SuperStack II PS Hub 40

Setting New Standards for Ethernet Stackable Hubs —
Simply a hub: with everything!

SuperStack II PS Hub 40 is available in 12 and 24 port versions. Up to 10 units can easily be stacked together to connect up to 260 users. When more performance or network management is required, built in features such as segmentation, SNMP management, all 9 groups of Remote Monitoring on all segments simultaneously, security and resilient links are immediately available to the end-user without incurring additional costs.

SuperStack II™ PS Hub 40 is an easy-to-use stackable workgroup hub. 10Mb Ethernet is a low cost, proven technology appropriate for the smallest workgroup, up to large enterprise organizations.

At the same time, the SuperStack II PS Hub 40 provides an advanced set of features that enable it to deliver fully scaleable desktop performance as standard at no extra cost.

When more performance, more users, or network management is required, features built into the SuperStack II PS Hub 40 are immediately available to the end-user without incurring time consuming and expensive insertion of modules into existing hubs. These advanced features include segmentation, SNMP management, 9 groups of Remote Monitoring on all segments simultaneously, security and resilient links.

Key Benefits:

■ **Affordable.** Priced lower than other unmanaged hubs.

■ **Easy to use.** Plug and play connectivity makes the SuperStack II PS Hub 40 the easiest to use stackable hub.

■ **Multiple segments.** The SuperStack II PS Hub 40 supports multiple segments to enable higher network performance.

■ **Advanced features at no extra cost.** The SuperStack II PS Hub 40 offers advanced management including nine groups of RMON on all segments, security, and resilient links, as standard.

■ **+5 Lifetime Limited Warranty.** Full 5 years of advance hardware exchange provides peace of mind.

■ **Fault tolerance.** Resilient links, redundant management, "live" addition of new units, and optional Power Systems ensure system reliability.

■ **Transcend® Network Management.** Built-in software ensures full integration with network-wide 3Com management applications.

■ **Preferred brand.** 3Com's experience and unrivalled market leadership* delivers the hubs that meet your workgroup needs.

*Source: Dell'Oro Vendor LANscape 2/97 - 10 Mbps Ethernet Workgroup Managed Hubs: 3Com 35% — more than twice the No. 2 vendor.

The SuperStack II PS Hub 40

The SuperStack II PS Hub 40 is an easy-to-use, low-cost stackable hub. It is available in 12- and 24-port TP versions.

- **Easy to use.** Just plug in to connect users in the workgroup

- **Low cost.** Priced lower than other unmanaged hubs, the SuperStack II PS Hub 40 enables users to transition to network management at their own pace and at no extra cost.

- **Easy expansion.** Stack up to 10 units - connect up to 260 users.

- **Backbone media choices.** 2 slots for slide-in transceiver modules.

- **At-a-glance monitoring.** Front panel LEDs tell you what's happening on your network.

3Com +5 Lifetime Limited Warranty

The 3Com +5 Lifetime Limited Warranty guarantees that if the hub should fail during its first five years, 3Com will despatch a replacement unit. You then return the faulty unit to 3Com for repair — this easy 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.

Advanced features for evolving workgroups

One of the most difficult questions facing organizations is how to satisfy demands for increased network bandwidth required by increasingly sophisticated applications, without compromising network management and flexibility. The SuperStack II PS Hub 40 provides increased bandwidth and management control, built in at no extra cost!

- Up to four segments

- Port switching through software

- All nine groups of RMON on all segments simultaneously

- Security and resilience

Microsegmentation. Microsegmentation ensures that users get optimal performance from the network. A stack of SuperStack II PS Hub 40 units can have a maximum of 10 hubs, providing up to 40 segments overall. Used in combination with SuperStack II Switches, this gives you the freedom to balance bandwidth according to individual user, workgroup, or application requirements.

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 up 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 central management console.

Multichannel Cascade. The multichannel cascade built into the SuperStack II PS Hub 40 supports four Ethernet segments and a separate management channel in a single cascade cable. The separate management channel allows full management of isolated segrments.

VLAN Capability. SuperStack II PS Hub 40s are VLAN-capable, letting you readily manage user domains across multiple 3Com devices using Trancend Enterprise Manager.

Transcend Quick Configuration Manager. Each SuperStack II PS Hub 40 comes complete with Transcend Quick Configuration Manager. This simple, easy-to-use Windows® program, which runs on Windows 95®, Windows 3.1® and Windows NT®, allows rapid configuration of key hub features such as IP address, port security, and port/segment assignments through the hub console ports or across the network.

SNMP Management

Each SuperStack II PS Hub 40 includes Simple Network Management Protocol (SNMP)-based SmartAgent®. Smart Agents are part of the 3Com Transcend® Network Management System that reduces management traffic and costs, and also enables automatic prevention or correction of problem conditions. With this software, you can:

- Maintain traffic levels

- Implement action-on-events to create self-managing networks

- Control who has access to the network

- Establish resilient links to guard against cable failures

- Use BootP or IPX for plug and play management configuration

- Manage in-band from an SNMP management station over IP or IPX

- Manage out-of-band using the local port, a modem, or Serial Line Interface Protocol (SLIP) over a remote serial connection

Advanced RMON Management

Embedded RMON software in the SuperStack II PS Hub 40 simultaneously provides support for all nine RMON groups on all segments so you never miss any significant network events or trends. In addition, a separate management channel in the Cascade connection permits full RMON management of even isolated segments.

RMON enterprise monitoring and analysis lets network managers work smarter, not harder, in managing their network devices network wide. Transcend'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. Transcend Enterprise Manager for Windows 95, Windows NT and UNIX includes RMON features that supply network segment performance summary information, user profiles, and diagnostic help with extensive packet capture and decode capabilities.

Outstanding Fault Tolerance

Built-in redundant management guarantees that there is no interruption of management if one unit in the stack goes off-line.

- **Optional Hot-Swap Cascade Unit**. Allows you to remove SuperStack II PS Hub 40 units from anywhere in the stack without disrupting the rest of the stack providing the highest levels of resilience and fault tolerance.

- **Resilient Links**. These protect against cable and equipment failure. In the event of a network disruption, switchover to resilient links occurs so quickly that users are never aware of a problem.

- **Optional Power Systems**. A choice of redundant power system or uninterruptible power system protects against power failures, ensuring constant power to the stack.

Security Features

As part of the 3Com patented LAN Security Architecture, the SuperStack II PS Hub 40 comes standard with security features that protect your valuable information.

- *Need To Know* protects sensitive data on the network by preventing passive listening to sensitive information.

- *Disconnect Unauthorized Device* automatically detects and/or disables unauthorized devices and notifies the network manager.

Cascade Cable

You can cost-effectively increase the number of ports in your network by connecting SuperStack II PS Hub 40 units into a single stack. Using a series of Cascade cables that carry the stack's segments and distributed management information, you can easily make these connections.
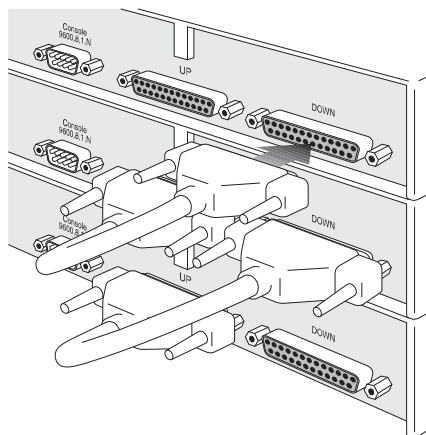
Transcend Network Management Applications

The 3Com Transcend management architecture offers a choice of applications: Microsoft Windows 95 and NT, or a UNIX-based platform to manage the hubs.

Transcend Workgroup Manager for Windows

Transcend Workgroup Manager for Windows 95 and NT (3C15000G) is a powerful and easy-to-use application that combines management for stackable Ethernet and Token Ring hubs, switches, and EtherLink® and TokenLink® NICs in a Windows-based package. With Transcend Workgroup Manager, you can:
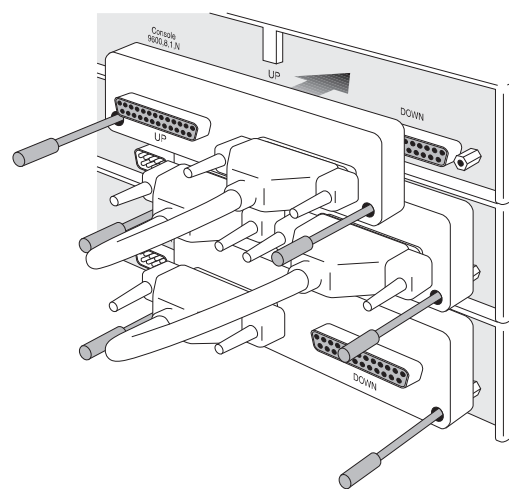
- Manage hubs, switches, SuperStack II PS Hub 40 hubs, and NICs in one application

- Group PCs and servers together to gather trend information

- Simplify installation by using the manager automatically to discover and configure network devices

- Display a multilevel network map
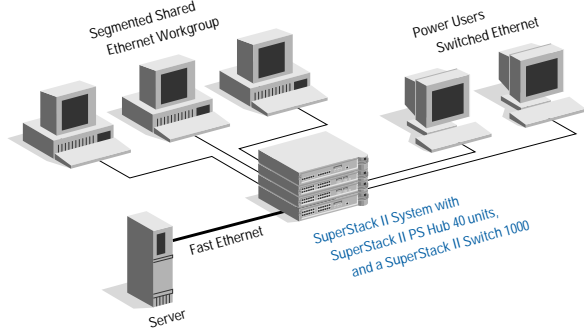
Cascade Cable

Cascade cables join multiple SuperStack II PS Hub 40 units into a single integrated stack and carry all information between units

Cascade Cable with Hot-Swappable Unit

For greater flexibility and resilience, 3Com SuperStack II PS Hub Hot-Swap Cascade Units connect to the Cascade cables to ensure total hot-swap functionality. Whether a hub is removed or replaced, the stack continues to function as a single unit.

Small Network with High-Performance Workgroup Connections
In this LAN, a SuperStack II Switch 1000 provides low-cost Ethernet switching in a workgroup with bandwidth constraints. The SuperStack II PS Hub 40 allows flexible configuration of users into segments according to their bandwidth and workgroup requirements.

SuperStack II

- Hubs
- Switches
- Routers
- SDLC Converters
- Access Servers
- RMON 2 Probe
- Open Partners
- Power Systems

Backbone — WAN/SNA Host

Transcend Network Management Architecture

- Troubleshoot using color-coded device icons, audible alarms, and connectivity testing, and spot statistical trends

- Get a detailed historical record of network events

- Use NIC information from EtherLink SmartAgents to indicate congestion levels on hub ports and view configurations of the PCs attached to the hub ports

- Prevent unauthorized access with user passwords and access levels

Transcend Enterprise Manager for Windows/UNIX

Proven management for all connectivity systems in your enterprise-wide network including workgroups, WAN backbones and remote sites, Transcend Enterprise Manager (3C15010F) includes all the features found in Transcend Workgroup Manager, plus these advantages:

- Full advanced RMON tools provide a summary screen showing packet size distribution, utilization and error rates, and top talkers, giving detailed views per historical and trend analysis

- Easy-to-use packet capture configuration and decode facilities, including conversation information with response times; fully RFC 1271 compliant

- Management across diverse network devices and technologies

- A full view of devices on the network

- Creation, configuration, and management of SuperStack II PS Hub 40 resilient-link ports for fault-tolerance in LANs

- Automatic notification of a fault in a SuperStack II Redundant Power System

- Full on-line library, including management application and 3Com hardware documentation

- SuperStack View feature shows all units as one device, allowing management of all products as one SuperStack II system rather than as a number of separate devices.
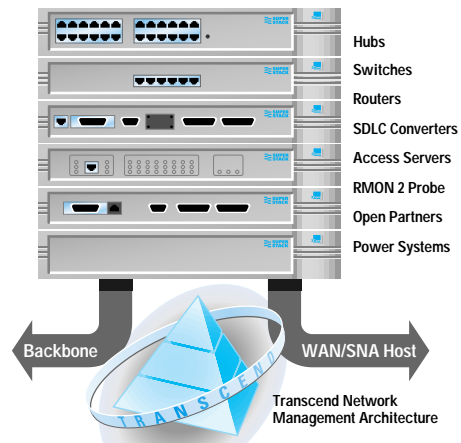
The management software works with the most popular network protocols, including SNMP over IP, and supports user-defined applications for seamless desktop integration.

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 management software.

As an important part of the 3Com Transcend Networking framework, SuperStack II 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, 100BASE-T Fast 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:
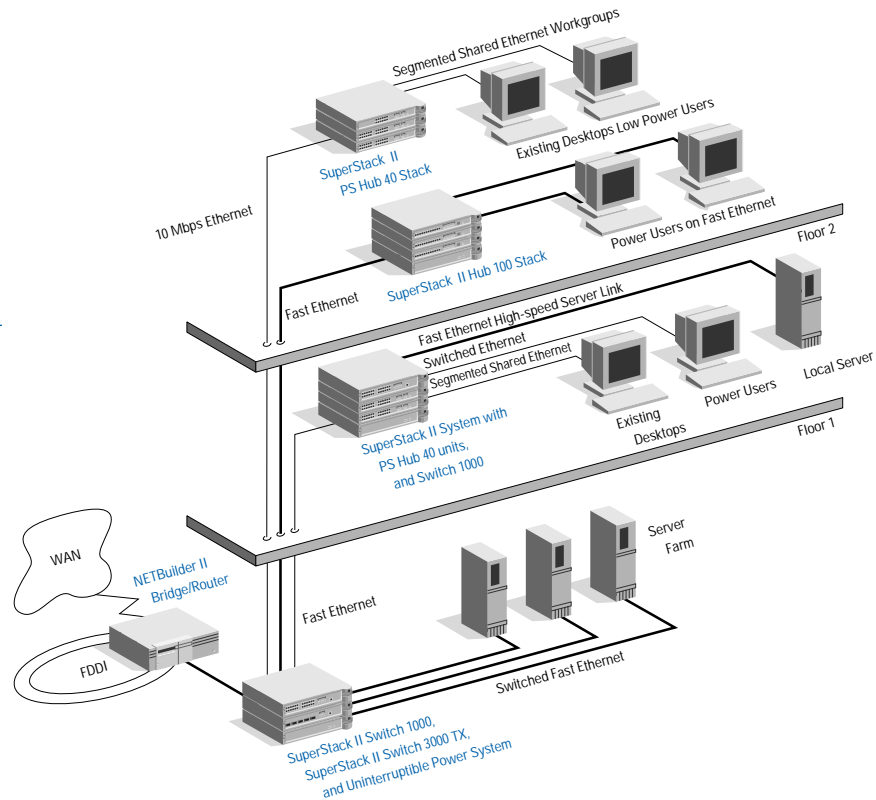
■ Hubs for flexible workgroup connectivity with SNMP management

■ Industry-leading physical layer support for Token Ring networks

■ Full RMON support for Ethernet, Fast Ethernet, and Token Ring networks, as well as a dedicated RMON 2 Probe

■ Full range of switches to boost performance in high-speed client/server LANs

■ Full, multiprotocol network access for teleworkers 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 less than 20 users, our OfficeConnect™ products can be used to complement SuperStack II.

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Corporate Network with Ethernet and Fast Ethernet Workgroups

In this example, SuperStack II PS Hub 40 hubs are aggregated to a SuperStack II Switch 1000 while a SuperStack II Switch 3000 TX or FX accommodates Fast Ethernet downlinks from Fast Ethernet workgroups (using SuperStack II Hub 100).

The SuperStack II Switch 3000 TX Fast Ethernet backbone switch also extends Fast Ethernet links to a central server farm and provides connections to the wide area and FDDI campus networks through a link to a NETBuilder II® Bridge/Router. The 3Com LAN Security Architecture, which is standard with the SuperStack II PS Hub 40, gives you security features that help safeguard your network against security breaches.

Specifications
SuperStack II PS Hub 40

Dimensions
12-Port TP, 24-Port TP
Width: 17.3 in/44 cm
Depth: 6.6 in/16.8 cm
Height: 1.7 in/4.4 cm
Advanced Redundant Power System
Width: 17.3 in/44 cm
Depth: 14.5 in/36.8 cm
Height: 2.6 in/6.6 cm
Uninterruptible Power System
Width:17.3 in/44 cm
Depth: 14.5 in/36.8 cm
Height: 2.6 in/6.6 cm

Weight
12-Port TP Hub
4.4 lb/2 kg
24-Port TP Hub
4.6 lb/2.1 kg
Advanced Redundant Power System
14 lb/6.3 kg
Uninterruptible Power System
28 lbs/12.6 kg

Connectors and Cables
12-Port TP Hub
12 RJ-45 ports, 2 optional Transceiver Interface Module slots,

1 9W D-Type RS-232 port
24-Port TP Hub
24 RJ-45 ports, 2 optional Transceiver Interface Module slots, 1 9W D-Type RS-232 port

Power Requirements
Hubs and Modules
Power supply: 85 to 264 VAC, 50 to 60 Hz
Power consumption:
12-Port Hub: 26W
24-Port Hub: 29W
Power inlet: IEC320
Fuse protection: 2A
Heat dissipation/hour:
12-Port TP Hub: 90 BTU
24-Port Hub: 103 BTU
Advanced Redundant Power System
Input voltage: 85 to 138 and 170 to 276 Vrms latching auto ranging input
Input frequency: 47 to 63 Hz
Inrush current (max.): 35A
Input rms current (max.): 5.9A each main with 240W load
Efficiency 70% min. at each main with 240W load
Leakage current: 3.5mA per main
DC output per module:

60W
+5 (+5% - 3%) V at 8.5A
+12.6 (±4%) V at 2.5A
-12 (±6%) V at 1A
100W
+5 (+5% - 3%) V at 15A
+12.6 (±4%) V at 2.5 A
-12.0 (±6%) V at 1A
Over-voltage protection: 5 V requires power cycle to restart (will have maximum of 7.5 VDC)
60W module: Auto Power Shutdown at 90W with auto recovery.
100W module: Auto Power Shutdown at 150W with auto recovery
Uninterruptible Power System
Input voltage (3 variants):

U.S.　Input range: 120V -30%, +20%
　　　Output regulation: -10%, +6%
Int'l　Input range: 230V -30%, +20%
　　　Output regulation: -10%, +6%
Japan Input range: 100V -20%, +20%
　　　Output regulation: -10%, +6%

Input frequency: 120V models are 60Hz. 100V and 230V models are 50/60Hz
Efficiency 96%

Environmental Ranges
Hubs (Operating)
Temperature: 32° to 122° F (0° to 50° C)
Humidity: up to 90% noncondensing
Hubs (Storage)
Temperature: -22° to 140° F (-30° to 60° C)
Humidity: 10% to 95% noncondensing
Advanced Redundant Power (Operating)
Temperature: 32° to 122° F (0° to 50° C)
Humidity: 10% to 90% noncondensing
Advanced Redundant Power (Storage)
Temperature: -4°F to 185°F (-20°C to +85°C) ambient
Humidity: 10% to 90% noncondensing

Uninterruptible Power System (Operating)

Temperature: 32° to 104° F (0° to 40° C)

Humidity: 5% to 95% noncondensing

LEDs

Each SuperStack II PS Hub 40 includes LEDs for power status (per unit), packet reception (per segment), collision (per segment), disable/partition (per port), link status (per port), attention (per unit)

Standards Compliance

Functional Standards

IEEE 802.3, ISO 8802/3

Electromagnetic Compatibility

Each individual hub complies with VFG243, FCC Part 15 Class A, EN55022 Level B, CSA 108.8, EN50082-1 (IEC801 2-5)

The RPS complies with VFG 243, FCC Part 15 Class A, EN55022 Class B, IEC 801 Parts 2-6

The UPS complies with VCCI-II for 100V models; FCC-B for 120V models; EN50091-2 and CE compliance for 230V models.

Emissions: Harmonics: per EN61000-3-2

RFI: per EN55022-B, FCC-B, VCCI-II

Shock and Vibration (Advanced Redundant Power System)

In accordance with IEC68

Safety

EN60950, UL1950, CSA22.2, #950IEEE, ECMA 97

Uninterruptible Power System

100120V models: UL1778 Listed, UL 1449 rated MOV, CSA 22.2 No. 107.1

230V models: TUV (GS mark) per EN50091-1

Environmental

Each individual hub complies with IEC68 and BS2011

Communications Protocols

RFC 826	ARP
RFC 791	P
RFC 792	ICMP
RC 768	UDP
RFC 793	TCP

Management Protocols

RFC 1157	SNMP
RFC 1212	Concise
RFC 1213	MIB II
RFC 1215	Traps
RFC 1516	Repeater
RFC 1757	RMON

Hub Standards

IETF 802.3 Repeater MIB

IETF 802.3 Repeater MAU MIB

IEEE 802.3 Layer management for 10-Mbps repeater, section 19

IEEE 802.3 Layer management for 10-Mbps Medium Attachment Units (MAUs), section 20

Others

RFC 783 TFTP (Trivial File Transfer Protocol)

Mounting

Includes hardware for mounting in a standard 19-inch rack/desk and wall mounting.

Ordering Information

SuperStack II PS Hub 40

12-Port TP	3C16405
24-Port TP	3C16406

Backbone Connections

AUI Transceiver Interface Module (1 female AUI connector)	3C1206-0
Fan-Out Transceiver Interface Module (1 male AUI connector)	3C1206-4
Fiber Optic Transceiver Interface Module (1 pair of ST connectors)	3C1206-5
Coaxial Transceiver Interface Module (1 BNC connector)	3C1206-6
10BASE-FB Transceiver Interface Module (1 pair of ST connectors)	3C12067
Bridge MicroModule	3C16060

Management Software

Transcend WorkGroup Manager for Windows 95 and NT (manages 3Com stackable Ethernet and Token Ring hubs and Ethernet and Token Ring NICs)   3C15000G

Transcend Enterprise Manager for Windows 95 and NT (includes Transcend WorkGroup)   3C15010F

Transcend Enterprise Manager for UNIX (support for SunNet Manager, HP OpenView, and IBM NetView for AIX)   3C27850E

SuperStack II Accessories

Advanced RPS	3C16070
Uninterruptible Power System (U.S.)	3C16010
Uninterruptible Power System (International)	3C16011
Uninterruptible Power System (Japanese)	3C16012
Uninterruptible Power System Ethernet Management Module	3C16020
Uninterruptible Power System Token Ring Management Module	3C16021
PS Hub Cascade Cable (30 cm)	3C16420
PS Hub Cascade Cable (1 m)	3C16421
PS Hub Cascade Cable (3 m)	3C16422
PS Hub Hot-Swap Cascade Unit	3C16430

+5 Lifetime Limited Warranty

The 3Com +5 Lifetime Limited Warranty modifies the standard lifetime limited warranty that accompanies your SuperStack II PS Hub 40 by providing a full 5 years of advanced hardware exchange from your date of purchase in accordance with 3Com standard terms and conditions. To qualify, you must submit the appropriate product warranty registration card to 3Com. After the initial 5-year period, the warranty reverts to the 3Com standard lifetime limited warranty. The +5 Lifetime Limited Warranty is not offered or is void where restricted or prohibited by law.