network managers work smarter—not harder—in managing their network devices networkwide. Transcend® network management's powerful combination of RMON and SmartAgent® software reduces the processing burden on the management station, minimizing network traffic and saving time by automatically monitoring and analyzing the network. RMON indicates at a glance how the network is performing and who is using it the most.

Web Management

Web-based management allows easy graphical configuration and direct access to management information from anywhere on the network with a few clicks of the Web browser.

LAN Security Architecture (LSA)

3Com's patented LSA comes standard with the hub's management to deliver advanced security features to protect your valuable network resources. For example, Need To Know (NTK) protects sensitive data on the network by preventing passive listening to sensitive information, and Disconnect Unauthorized Device (DUD) automatically detects and/or disables unauthorized devices and then notifies the network management station.

Outstanding Fault Tolerance

The Dual Speed Hub 500 and PS Hub family allow single points of failure to be backed up to minimize downtime.

Redundant management Management can continue uninterrupted even if one unit in the stack goes offline. The SuperStack II Dual Speed Hub 500 can accept multiple management modules for redundancy. This capability is standard with PS Hubs because each hub already has built-in management.

Redundant bridges If there are multiple Dual Speed Hub 500s or PS Hub 50s in a stack, the internal bridges will configure themselves to be redundant to each other.

Hot-swap cascade units Allows units to be added and removed from the middle of a stack without interruption, similar to adding or removing a card from a chassis.

Resilient links Provides backup connections for downlinks, protecting against cable breakage and unit failure. Resilient links switch so quickly that users are never aware.

Backup power systems The Advanced Redundant Power System protects against internal power supply unit failure, and the Uninterruptible Power System protects against AC main failure.

Transcend Network Management

All SuperStack II products include 3Com Transcend Network Supervisor, providing powerful, yet easy-to-use network management tuned to the needs of small-to-medium enterprises. Less experienced network managers will find the automated operations and intelligent defaults helpful, while more experienced users will enjoy using the advanced features. An intuitive user interface focuses on the tasks and information all managers need to take control of their network. A discovery wizard finds IP devices and links on the network up to a maximum of 500 devices. After discovery, the network structure is automatically mapped to provide a graphical display of devices and connections. Working from the map, the network manager can quickly monitor stress, set thresholds and alerts, view network events, generate reports, and launch device configuration tools. To provide fast notification of problems, Transcend Network Supervisor alerts announce network problems via audio/visual alarms or e-mail.

Transcend Network Supervisor provides:

Immediate notification of

problems—An alert system quickly notifies managers of problems.

Total visibility—A network activity log lists network events as they occur.

Knowledge of the network—A network map shows the devices and physical connections of the network and provides an instant color-coded view of the state of the network.

Real-time detailed monitoring—

Good monitoring is a combination of examining available bandwidth, generated errors, service availability, and application response times. The Network Supervisor stress window provides an accurate indication of the current state of stress and a warning zone that helps predict when a device or link may be about to become overloaded.

Other products in the award-winning 3Com Transcend family, such as Transcend WorkGroup Manager and Transcend Enterprise Manager, can also manage the SuperStack II series.

Expansion Flexibility

The Dual Speed Hub 500 and PS Hubs provide expansion slots in every hub. These can be used for Fast Ethernet TX and FX downlinks in the Dual Speed Hub 500 and PS Hub 50, or adding a management module to the Dual Speed Hub 500, or even connecting to a different media such as 10BASE2. See the Specifications section for full details on the wide range of expansion modules available.

3Com +5 Lifetime Limited Warranty

The 3Com +5 lifetime limited warranty minimizes downtime and ensures that the network is back up fast. Should a hub fail during its first five years, 3Com will provide a replacement unit. You then return the faulty unit to 3Com for repair. After five years, 3Com's standard lifetime limited warranty applies.

The Dual Speed Hub 500

Scalability is the hallmark of the SuperStack II Dual Speed Hub 500. You can make an initial low-cost investment and then add a number of accessories to enhance its capabilities that allow you to get the most from your 10/100 Mbps autosensing hub.

10/100 Autosensing on Every Port

Autosensing 10/100 Mbps per port offers full compatibility with Ethernet and Fast Ethernet devices. The ports automatically detect the speed of the attached device and direct the data to the appropriate repeater segment.

Smart Autosensing

Smart autosensing ensures that both speed and cable quality are automatically sensed to maximize performance. The Smart autosensing 10/100 Mbps

feature enabled by the management module enhances the standard autosensing feature by recognizing not only the cable speed (10 or 100 Mbps), but also the cable quality (incorrectly/correctly installed Category 3, 4, or 5 cable) and maximizes the throughput. Once enabled by the user, Smart autosensing allows you to forget about the cable category issues because the hub determines the optimal setting.

Distance Extender Modules

The optional 100BASE-TX and 100BASE-FX distance extender modules significantly expand the configuration capabilities of the SuperStack II Dual Speed Hub 500. These slide-in modules overcome the Fast Ethernet Class I and Class II repeater and cabling distance restrictions that handicap existing network configurations. They allow you to connect the hub to any Fast Ethernet

device or daisy-chain a virtually unlimited number of hubs over distances up to 100 meters over copper wire or up to 2 kilometers (in full-duplex mode) over fiber optic cable.

Modular Management

The optional slide-in module provides full SNMP support, as well as a number of advanced automated capabilities to make your life easier.

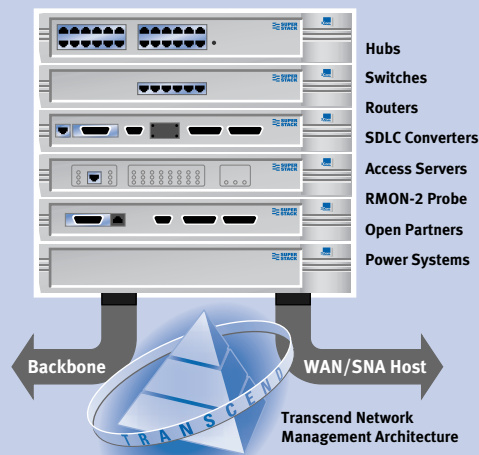
SuperStack® II Systems

The 3Com SuperStack® II system gives you a flexible, cost-effective connectivity solution for local, wide area, and SNA networks. You can combine diverse technologies and network services in one stacked system, strengthen it with uninterruptible and redundant power systems, and manage it all with Transcend® network management solutions.

As an important part of the 3Com Transcend networking framework, SuperStack II systems will meet your evolving network needs—future proofing your network investment.

A single SuperStack II system provides connections for a range of network environments and protocols: Ethernet, Fast Ethernet, Layer 3 switching, Gigabit Ethernet, Token Ring, FDDI, ISDN, X.25, Frame Relay, and ATM. Depending on your needs, you can build SuperStack II systems for virtually any network environment. Capabilities include:

- Hubs for flexible workgroup connectivity that feature SNMP, RMON, and Web-based management
- Industry-leading physical layer support for Token Ring networks, including Token Ring switching
- Full SNMP, RMON, and Web-based management for Ethernet, Fast Ethernet, Gigabit Ethernet, as well as a dedicated RMON-1/RMON-2 probe
- Full range of switches to increase performance in high-speed client/server LANs
- Full, multiprotocol network access for telecommuters or users at other off-site locations
- Routing between central site and branch offices using innovative Boundary Routing® architecture or conventional routing software for multiple WAN choices, including ISDN



- SNA-to-LAN conversion linking local and remote offices to an SNA host system
- Choice of power systems to ensure uninterrupted network operation

For smaller offices of fewer than 20 users, our OfficeConnect® products can be used to complement SuperStack II systems.

10/100 Hubs

The SuperStack II PS Hub Family

Built-In Management

The SuperStack II PS Hub family provides increased bandwidth and management control built in at no extra cost using these standard features:

- Up to 40 segments
- Port switching through software
- All nine groups of RMON on all segments simultaneously

Transcend Network Supervisor is shipped with all SuperStack II hubs. With Transcend Network Supervisor, network devices are automatically discovered and network activity and stress monitored through an intuitive graphical interface to provide powerful, yet easy-to-use network management.

Segmentation

Microsegmentation ensures that users get optimal performance from the network. Users can stack up to 10 SuperStack II PS Hub units, providing up to 40 segments overall. The multi-channel cascade built into the SuperStack II PS Hub family supports our Ethernet segments and a separate management channel in a single cascade cable. The separate management channel allows full management of isolated and switched segments.

Port Switching

Users can be allocated and reallocated easily from one segment to another via software to suit operational needs. This

capability increases bandwidth by permitting completely flexible allocation of ports to any of four network segments per unit. It also makes it extremely easy to alter workgroups. Adds, moves, or changes to user groups are simply a matter of a few keystrokes from a management console.

100 Mbps Downlink with PS Hub 50

The SuperStack II PS Hub 50 boosts desktop performance with its internal segment switch and Fast Ethernet expansion slot. Customers can increase bandwidth by segmenting their workgroups and then connecting them into a Fast Ethernet backbone or server.

100 Mbps downlink modules are available in 100BASE-TX and 100BASE-FX versions and can be configured to operate in half- or full-duplex mode. The maximum distance supported is 100 meters over copper wire or 2 kilometers over fiber optic cable (in full-duplex mode).

Load Balancing

With the SuperStack II PS Hub family, individual conversations between ports are continuously monitored using the RMON capability and are automatically redistributed to free up valuable network bandwidth. Balancing can be triggered by time or by exceeding a utilization threshold, making the process entirely automatic.



*SuperStack II PS Hub 40 TP 12 port
SuperStack II PS Hub 40 TP 24 port
SuperStack II PS Hub 50 TP 24 port*

Specifications

SuperStack II Dual Speed Hub 500 and PS Hub Family

Dimensions and Weight

Dual Speed Hub 500

Height: 44 mm (1U or 1.7 in)

Width: 440 mm (17.3 in)

Depth: 310 mm (12.2 in)

Weight:

12-port—2.6 kg (5.6 lb)

24-port—2.7 kg (5.8 lb)

PS Hub 40

Height: 44 mm (1U or 1.7 in)

Width: 440 mm (17.3 in)

Depth: 168 mm (6.6 in)

Weight:

12-port—2 kg (4.4 lb)

24-port—2.1 kg (4.6 lb)

PS Hub 50

Height: 44 mm (1U or 1.7 in)

Width: 440 mm (17.3 in)

Depth: 168 mm (6.6 in)

Weight:

24-port—2.2 kg (4.8 lb)

Mounting

Includes hardware for mounting in a standard 19-inch rack.

Connections and Cables

12 or 24 RJ-45 ports supporting 10BASE-T transmission over two pairs of Category 3, 4, or 5 UTP cable, or 100BASE-TX transmission over two pairs of Category 5 UTP/STP cable

Power Requirement

Dual Speed Hub 500

Power Inlet: IEC 320

AC Line Frequency: 40 to 63 Hz

Input Voltage Options: 80 to 264 VAC RMS

Fuse Protection: 5 A

PS Hub 40/50

Power Inlet: IEC 320

AC Line Frequency: 50 to 60 Hz

Input Voltage Options: 85 to 264 VAC RMS

Fuse Protection: 2 A

Power consumption:

Dual Speed Hub 500

12-port: 38 W

24-port: 49 W

PS Hub 40

12-port: 26 W

24-port: 29 W

PS Hub 50

24-port: 35 W

Heat dissipation/hour:

Dual Speed Hub 500

12-port: 130 BTU

24-port: 167 BTU

PS Hub 40

12-port: 90 BTU

24-port: 103 BTU

PS Hub 50

24-port: 124 BTU

Indicators

Per Unit LEDs: Power status, management/attention

Per Segment LEDs: Collision/activity

Per Port LEDs: Partition, link status

Standards Compliance

IEEE 802.3 μ 100BASE-T compliant

IEEE 802.3 μ 10BASE-T compliant

Dual Speed Hub 500: 100 Mbps baseband CSMA/CD standard

(complies with IEEE standard Class II repeater)*

*The Dual Speed Hub 500 achieves this only as a stand-alone product, not as part of a stack.

Functional

ISO/IEC 8802-3

IEEE 802.3 (Ethernet)

IEEE 802.3u (Fast Ethernet)

IEEE 802.1D (Bridging)

Safety

UL 1950

CSA-C22.2 No. 950

EN 60950

Electromagnetic Compatibility

Dual Speed Hub 500

EN 55022 Class A

FCC Part 15 Class A

VCCI Class 2

EN 50082-1

ICE-003 Class A;

As in 2S 3548

PS Hub 40/50

FCC Part 15 Class A

EN 50082-1 (IEC 801 2-5)

VFG 243

EN 55022 Level B

CSA 108.8

EN 61000-3-2

Network Management Standards

Protocols

SNMP RFC 1157

ARP RFC 826

IP RFC 791

ICMP RFC 792

UDP RFC 768

TCP RFC 793

TFTP RFC 783

SLIP RFC 1055

MIBs

MIB II RFC 1213

MAU RFC 1515

RS 232 RFC 1659
(Dual Speed Hub 500 only)

RMON RFC 1757

RMON-2 RFC 2021
(Dual Speed Hub 500 only)

Repeater RFC 2108

Switch Performance

Dual Speed Hub 500

4 K maximum addresses

Learning rate: 50 addresses/second maximum

Aging period default: 5 days

Filtering: 163,680 frames/second

Forwarding:

10 Mbps $\rightarrow$ 100 Mbps:
14,880 frames/second

100 Mbps $\rightarrow$ 10 Mbps:
14,800 frames/second

Latency (store and forward only): $\leq$ 40 μ S

PS Hub 50

512 maximum addresses

Forwarding:

10 Mbps $\rightarrow$ 10 Mbps:
14,800 frames/second

10 Mbps $\rightarrow$ 100 Mbps Downlink:
14,800 frames/second

100 Mbps Downlink $\rightarrow$ 10 Mbps:
14,800 frames/second

Latency (store and forward only): 8 μ S

3Com +5 Lifetime Limited Warranty

If a hub (including power supply and fan) should fail during its first five years, return the faulty unit to 3Com for repair, and 3Com will send you a replacement unit. This procedure minimizes downtime and ensures that the network is back up fast. After five years, 3Com's standard lifetime limited warranty applies, giving you peace of mind for the rest of the hub's lifetime (excluding power supply and fan).

Ordering Information

Hubs

Dual Speed Hub 500 12-port TP (RJ-45)	3C16610
Dual Speed Hub 500 24-port TP (RJ-45)	3C16611
PS Hub 40 12-port TP (RJ-45)	3C16405
PS Hub 40 24-port TP (RJ-45)	3C16406
PS Hub 40 12-port TP (RJ-45) 4 pack	3C16405-4PK
PS Hub 40 24-port TP (RJ-45) 4 pack	3C16406-4PK
PS Hub 50 24-port TP (RJ-45)	3C16450

Optional Equipment

Dual Speed Hub 500 Management Module	3C16685
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Cables and Connectors

Dual Speed Hub 500/PS Hub Stacking Kit (with 30 cm cable included)	3C16692
Dual Speed Hub 500/Hub 10 Stacking Kit (with 30 cm cable included)	3C16686
Dual Speed Hub 500 Cascade Cable (30 cm)	3C16695
Dual Speed Hub 500 Hot-Swap Unit	3C16690
PS Hub Cascade Cable (30 cm)	3C16420
PS Hub Cascade Cable (1 m)	3C16421
PS Hub Hot-Swap Unit	3C16430

Backbone Modules

TP Transceiver 10BASE-T (RJ-45)	3C12063
Fiber Optic 10BASE-FL (ST)	3C12065
Coaxial Transceiver 10BASE2 (BNC)	3C12066
Fiber Optic 10BASE-FB (ST)	3C12067

Dual Speed Hub 500 only

100BASE-FX Distance Extender (SC)	3C16684
100BASE-TX Distance Extender (RJ-45)	3C16683

PS Hub 40 only

AUI Transceiver (female AUI)	3C12060
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PS Hub 50 only

100BASE-FX Module (SC)	3C16681
100BASE-TX Module (RJ-45)	3C16680

Advanced Redundant Power System (ARPS)

SuperStack II ARPS Chassis	3C16071
SuperStack II ARPS Management Module	3C16080

For Dual Speed Hub 500

SuperStack II ARPS Power Module Type 2	3C16074
SuperStack II ARPS Y-Cable Type 2	3C16078

For PS Hub 40 & 50

SuperStack II ARPS Power Module 60 W	3C16072
SuperStack II ARPS Y-Cable Type 1	3C16079

Uninterruptible Power System (UPS)

SuperStack II UPS (U.S.)	3C16010
SuperStack II UPS (Int'l)	3C16011
SuperStack II UPS (Japan)	3C16012

Network Management

Transcend Network Supervisor*
Shipped with SuperStack II hubs
or can be downloaded from the
Web at www.3com.com/tns

*Available Q3CY99.

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