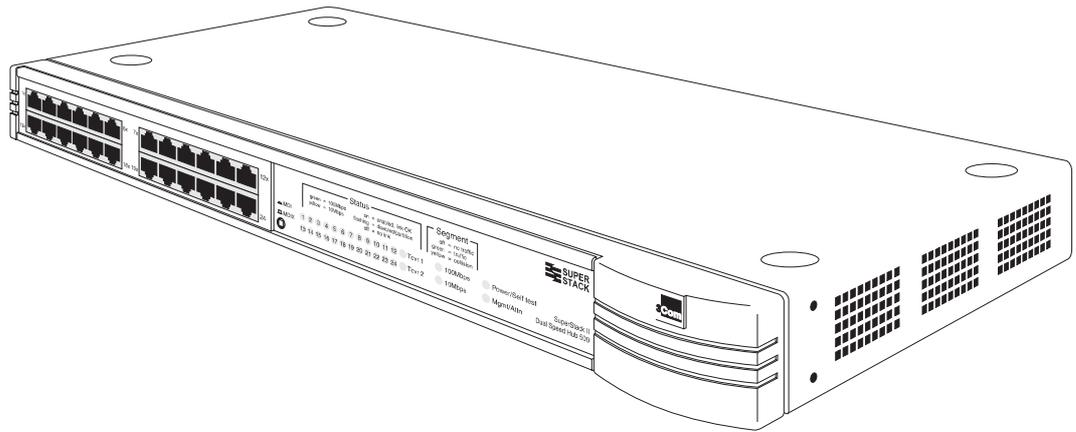# SuperStack II

SuperStack® II Dual Speed Hub 500
12-Port TP (3C16610) and 24-Port TP (3C16611)
User Guide

# INTRODUCTION

The SuperStack® II Dual Speed Hub 500 is an easy-to-use, 10/100 autosensing manageable and stackable hub (repeater). It is ideal for users that want the power of Fast Ethernet and the flexibility to connect 10Mbps devices (workstations and other equipment) in the same hub or stack.

The Dual Speed Hub 500 has 12 or 24 shielded RJ45 10/100 autosensing ports on the front panel which can both be used to connect 10BASE-T (Ethernet) or 100BASE-TX (Fast Ethernet) devices to the hub. There are two segments (10Mbps and 100Mbps) in the hub, which are linked by a switch, so your 10Mbps and 100Mbps workstations and equipment can communicate.

The hub also has two transceiver module slots that can be fitted with a Management Module, or 3Com 10Mbps or 100Mbps modules to provide you with additional types of network connection. For information on what modules can be used, refer to the "Products" section in this guide.

The Dual Speed Hub 500 comes with:

■ One power cord for use with the Dual Speed Hub 500

■ Four self-adhesive rubber pads

■ Mounting kit

■ A Warranty Registration card for you to fill out and return

The Dual Speed Hub 500 is suited for office use where it can be free standing, wall-mounted, or rack-mounted (in a wiring closet or equipment room).

The unit can be powered either from the AC mains supply, or through an optional 3Com SuperStack II Advanced Redundant Power System (3C16070). Contact your supplier for details.

To provide maximum flexibility and expandability, the Dual Speed Hub 500 can be used with a range of other equipment:

■ Using Cascade Cables, you can connect up to eight Dual Speed Hub 500 units to form a logical repeater (called a *stack*), providing up to 208 ports per stack. The 10Mbps and 100Mbps segments in each hub are connected by the Cascade Cables. Using additional Hot Swap Cascade Units, you can add resilience to the cascade connections so that you can remove units at any time without it affecting communication across the other units in the stack.

■ Using the MDI switch on the front panel, you can connect a 10BASE-T or 100BASE-TX unit or stack to the Dual Speed Hub 500.

■ Using a Dual Speed Hub – PS Hub Cascade Converter Kit, you can stack Dual Speed Hub 500 units with existing SuperStack II PS Hubs. The whole stack can be managed as a single entity. The maximum number of units that you can connect this way to form a stack is eight.

Refer to the "Products" section in this guide for information on obtaining these products.

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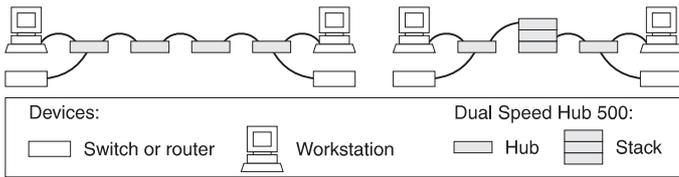
## Network Connections

All ports on the Dual Speed Hub 500 are half duplex, autosensing 10Mbps and 100Mbps. The ports sense the speed of the cables and devices that are attached to them and operate at the speed required.

*i* *For a stack of Dual Speed Hub 500 units, any path through the stack counts as going through two logical repeaters.*

### Ethernet Network Configuration Rules

To remain within IEEE 802.3 10Mbps Ethernet rules, the maximum length of cable between the Dual Speed Hub 500 and an attached device must not exceed 100m (328ft). If you are connecting multiple repeaters together in series, ensure that there are no more than four 10Mbps repeaters between any two devices on your network (as shown below).

| Devices: | | Dual Speed Hub 500: | |
|---|---|---|---|
| ▭ | Switch or router | ▭ | Hub |
| 🖥 | Workstation | ▦ | Stack |

### Fast Ethernet Network Configuration Rules

To remain within IEEE 802.3 100Mbps Fast Ethernet rules, the maximum length of cable between the Dual Speed Hub 500 and an attached device must not exceed 100m (328ft). If you are connecting multiple repeaters together in series, ensure that there are no more than two 100Mbps repeaters between any two devices on your network, and that the total cable distance between the two devices does not exceed 205m (672.4ft) (as shown below).

### 100BASE-TX and 100BASE-FX Distance Extender Modules

These slide-in transceiver modules overcome the usual Fast Ethernet topology limitations by allowing a virtually unlimited number of Dual Speed Hub 500 units or stacks to be linked together across cable distances of up to 100m (328ft) for 100BASE-TX, or 2000m (6600ft) for 100BASE-FX. Information on using the Distance Extender Module is described in the user guide that accompanies the module. Refer to the "Products" section in this guide for information on obtaining the module.

### SNMP and RMON Management Module

A user-installable Dual Speed Hub 500 Management Module can be fitted in one of the transceiver module slots, providing management where needed. A single module manages the entire stack and provides full SNMP and RMON support.

Management allows you to configure the way the Dual Speed Hub 500 operates and monitor the way your network works. You can manage the unit or stack locally or remotely using the easy-to-use web interface or Command Line Interface that are supplied. Alternatively, you may want to use an SNMP network management application (for example 3Com's powerful Transcend® Enterprise Manager for Windows®) or RMON (remote monitoring) application.

The Management Module provides a number of other advanced features including the ability to set Resilient Links and network security. It also provides the 'Smart Autosensing 10/100' feature*, an enhancement of the standard autosensing. With Smart Autosensing, each port not only recognises the speed, but also the quality of the cable attached and adjusts its speed for maximum reliable transmission. (*available mid-1998)

Information on using the Management Module to manage the Dual Speed Hub 500 is described in the user guide that accompanies the Management Module. Refer to the "Products" section in this guide for information on obtaining the Management Module.

# HOW TO USE THE DUAL SPEED HUB 500
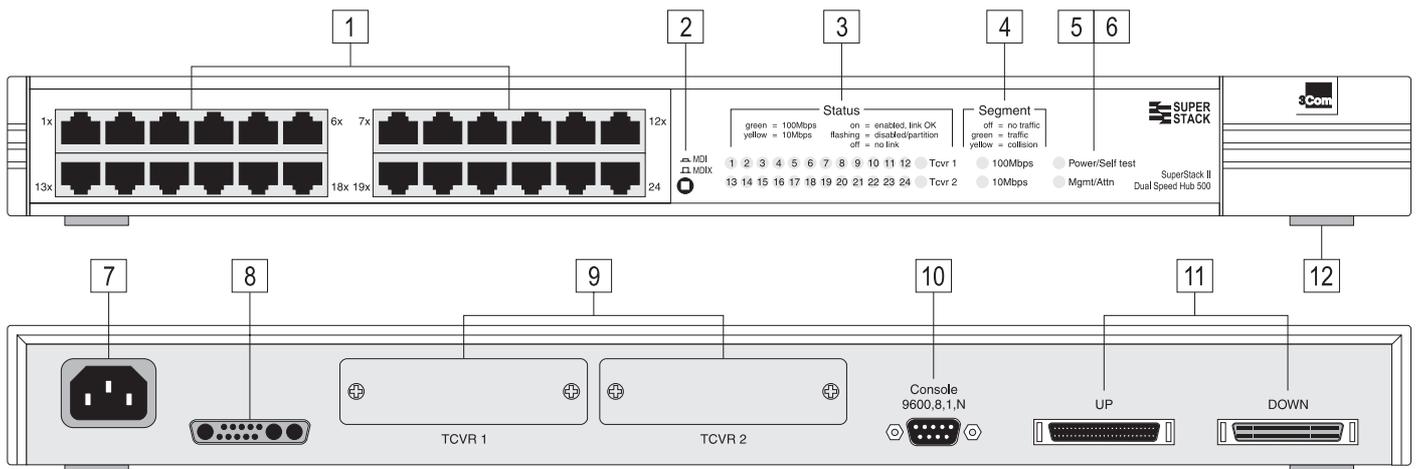
Numbered elements in this diagram refer to numbered sections in the text.

## Front Panel

### 1    12 or 24 RJ45 10/100 Ports

You can use these ports to connect 10BASE-T or 100BASE-TX devices (workstations and other equipment) to the Dual Speed Hub 500. As the ports are autosensing, the speed of the ports is determined automatically when you connect your equipment.

⚡ **WARNING: RJ45 ports.** *These are shielded RJ45 data sockets. They cannot be used as telephone sockets. Only connect RJ45 data connectors to these sockets.*
**AVERTISSEMENT: Les ports RJ45.** *Ceux-ci sont les prises de courant de données RJ45 protégées. Ils ne peuvent pas être utilisés comme prises de courant téléphoniques. Brancher seulement les connecteurs RJ45 de données à ces prises de courant.*
**WARNUNG: RJ45 Ports.** *Hierbei handelt es sich um abgeschmirte RJ45 Datenbuchsen, die nicht als Telefonbuchsen verwendbar sind. Nur RJ45 Datensteckverbinder an diese Buchsen anschließen.*

Connect one end of the TP (twisted pair) cable to the RJ45 port on the Dual Speed Hub 500 and the other end to the appropriate RJ45 port on the device. Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.

*i* *The equipment that is connected to the Dual Speed Hub 500 must not be set up to operate in full duplex. Set it up to operate as auto-negotiate or half duplex.*

#### 10BASE-T
To connect 10BASE-T equipment, use 10BASE-T Category 3, 4 or 5 unshielded or shielded (screened) 100 Ohm TP cable.

*i* *Category 5 cable should be used with this product in structured wiring environments. This will ensure correct operation of all ports at 10Mbps or 100Mbps.*

#### 100BASE-TX
To connect 100BASE-TX equipment, use 100BASE-TX Category 5 unshielded or shielded (screened) 100 Ohm TP cable.

**2**

## 2    MDI Switch

Ports 1–11 or 23 are fixed as MDIX ports so that they can be connected directly to devices which have MDI ports using normal 'straight through' TP cables.

Port 12 (3C16610) or 24 (3C16611) is 'switch selectable' using the MDI Switch. The port can be an MDIX port (to connect directly to devices like the other ports), or an MDI port (to connect to other units using a normal 'straight through' TP cable).

| | | |
|---|---|---|
| MDIX | **Out** | In this position you can connect port 12 or 24 to a workstation or any other device using a normal 'straight through' TP cable. |
| MDI | **In** | In this position you can connect port 12 or 24 to any MDIX port on a 10BASE-T or 100BASE-TX unit using a normal 'straight through' TP cable. |

*If you want to connect Dual Speed Hub 500 units or stack together, it is recommended that you use the Cascade Cables or a Distance Extender Module, rather than using the TP ports (and the MDI switch).*

To connect a Dual Speed Hub 500 unit to another 10Mbps or 100Mbps unit or stack, connect an MDIX port on the unit or stack to port 12 or 24 on the Dual Speed Hub 500, as shown below. Ensure that the MDI switch on the Dual Speed Hub 500 is IN (MDI). If an MDI/MDIX port is used on the unit or stack, ensure that the MDI switch for that port is OUT (MDIX).
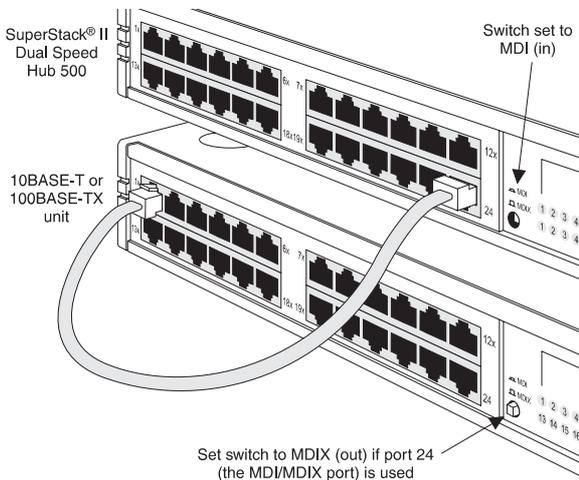


## 3    Status LEDs

The Status LEDs show the state of a port and whether or not the Link Pulse signal is present on the segment connected to a port:

| | |
|---|---|
| Green | A 100Mbps Link Pulse signal is being received and the 100BASE-TX segment attached to the port is functional. |
| Yellow | A 10Mbps Link Pulse signal is being received and the 10BASE-T segment attached to the port is functional. |
| Flashing | The port has partitioned due to a network loop, or has been disabled by management. To remove the network loop, examine your connections and ensure that each piece of equipment is connected to your network by one connection.<br><br>You can have multiple connections for equipment (for resilience) but you must use resilient links to control them; refer to the documentation that accompanies the Management Module. |
| Off | The Link Pulse signal is not being received. Either you have nothing connected to the port, or there is a problem:<br>■ Check that the attached device is powered on.<br>■ Check that the attached transceiver is not faulty.<br>■ Check that the cable is the correct type and is not faulty.<br><br>If the LED is off for port 12 or 24, check the setting of the MDI switch, refer to **2**.<br><br>If you have connected stacks or different units together, check that your configuration conforms to the network configuration rules for 10BASE-T and 100BASE-TX. |

If these checks do not identify the cause of a problem, it may be that the unit or the device connected to the port is faulty. Contact your supplier for further advice.

## 4    Segment LEDs

The Segment LEDs indicate 10Mbps and 100Mbps activity:

| | |
|---|---|
| Flashing green | Packets are being received or transmitted. |
| Flashing yellow | Collisions are occuring on the segment. A low level of collisions is a part of normal Ethernet and Fast Ethernet operation. Excessive collisions may indicate a network problem. |
| Off | No packets are being received or transmitted on the segment. |

## 5    Power/Self test LED

The Power/Self test LED indicates a number of conditions:

| | |
|---|---|
| Green | The unit is powered on and ready for use. |
| Flashing green | The unit is performing a management software upgrade (refer to the user guide that accompanies the Management Module), or is performing its self test after being powered on. |
| Yellow | The unit has failed its self test. Power off the unit, wait five seconds and power on the unit. Contact your supplier if the LED continues to light yellow. |
| Flashing yellow | There is a fault on the cascade. Check the status of the Segment LEDs; refer to **4**. |
| Off | The unit is powered off or the LED has failed.<br><br>If the power cable is connected up correctly, there may be a problem with the fuse within the power cord's plug.<br><br>If the unit is operating and the LED has failed, contact your supplier. |

## 6    Mgmt/Attn LED

The Mgmt/Attn LED indicates a number of conditions:

| | |
|---|---|
| Green | A Management Module is installed in the unit. |
| Flashing green | The user's attention is being drawn to the unit. You can use management to make this LED flash; refer to the user guide that accompanies the Management Module. |
| Off | A Management Module is not installed in the unit. |

# Rear Panel Connections

## 7    Power Supply

The Dual Speed Hub 500 automatically adjusts to the supply voltage. Only use the power cord that is supplied with the Dual Speed Hub 500, or a power cord of the same type.

## 8    Type 2 RPS Connector

Only connect a 3Com SuperStack II Advanced Redundant Power System (3C16070) to this socket. An appropriate power module and cable is required. For details, follow the installation instructions in the guide that accompany the Advanced Redundant Power System and the power module.

## 9    Two Transceiver Module Slots

A variety of 3Com modules and transceiver modules can be installed in the Dual Speed Hub 500, including the Management Module; refer to the "Products" section in this guide.

**WARNING:** *Disconnect the unit from both the power supply and the network before installing or removing the module.*
**AVERTISSEMENT:** *Débranchez le groupe de l'alimentation électrique et du réseau avant d'installer ou de déposer le module.*
**WARNUNG:** *Vor dem Installieren bzw. Ausbauen des Moduls muß der Netzstecker des Geräts abgezogen und die Verbindung zum Netzwerk unterbrochen werden.*

When using transceiver modules with this unit, they will only conform to EMC Class A requirements.

If your transceiver module is capable of generating SQE test signals, ensure that the SQE test function is disabled.

To install a module or transceiver module, refer to the documentation that accompanies it. If you remove the module or transceiver module in the future, you must replace the blanking plate to aid the circulation of cooling air and prevent the entry of dust and debris.

**10  Console Port**

Used to connect your management station to the unit for local management; refer to the user guide that accompanies the Management Module.

**11  Cascade Ports**

Used for connecting the unit to other Dual Speed Hub 500 units or PS Hubs, to form a stack. You can stack up to eight Dual Speed Hub 500 units.

*You can have a maximum of 6m (19.6ft) of cascade cabling between the top and bottom units in the stack.*

*The Cascade Cables and Hot Swap Cascade Units that are used with the Dual Speed Hub 500 are **not** the same as those used by the PS Hub.*

**Connecting Dual Speed Hub 500 Units with Cascade Cables (Stacking)**
To connect Dual Speed Hub 500 units together, using Cascade cables:

**1** Position the units as required; rack mounting or wall mounting them if necessary.

**2** Starting with the bottom unit, using a cascade cable:

- Connect the cable to the UP port on the unit.
- Connect the cable to the DOWN port on the unit directly above it.

**3** Continue up the stack, repeating step 2 for each unit, as shown below.
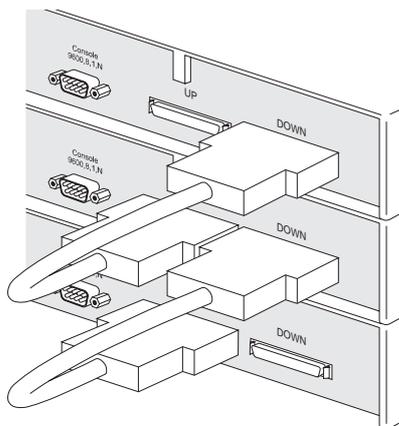


**Using Hot Swap Cascade Units**
To increase the resilience of the stack, you can use Hot Swap Cascade Units with your Cascade Cables (one Hot Swap Cascade Unit for each Dual Speed Hub 500). For information on using Hot Swap Cascade Units, refer to the documentation that accompanies it.

**Connecting to a PS Hub**
You can connect your Dual Speed Hub 500 stack to the PS Hub using a Dual Speed Hub – PS Hub Cascade Converter Kit. For information on using the Cascade Converter Kit, refer to the documentation that accompanies it.

**12  Self-adhesive Pads**

The Dual Speed Hub 500 is supplied with four self-adhesive rubber pads.

*Do not apply the pads if you intend to rack or wall mount the unit.*

If the unit is to be part of a free standing stack, apply the pads to each marked corner area on the underside of the unit. Place the unit on top of the lower unit, ensuring that the pads locate with the recesses of the lower unit.

## Positioning the Dual Speed Hub 500

**CAUTION:** *When installing the Dual Speed Hub 500 in a stack of different size units, the Dual Speed Hub 500 must be installed above the larger units. Do not have a free standing stack of more than six units.*

When deciding where to position the Dual Speed Hub 500 ensure:

- It is accessible and cables can be connected easily.
- Cabling is away from:
  - sources of electrical noise such as radios, transmitters and broadband amplifiers.
  - power lines and fluorescent lighting fixtures.
- Water or moisture cannot enter the case of the unit.
- Air flow around the unit and through the vents in the side of the case is not restricted (3Com recommend that you provide a minimum of 25mm (1in.) clearance).

To prolong the operational life of your units:

- Never stack units more than six high if free standing, and ensure that cables are supported so that they do not cause the stack to fall over.
- Do not place objects on top of any unit or stack.
- Do not obstruct any vents at the sides of the case.

## Rack or Wall Mounting

The Dual Speed Hub 500 can be mounted in a 19in. equipment rack, or wall-mounted using the Mounting Kit. Refer to the "Mounting Kit Instructions" section in this guide.

## Power Up

Use the following sequence to power up the Dual Speed Hub 500:

- Check the network connections and cables.
- Connect the power supply cable to the appropriate power socket on the rear panel of the unit, refer to **7** or **8**.
- Connect the plug to the power supply outlet socket and switch on the power supply at the socket. If you are using the Advanced Redundant Power System, ensure that it is powered on.

When the Dual Speed Hub 500 is powered on, the Power LED should be lit. If it is not, refer to "Power/Self test LED", **6**.

## Spot Checks

At frequent intervals you should visually check the Dual Speed Hub 500. Regular checks can give you an early warning of a possible failure; any problems can then be attended to when there will be least effect on users. Check the following:

| | |
|---|---|
| Cabling | Check that all external cabling connections are secure and that no cables are pulled taut. |
| Cooling fans | Check that the cooling fan is operating by listening to the unit. The fan is fitted near to the front right hand side of the unit (when viewed from the front). |

## What To Do Next?

If the Dual Speed Hub 500 fails to operate successfully, contact your supplier with the following information before returning the unit:

- product number and serial number
  (printed on a label on the bottom of the unit)
- a brief description of the fault

When returning any equipment to your supplier ensure that the equipment is packed suitably for transit.

# SAFETY INFORMATION

**Please read the following safety information carefully before installing the Dual Speed Hub 500.**

**WARNING:** *Installation and removal of the unit must be carried out by qualified personnel only.*

- If installing the unit in a stack with SuperStack II units, it must be installed above the larger units.

- Connect the unit to an earthed power supply to ensure compliance with safety standards.

- It is essential that the socket outlet is near to the unit and is accessible. You can only disconnect the unit by removing the appliance coupler from the unit.

- This unit operates under SELV conditions (Safety Extra Low Voltage) according to IEC 950, the conditions of which are maintained only if the equipment to which it is connected is also operational under SELV.

- The appliance coupler, that is, the connector to the device itself and not the wall plug, must have a configuration for mating with an EN60320/IEC320 appliance inlet.

- Under no circumstances should the unit be connected to an A.C. outlet (power supply) without an Earth (Ground) connection.

- Only connect an Advanced Redundant Power System (3C16070) to the Redundant Power System socket.

### UK only
The Dual Speed Hub 500 is covered by Oftel General Approval, NS/G/12345/J/100003, for indirect connection to a public telecommunications system. This can only be achieved using the console port on the unit and an approved modem.

### France and Peru only
This unit cannot be powered from IT[†] supplies. If your supplies are of IT type, this unit should be powered by 230V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to Earth (Ground).
[†]Impédance à la terre

### Power Cord Set
This must be approved for the country where it will be used.

| | |
|---|---|
| USA and Canada | ■ The cord set must be UL-approved and CSA certified. |
| | ■ The minimum specifications for the flexible cord are:<br>No. 18 AWG<br>Type SV or SJ<br>3-conductor |
| | ■ The cord set must have a rated current capacity of at least 10A. |
| | ■ The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration. |
| Denmark | ■ The supply plug must comply with Section 107-2-D1, Standard DK2-1a or DK2-5a. |
| Switzerland | ■ The supply plug must comply with SEV/ASE 1011. |

# L'INFORMATION DE SÉCURITÉ IMPORTANTE

**Veuillez lire à fond l'information de la sécurité suivante avant d'installer le Dual Speed Hub 500.**

**AVERTISSEMENT:** *L'installation et l'enlèvement de l'unité doivent être faits seulement par le personnel qualifié.*

- Si vous entassez l'unité avec les unités SuperStack II, l'unité doit être installée en dessous des unités Dual Speed Hub 500 plus étroites.

- Brancher l'unité à une source de courant mise à la terre pour assurer la conformité aux normes de sécurité.

- C'est essentiel que le socle soit installé près de l'unité et soit accessible. Vous pouvez seulement débrancher l'unité en enlevant la fiche d'alimentation de la prise de courant.

- Cette unité marche sous les conditions SELV (Safety Extra Low Voltage) conformément à IEC950, ces conditions sont maintenues seulement si le matériel auquel elle est branchée, est aussi en exploitation sous SELV.

- Le socle de connecteur, c'est-à-dire, le connecteur à l'appareil lui-même et non pas la prise murale, doit avoir une configuration pour le branchement avec une admission d'appareil EN60320/IEC320.

- L'unité ne devrait pas être branchée à une prise de courant C.A. (source de courant) sous aucun prétexte sans un branchement mis à la terre (mis à la masse).

- Branchez uniquement un Advanced Redundant Power System (3C16070) sur la prise femelle du Redundant Power System.

### Seulement Pour La France et Le Pérou
Cette unité ne peut pas être mise en marche des sources de courant IT (Impédance à la terre). Si vos sources de courant sont de type IT, cette unité doit être alimentée par 230V (2P+T) via un rapport de transformation d'isolation de 1:1, avec un point de connexion secondaire étiqueté Neutre, branché directement à la Terre (à la Masse).

### Le Cordon d'Alimentation Surmoulé
Celui-ci doit être approuvé pour le pays auquel il sera utilisé.

| | |
|---|---|
| USA et le Canada: | ■ Le cordon surmoulé doit être UL Certifié et CSA Certifié. |
| | ■ Les spécifications minimales pour le cordon souple sont:<br>No. 18 AWG<br>Type 5V ou SJ<br>3-conducteur |
| | ■ Le cordon surmoulé doit avoir une capacité de courant calculée au moins de 10A. |
| | ■ La fiche de fixation doit être un type mis à la terre avec une configuration NEMA 5-15P (15A, 125V) ou NEMA 6-15P (15A, 250V). |

# WICHTIGE SICHERHEITSINFORMATIONEN

**Bitte unbedingt vor dem Einbauen des Dual Speed Hub 500 Einheit die folgenden Sicherheitsanweisungen durchlesen.**

*Ein- und Ausbau des Gerätes ist **nur von Fachpersonal** vorzunehmen.*

- Wenn die Dual Speed Hub 500 Einheit in einer Stapel mit anderen SuperStack II Einheiten eingebaut werden soll, muß die Dual Speed Hub 500 Einheit unter die schmaleren Dual Speed Hub 500 Einheiten eingebaut werden.

- Das Gerät an geerdete Stromversorgung anschließen, um eine Übereinstimmung mit den Sicherheitsbestimmungen zu gewährleisten.

- Es ist wichtig, daß der Netzstecker sich in unmittelbarer Nähe zum Gerät befindet und leicht erreichbar ist. Das Gerät kann nur durch Herausziehen des Verbindungssteckers aus der Steckdose vom Stromnetz getrennt werden.

- Das Gerät wird mit Sicherheits-Kleinspannung nach IEC 950 (SELV = Safety Extra Low Voltage) betrieben. Angeschloßen werden können nur Geräte, die ebenfalls nach SELV betrieben werden.

- Das Gerät ist unter keinen Umständen an einen Wechselstrom (A.C.) Netzstecker anzuschließen ohne Erdungsleitung.

- Um Übereinstimmung mit den europäischen Sicherheitsnormen zu gewährleisten, darf am Zuführungstecker des Gerätes keine Ersatzsicherung angebracht werden. Nur Sicherungen der gleichen Herstellung und Marke sowie des gleichen Typs für das Gerät verwenden.

- Die Anordnung der Gerätsteckvorrichtung, d.h. die Steckverbindung am Gerät selbst im Gegensatz zum Wandstecker, muß in den EN60320/IEC320 Zuführungstecker am Gerät passen.

- Der Anschlußkabelsatz muß mit den Bestimmungen des Landes übereinstimmen, in dem er verwendet werden soll.

- Nur ein Advanced Redundant Power System (3C16070) an den Redundant Power System Anschluß anschließen.

**5**

# MOUNTING KIT INSTRUCTIONS

## Introduction
The Dual Speed Hub 500 is supplied with two mounting brackets and four screws. These are used for rack mounting and wall mounting the unit. When mounting the unit, you should take note of the guidelines given in *"Positioning the Dual Speed Hub 500"* overleaf.

## Wall Mounting the Units

⚠️ **CAUTION:** *Disconnect all cables from the unit(s) before continuing. Remove the self-adhesive pads from the underside of the unit(s), if already fitted.*

*The maximum number of units that you can wall mount together is two units.*

### Fitting the brackets to wall mount one unit:

**1** Place the unit the right way up on a hard, flat surface with the front facing towards you.

**2** Locate a mounting bracket over the mounting holes on one side of the unit, as shown in Figure 1 below.

**3** Insert the two screws and fully tighten with a screwdriver.

Repeat the last two steps for the other side of the unit.

### Fitting the brackets to wall mount two units:

**1** Stack the units the right way up on a hard, flat surface with the front facing towards you.

**2** Locate two mounting brackets over the mounting holes on one side of the units, as shown in Figure 2 below.

**3** Insert the three screws and fully tighten with a screwdriver.

Repeat the last two steps for the other side of the units.

### To wall mount the unit(s):

Ensure that the wall you are going to use is smooth, flat, dry and sturdy. Attach a piece of plywood, about 30cm x 50cm x 1.5cm (12in. x 20in. x 0.5in.) in size, securely to the wall if necessary, and mount the unit(s) as follows:

**1** Position the unit(s) against the wall (or plywood) ensuring that the ventilation holes face sideways. Mark on the wall the position of the screws holes for both wall brackets. Drill the four holes.

**2** Using suitable fixings and screws (not provided), attach the unit(s) securely to the wall (or plywood).

Reconnect all cables.

## Rack Mounting the Units
The Dual Speed Hub 500 is 1U high and will fit a standard 19in. rack.

⚠️ **CAUTION:** *Disconnect all cables from the unit before continuing. Remove the self-adhesive pads from the underside of unit, if already fitted.*

**1** Place the unit the right way up on a hard, flat surface with the front facing towards you.

**2** Locate a mounting bracket over the mounting holes on one side of the unit, as shown in Figure 3 below.

**3** Insert the two screws and fully tighten with a suitable screwdriver.

**4** Repeat the two previous steps for the other side of the unit.

**5** Insert the unit into the 19in. rack and secure with suitable screws (not provided).
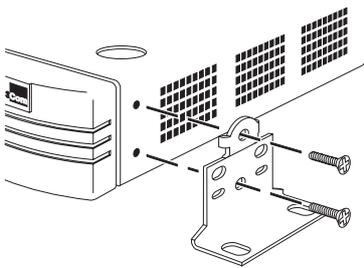
Reconnect all cables.



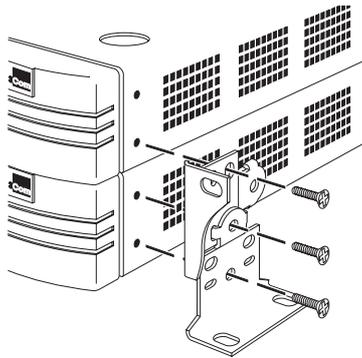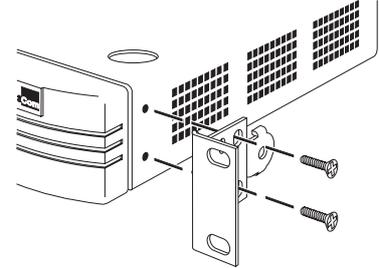**Figure 1**   Wall Mounting One Unit          **Figure 2**   Wall Mounting Two Units          **Figure 3**   Rack Mounting

# TECHNICAL INFORMATION

## Related Standards
The SuperStack® II Dual Speed Hub 500 has been designed and certified to the following standards:

| | |
|---|---|
| **Functional** | ISO/IEC 8802-3, IEEE 802.3, IEEE 802.3u, IEEE 802.1D |
| **Safety** | UL 1950, EN 60950, CSA 22.2 #950, IEC 950 |
| **EMC** | EN 55022 Class A*, EN 50082-1, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A*, AS/NZS 3548 Class A* |
| | *The use of unscreened cables (Category 3 or 5 for 10BASE-T ports or Category 5 for 100BASE-TX ports) complies with the Class A requirements. |
| **Environmental** | EN 60068 (IEC 68) |

## Environmental

| | |
|---|---|
| **Operating Temperature** | 0–50°C (32–122°F) |
| **Humidity** | 0–95% (non-condensing) |

## Physical

| | |
|---|---|
| **Width** | 440mm (17.3in.) |
| **Depth** | 230mm (9in.) |
| **Height** | 44mm (1.7in.) or 1U |
| **Weight** | 3C16610: 2.55kg (5.6lb) / 3C16611: 2.66kg (5.8lb) |
| **Mounting** | free standing, or 19in. rack or wall mounted using the mounting kit supplied |

## Electrical

| | |
|---|---|
| **Power Inlet** | IEC 320 |
| **AC Line Frequency** | 50/60 Hz |
| **Power Consumption** | 3C16610: 36 VA / 3C16611: 40 VA |
| **Power Dissipation** | 3C16610: 123 BTU/hr 3C16611: 137 BTU/hr |
| **Input Voltage** | 100–240 VAC |
| **Current Rating** | 1.0 Amps (maximum) |

# LIFETIME LIMITED WARRANTY

## For first five years    +5 Lifetime Limited Warranty

The SuperStack II Dual Speed Hub 500 (3C16610 and 3C16611) benefits from 3Com's enhanced +5 Lifetime Limited Warranty. This provides a full 5 years of advanced hardware exchange from your date of purchase in accordance with 3Com's standard terms and conditions. To qualify, you must submit your warranty registration card to 3Com. After the initial 5 year period, the warranty reverts to 3Com's standard lifetime limited warranty. The +5 Lifetime Limited Warranty is not offered or is void where restricted or prohibited by law.

## After first five years    Lifetime Limited Warranty

The duration of the 3Com standard lifetime limited warranty is lifetime, excluding the power supply and fans. See below for terms and conditions of this warranty.

**HARDWARE:** 3Com warrants its hardware products to be free from defects in workmanship and materials, under normal use and service, for the following lengths of time from the date of purchase from 3Com or its Authorized Reseller:

| | |
|---|---|
| **Network adapters** | Lifetime |
| **Other hardware products** | One year (unless otherwise specified above) |
| **Spare parts and spares kits** | 90 days |

If a product does not operate as warranted above during the applicable warranty period, 3Com shall, at its option and expense, repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

**SOFTWARE:** 3Com warrants that the software programs licensed from it will perform in substantial conformance to the program specifications therefor for a period of ninety (90) days from the date of purchase from 3Com or its Authorized Reseller. 3Com warrants the media containing software against failure during the warranty period. No updates are provided. 3Com's sole obligation with respect to this express warranty shall be (at 3Com's discretion) to refund the purchase price paid by Customer for any defective software products, or to replace any defective media with software which substantially conforms to 3Com's applicable published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty or representation that its software products will work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product.

**STANDARD WARRANTY SERVICE:** Standard warranty service for hardware products may be obtained by delivering the defective product, accompanied by a copy of the dated proof of purchase, to 3Com's Corporate Service Center or to an Authorized 3Com Service Center during the applicable warranty period. Standard warranty service for software products may be obtained by telephoning 3Com's Corporate Service Center or an Authorized 3Com Service Center, within the warranty period. Products returned to 3Com's Corporate Service Center must be pre-authorized by 3Com with a Return Material Authorization (RMA) number marked on the outside of the package, and sent prepaid, insured, and packaged appropriately for safe shipment. The repaired or replaced item will be shipped to Customer, at 3Com's expense, not later than thirty (30) days after receipt of the defective product by 3Com.

**WARRANTIES EXCLUSIVE:** IF A 3COM PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND SATISFACTORY QUALITY. 3COM NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS.

3COM SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR OR MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

**LIMITATION OF LIABILITY:** TO THE FULL EXTENT ALLOWED BY LAW 3COM ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF 3COM OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Some countries, states, or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to you. This warranty gives you specific legal rights which may vary depending on local law.

**GOVERNING LAW:** This Limited Warranty shall be governed by the laws of the state of California.

**3Com Corporation**, 5400 Bayfront Plaza, Santa Clara, CA 95052-8145 U.S.A. Tel: 1 (408) 764-5000

9/1/96

# ELECTRO-MAGNETIC COMPATIBILITY

## FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference to radio communications, in which case the user will be required to correct the interference at their own expense.

## CSA Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## VCCI Statement

この装置は，クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。    VCCI－A

## Information To The User

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient the receiving antenna.

— Relocate the equipment with respect to the receiver.

— Move the equipment away from the receiver.

— Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

*How to Identify and Resolve Radio-TV Interference Problems*

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

In order to meet FCC emissions limits, this equipment must be used only with cables which comply with IEEE 802.3.

# PRODUCTS

The SuperStack II Dual Speed Hub 500 is part of the large SuperStack II range of 3Com products. Some of the products that you can use with the Dual Speed Hub 500 are listed here. Contact your supplier for the latest product information and to order these products.

## Dual Speed Hub 500 Units
3C16610 — 12-Port TP Dual Speed Hub 500
3C16611 — 24-Port TP Dual Speed Hub 500

## Management
3C16685 — Dual Speed Hub 500 Management Module

## Cables and Equipment for Connecting Units
3C16690 — Dual Speed Hub Hot Swap Cascade Unit
3C16692 — Dual Speed Hub – PS Hub Cascade Converter Kit
3C16695 — 30cm (1ft.) Dual Speed Hub Cascade Cable

## Transceiver Modules and Distance Extender Modules
These 10Mbps modules can be used with the Dual Speed Hub 500:
3C12061 — Fiber-Optic (SMA) Transceiver Module
3C12063 — TP Transceiver Module
3C12064 — Fan-Out Transceiver Module
3C12065 — Fiber-Optic (ST) Transceiver Module
3C12066 — Coaxial Transceiver Module
3C12067 — 10BASE-FB Transceiver Module

These 100Mbps modules can be used with the Dual Speed Hub 500:
3C16683 — 100BASE-TX Distance Extender Module
3C16684 — 100BASE-FX Distance Extender Module

## Redundant Power System
3C16070 — SuperStack II Advanced Redundant Power System

# TECHNICAL SUPPORT

## World Wide Web Site
Access the latest networking information on 3Com Corporation's World Wide Web site by entering our URL into your Internet browser:

**http://www.3Com.com/**

This service features news and information about 3Com products, customer service and support, 3Com Corporation's latest news releases, *NetAge*® Magazine, technical documentation and more.

## 3Com Bulletin Board Service
3ComBBS contains patches, software, and drivers for all 3Com products, as well as technical articles. This service is available via modem or ISDN 24 hours a day, 7 days a week.

## Access by Digital Modem
ISDN users can dial in to 3ComBBS using a digital modem for fast access up to 56Kbps. To access 3ComBBS using ISDN, use the following number:

**(1) 408 654 2703**

## Access by Analog Modem
To reach the service by analog modem, set your modem to 8 data bits, no parity, and 1 stop bit. Call the telephone number nearest you:

| | | | |
|---|---|---|---|
| Australia | 61 2 9955 2073 | Japan | 81 3 3345 7266 |
| Brazil | 55 11 5181 9666 | Mexico | 52 5 520 7835 |
| France | 33 1 6986 6954 | P. R. of China | 86 10 684 92351 |
| Germany | 4989 62732 188 | Taiwan, R.O.C. | 886 2 377 5840 |
| Hong Kong | 852 2537 5601 | U.K. | 44 1442 438278 |
| Italy | 39 2 27300680 (fee required) | U.S.A. | 1 408 980 8204 |

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# LEGAL NOTICES

**Environmental Statement**

It is 3Com's policy to be environmentally friendly in all its operations. This manual is printed on paper that comes from sustainable, managed European forests. The production process for making the pulp has a reduced AOX level (adsorbable organic halogen) resulting in elemental chlorine free paper.

The paper is fully bio-degradable and recyclable.