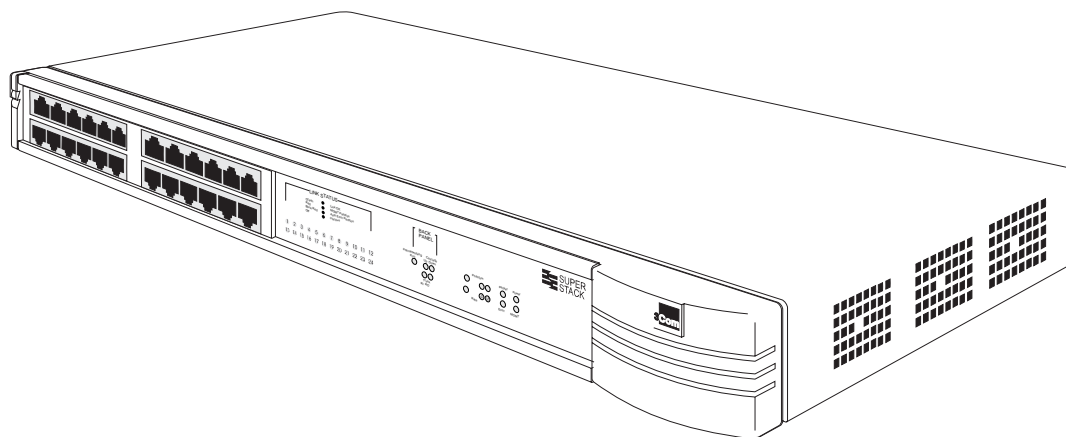


SuperStack II



SuperStack II Hub TR 12/24 Port (3C510510B & 3C510511B) User Guide



TECHNICAL INFORMATION

Related Standards

The Hub TR has been designed to conform to the following standards:

Functional	IEEE 802.5
Safety	UL 1950, EN 60950:92, CSA 22.2 #950
EMC	FCC 20780, Part 15J, Class A VFG243 Level A (with shielded cable) EN55022 Level A CSA 108.8, CE

Physical

Width	17.3 in.
Depth	12 in.
Height	2 5/8 in.
Weight	9 3/4 lbs.
Mounting	free standing, or 19" rack or wall mounted using kit supplied

Electrical Hub TR

Power Inlet	IEC 320
Fuse Protection	4 Amps
Power Consumption	55 W
Power Supply	100 to 240 VAC, 47 to 63 Hz
Heat Dissipation	187 BTU/hr

Environmental

Operating Temperature	5-50 °C (32-122 °F)
Humidity	up to 90% (non-condensing)
Storage Temperature	0 to 50 C
Storage Humidity	10% to 90% non-condensing



INTRODUCTION

SuperStack II Hub TR hubs are intelligent stackable Token Ring hubs that provide workstation connectivity for 802.5 Token Ring networks. Available with either 12 or 24 ports, the Hub TR comes equipped with an additional internetworking lobe port located on the rear panel. All lobe ports are shielded RJ45 connectors and support either shielded (STP) or unshielded (UTP) twisted pair media and can operate at either 4 or 16 Mbps ring speed.

SuperStack II Hub TR hubs can be used as single stand-alone hubs or linked together with other LinkBuilder products to form a stack. SuperStack II Hub TR hubs have two expansion slots on the back panel for an optional Network Management Module and/or a Ring In/Ring Out module.

Optional Network Management modules provide real-time monitoring and control for SuperStack II Hub TR hubs. Historical data, statistical analysis, packet capture and traffic information is provided by the management module via the Transcend Enterprise Manager program which is based on the Simple Network Management Protocol (SNMP) and the Remote Monitoring Management Information Base (RMON MIB). Only one management module is required to manage an entire stack of up to 20 units.

The Ring In/ Ring Out module provides expansion of the network beyond the capacity of a local stack, to adjacent wiring closets or to other 802.5-compliant equipment. This module is available as fiber (2 pair ST), copper (2 RJ45), or as a combination of fiber and copper (1 pair ST, 1 RJ45). Two modules (1 fiber and 1 copper) are also available for connecting to ONcore, ONsemble, and ONline equipment.

SuperStack II Hub TR hubs can be part of a stack of up to 20 total units, accommodating a maximum of up to 256 users in a single managed or unmanaged ring. Additional units are connected via cascade connectors on the rear panel and can be a mix of either 12 or 24 port hubs or earlier SuperStack II Hub TR models including, #3C510500 or #3C510501. The hubs can be mounted in a free-standing stack of no more than eight high or in a standard 19-inch rack. Units can be powered either from an on-board AC power supply or via an optional Redundant Power Supply (#3C565047) which provides power back-up and connects via a rear panel port.

Fault Resilience

SuperStack II Hub TR hubs offer sophisticated fault recovery and fault prevention for Token Ring networks. To ensure the integrity of the ring, Zero Delay Lockout (ZDL) has been incorporated into each lobe port of the unit. ZDL prevents faulty or misconfigured adapters from entering the ring by testing configuration parameters and verifying ring speed before the adapter enters the ring. If an adapter is not configured correctly it is not allowed to enter the ring. The front panel LEDs indicate when ZDL has isolated a lobe.

Distributed Recovery Intelligence (DRI) is a fault recovery feature that eliminates adapters if they fail after attaching to the ring and operates independently of network management. The front panel LEDs indicate when DRI is in use. Refer to the LED Descriptions for more details.

Network Connection

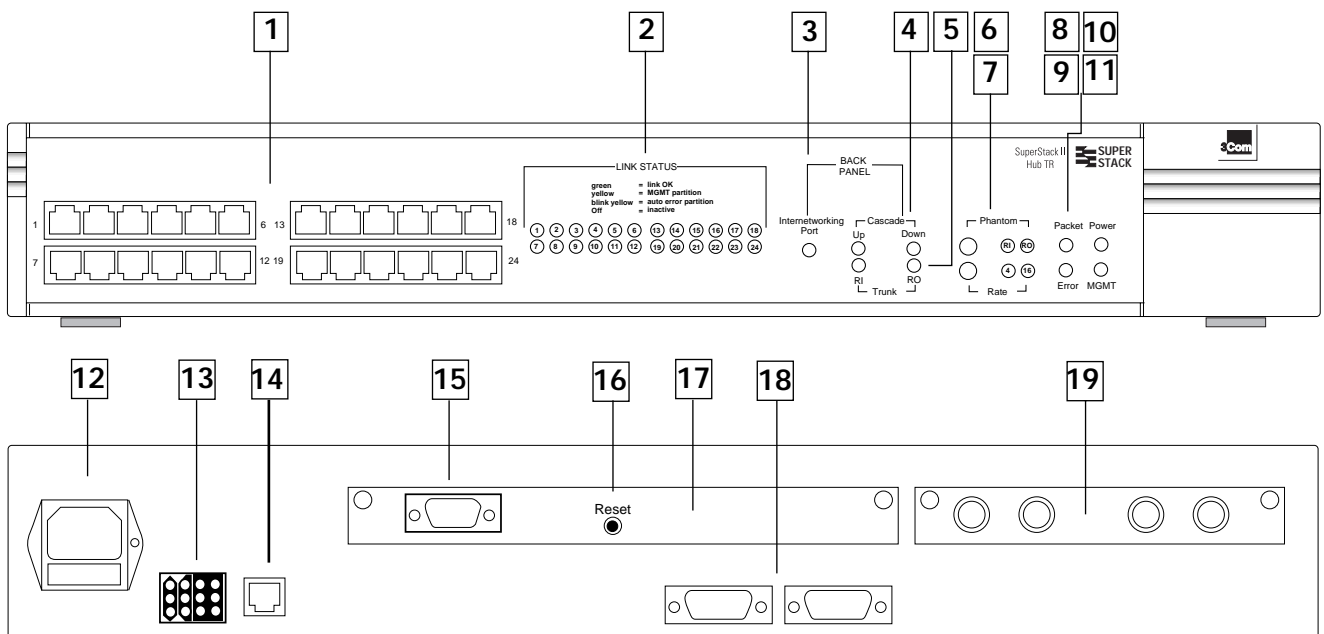
You can connect any Data Terminal Equipment (DTE) fitted with a 802.5 Token Ring network adapter card to a SuperStack II Hub TR hub. Connect one end of the shielded or unshielded twisted pair cable to the RJ45 lobe port on the adapter and the other end to an RJ45 lobe port on the SuperStack II Hub TR. Refer to the chart below for the maximum allowable length for the cables.

Media	4Mbps	16Mbps
UTP Category 3	660 ft/ 200 m	330 ft/ 100 m
UTP Category 4/5	1320 ft/ 400 m	660 ft/ 200 m
Type 1	2000 ft/ 600 m	1000 ft/ 300 m

You can connect SuperStack II Hub TR hubs to any internetworking device such as a bridge, a router, a switch, or Token Ring station using the Internetworking port, Item 14 on the back panel.



HOW TO USE THE HUB TR



Numbered elements in this diagram refer to numbered sections in the text. These numbers, in bold, are used as references.

Front Panel

1 24 RJ45 Ports

These are shielded RJ45 data connectors. These lobe ports are for connecting workstations or other hosts with either Unshielded (UTP) or Shielded (STP) Twisted Pair wiring. These ports are data communication ports only and cannot be used for any other purpose. The SuperStack II Hub TR is available with either 12 or 24 ports.



NOTE: The LEDs on the front panel of the SuperStack II Hub TR hubs indicate the status of the ports on the hub. Refer to the LED Descriptions listed below for an explanation of the LED's color.

2 Link Status LEDs

The Link Status LEDs correspond to the individual lobe ports located on the front panel. Refer to the LED descriptions below:

3 Internetworking Port LED

The Internetworking Port LED corresponds to the RJ45 port on the back panel of the SuperStack II Hub TR. See Item 14.

Refer to the LED Descriptions below:

4 Cascade LEDs

The Cascade LEDs correspond to the Cascade connectors on the back panel. The status of the LED (GREEN, OFF, FLASH) reflects the status of the cascade. Note that if the Roving RMON feature is enabled, the LEDs flash GREEN in all units that are NOT being probed. If the probe is active in a hub, the LED remains ON (GREEN).

5 Trunk LEDs (RI/RO)

The Trunk LEDs indicate the status of the Ring In (RI) and Ring Out (RO) ports on the optional Ring In/Ring Out module which plugs into the back panel of the SuperStack II Hub TR hub. See Item 19.

6 Phantom LEDs

These LEDs indicate the status of the phantom current feature which protects the network from main ring cable failures. Phantom current must be ON when connecting to another 3Com Token Ring hub or when connecting to an ONcore, ONsemble, ONline, IBM 8230, 8250, or 8260 hub with the Hub TR ONtrunk module. When connecting to Token Ring hubs other than 3Com, be sure to connect the cable first and then switch Phantom to OFF. The switch to the left of the Phantom LEDs toggles the settings between RI on, RO on, RI/RO on, and RI/RO off. Press the button until you have the desired setting.

Status LEDs

Green	Indicates that the port is active and operational.
Yellow	Indicates that the port has been partitioned via the management software.
Flashing Yellow	Indicates that the port is isolated via Zero Delay Lockout (ZDL) or Distributed Recovery Intelligence (DRI) features.
Off	Indicates that the port is inactive and not part of the ring.

7 Data Rate

These LEDs indicate the data rate of the hub. The switch toggles between 4 and 16 Mbps. Press the button to change the data rate of the hub. Refer to the descriptions below:

- **4**—green when data rate is set to 4 Mbps.
- **16**—green when data rate is set to 16 Mbps.

SuperStack II Hub TR hubs are designed with an auto speed feature which sets each hub in the stack to the ring speed setting of the topmost hub in the stack. The hub that is at the top of the stack will change all hubs below on the cascade automatically. Take care when adding a new hub to stack.

8 Packet LED

The Packet LED flashes GREEN when the unit detects MAC or data packets.

9 Error LED

The Error LED indicates the type and status of hard and soft errors experienced on the hub.

- **Green**—indicates a soft error on the ring.
- **Yellow**—indicates a beacon or hard error on the ring.

10 Power LED

The Power LED lights GREEN indicates the AC power supply or RPS is operating correctly. Flashing green indicates that the unit is powered by an RPS that has a problem. If the LED is not lit and none of the ports work:

- Check the fuse located in the power cable plug.

11 MGMT LED

The Mgmt LED indicates the presence and status of management on the hub or download attempted and failed/aborted. Refer to the descriptions below:

- **Flashing Green**—downloading, standby agent in this hub, or invalid or no agent code.
- **Green**—active agent in this hub.
- **Off**—no agent in this hub.
- **Flashing Yellow**—Distributed Recovery Intelligence (DRI) active.
- **Yellow**—agent faulted, in self-test, or rebooting.
- **Flashing Green/Yellow**—DRI halt.

Rear Panel

12 Power Source and Fuse

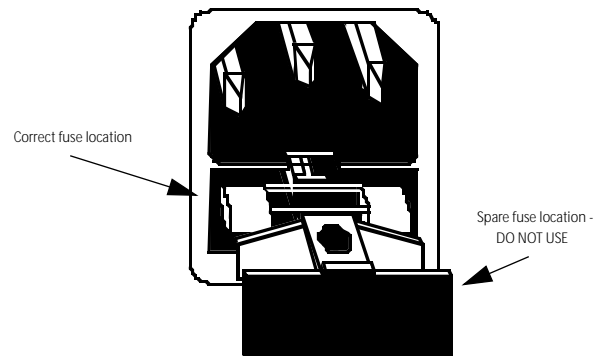


WARNING: Ensure that the power supply is disconnected before opening the fuse holder cover.

The SuperStack II Hub TR uses the following replacement fuse.

- **Fuse specification: 250 volts - 4A Slo-Blo**

To change the fuse, release the fuse holder by gently prying open the cover with a small flat-blade screwdriver. Slide out the fuse-holder drawer and remove the fuse. Check the filament (thin wire inside the glass tube) to see if it is broken. If the filament is broken, replace with the appropriate fuse listed above. See the following figure.



13 Redundant Power System Socket

The Redundant Power System (RPS) socket provides an alternate power source for the Hub TR. Connect only a 3Com RPS (#3C565047) to this connector. Disconnect the AC plug when using the RPS. See the Redundant Power System manual for installation instructions.



WARNING: Use of any power supply other than 3Com Redundant Power System violates the manufacturers warranty.

14 Internetworking Port

The Internetworking Port is a shielded RJ45 port that allows switch/bridge connection to the ring. This port may also be used as a regular lobe port. This is a data communication port and cannot be used for any other purpose. The Internetworking LED on the front panel corresponds to this port and indicates the status of this port. See item 3.

15 Network Management Module Console Port

Each Network Management Module has a standard RS-232 serial port for communicating with the module's setup console. Refer to the Network Management Module manual for complete instructions.

16 Network Management Module Reset

The Network Management Module can be reset at any time by pressing this button. When pressed, all data that has been collected by the module will be lost (history files, alarm thresholds, captured packets etc.). Resetting this module will NOT affect the operation of the network. Use the tip of a nonconductive instrument to toggle the switch.

17 Network Management Module

There are two optional Network Management modules which provide real-time monitoring and control of the entire stack via the Simple Network Management Protocol (SNMP). The modules measure network performance and monitor each individual device within the stack. Using the Remote Monitoring Management Information Base (RMON MIB) of SNMP, the modules collect statistics, provide historical data, traffic patterns, and collect remote packet captures. Automatic port mapping provides a continuous real-time diagram of all hub-to-hub interconnections, adapter card locations and adapter card addresses by hub port.

Each module has an RS-232 DB9 serial port for local console connection for configuring IP addresses, routing tables, and communication parameters. This port can also be used as a point-to-point link for remote communications.

Default communication settings for the RS-232 port are:

- **9600 Baud, 8 data bits, 1 stop bit, No parity**

Access to the Network Management module is provided in-band via the Transcend Enterprise Manager application which operates on IBM NetView/6000®, HP OpenView®, SunNet™ Manager, and Windows™ platforms.

The basic RMON Agent (#3C510502) provides History, Ring Security, Control and Stack Views, MAC-to-MAC Port Mapping and MAC Packet Capture. In addition, this module uses 1 MB of RAM for storage of historical data and can be upgraded to 5MB. The Advanced RMON Agent (#3C10505) provides all of the features of the basic RMON module and also provides IP and IPX Mapping, Data Layer Capture/Filter Matrices, Protocol Breakdown, and Station History on a per station basis. In addition, this module uses 4MB of RAM for storage and can be upgraded to either 8 or 12 MB. Refer to the SuperStack II Hub TR Network Management Module manual for instructions on installing the modules and details on the distinct features of each module.

18 Cascade Cable Connectors

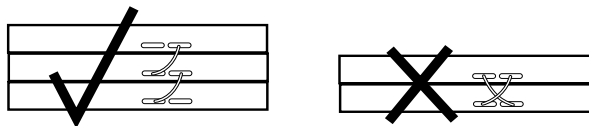
You can add up to 20 units in a single stack using the Cascade cable connectors. You need one Cascade cable (12 inch cable #3C510507 [included with each hub] or 4 foot cable #3C510509) for each additional unit.

Place the units on top of each other, preferably in a rack (see Rack Mount instructions). If you are not using a rack, ensure that the feet are installed on the bottom of the units throughout the stack and that the stack extends no more than eight units high.

Connect units in sequence starting from the Down port on the topmost unit which connects to the Up connector on the next hub in the stack. The Down connector of the next unit connects to the Up connector on the next one and so on (Down-Up-Down-Up) until all units are connected. The bottommost unit should be connected to the hub above it via the Up connector and the Down connector should remain vacant unless using a Redundant Cascade cable (#3C510508).

An optional Redundant Cascade cable provides a redundant path for the Cascade and connects the bottommost unit directly to the topmost unit. Note that this cable is not interchangeable with a regular Cascade cable. The Cascade LEDs on the front panel indicate the status of the Cascade connection.

SuperStack II Hub TR hubs can be stacked in any combination with earlier LinkBuilder FMS TR hubs (#3C510500 and #3C510501). Refer to figure below for proper cascade cable installation



19 Ring In/Ring Out Module

The Ring In/Ring Out (RI/RO) Module allows you to expand your Token Ring beyond the capacity of the local stack to adjacent wiring closets or any site that is too far away for the cascade cables. This module is available with either two RJ45 shielded copper connectors (#3C510504), two pair ST fiber optic connectors (#3C510503), or a combination module with one copper and one pair ST fiber optic connectors (#3C510506).

In addition two other optional Ring In/Ring Out (RI/RO) Modules (#3C510513 and 3C510514) allow you to connect to any ONcore, ONLine, or ONsemble Token Ring device.

All the sophisticated network management functions provided using the Transcend application and the Network Management module are available via the Ring In/Ring Out connections provided there is a Network Management Module in the adjoining stack.

Refer to the Ring In/Ring Out Module manual for instructions on installing the module into the Hub TR unit. If you should remove the Ring In/Ring Out Module from the Hub TR, you need to replace the filler plate to avoid accidental exposure to the electronic circuitry and to prevent the accumulation of dust and debris.

Roving RMON

A single Network Management module (either #3C510502 or #3C510505) can be used to manage a number of Hub TR hubs that are stacked together and connected via Cascade cables, but isolated into separate Token Ring networks. This allows the agent to "rove" into any connecting hub and perform management tasks.

This feature is especially useful in stacks segmented using Token Ring switches.

To enable the Roving RMON feature, connect the cascade cables and isolate the cascade interfaces via software using the RS-232 console of the Network Management module and/or the Transcend Network Management applications, or telnet. Refer to the Network Management Module or Transcend Enterprise Manager manuals for more information.

Positioning Hub TR

The Hub TR is capable of supporting up to 20 units in a single managed stack, however, when deciding where to set up the Hub TR be sure to consider the following:

- 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 (1 inch) clearance).

To prolong the operational life of your units:

- Never stack units more than eight high if free standing.
- Do not place objects on top of any unit or stack.
- Do not obstruct any vents at the sides of the case.
- Do not mount units on the floor. (Nicht als Boden-Standgerät Geeignet)

Rack Mounting

The Hub TR can be mounted in a standard 19-inch equipment rack. Please refer to the Rack Mounting Kit instructions before mounting units.

Power Up

Proceed with the following steps to power up the Hub TR.

- Check the network connections and cables. See item **14** or **15**.
- Check the cascade cables if in a stack. See item **18**.
- Connect the power supply cable to the appropriate power socket on the rear panel of the unit, see item **12** or **13**.
- Connect the AC plug into a three-pronged grounded AC power source.
- For use with RPS — Connect the RPS power cord to the RPS port. See Item **13**.



WARNING: Do not connect the AC power cable in this configuration. When the Hub TR is powered up, the Power LED on the front panel should be lit green.

Spot Checks

At frequent intervals you should visually check the Hub TR. 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 fans are operating and are not obstructed. The fans are fitted to the right hand side of the unit when viewed from the front. |
| Add-in Modules | Check that the add-in modules (Network Management Module or Ring in/Ring Out module) are connected securely. Refer to the guide provided with the each module. |

Rack or Wall Mounting

The Hub TR can be mounted in a 19 inch equipment rack or else wall-mounted using the SuperStack II Rack Mounting Kit. See *Rack Mounting Kit Instructions* overleaf.

Stacking Units

The Hub TR can be linked to other Hub TR units to form a stack, or can be part of a mixed stack, including the following products:

- LinkBuilder FMS TR (12-port) (#3C510500)
- LinkBuilder FMS TR (24-port) (#3C510501)
- LinkBuilder FMS TR 12 (#3C510510)
- LinkBuilder FMS TR 24 (#3C510511)

Managing with an Network Management Module

- | | |
|---------------------------------|---|
| For rack mounted stacks | The module can be fitted to an Hub TR at any position in the stack. |
| For free standing stacks | The module can be fitted to an Hub TR at any position in the stack. |

What To Do Next?

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

- Product number
- Serial number
- A brief description of the fault

When returning any equipment to your supplier make sure the equipment is packed suitably for transit.



SAFETY INFORMATION

Please read the following safety information before installing the Hub TR:

- If installing the Hub TR in a stack with other Hub TR units, the Hub TR must be installed beneath the narrower FMS units.
- This unit must be grounded.
- Connect the unit to an grounded power supply to ensure compliance with European safety standards.
- The power cord must be approved for the country where it will be used.
- The appliance coupler, i.e., the connector to the device itself and not the wall plug, must have a configuration for mating with an EN60320/IEC320 appliance inlet.
- For USA and Canada:
 - The cord set must be UL-approved and CSA certified.
 - The minimum specifications for the flexible cord are: No. 18 AWG Type SV or SJ 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.
- It is essential that the socket outlet is installed near to the unit and is easily accessible. You can only disconnect the unit by removing the supply plug from the outlet.
- If the power supply plug is unsuitable and you have to replace it, you may find other codings for the respective connections.

Connect the power supply wires from the unit according to the following scheme:

- Brown wire to the Live (Line) plug terminal which may be marked with the letter L or colored red.
- Blue wire to the Neutral plug terminal which may be marked with the letter N or colored black.
- Yellow/Green wire to the Earth (Ground) plug terminal which may be marked with the letter E or the earth symbol or colored green/yellow.

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.

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

To comply with European safety standards, a spare fuse must not be fitted to the appliance inlet. Only fuses of the same manufacturer, make and type should be used with the unit.

Ensure that the power supply lead is disconnected before opening the IEC connector fuse cover or removing the cover of the unit.

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



PRODUCTS AND BULLETIN BOARDS

Products

SuperStack II Hub TR is part of the SuperStack II range of 3Com products. Contact your supplier for the latest product information.

Hub TR hubs

3C510510B SuperStack II Hub TR 12

3C510511B SuperStack II Hub TR 24

Hub TR management

3C510502 SuperStack II Hub TR RMON Management Agent Module

3C510505 SuperStack II Hub TR Advanced RMON Management Agent Module

Add-in Modules

3C510503 SuperStack II Hub TR Fiber RI/RO Module

3C510504 SuperStack II Hub TR Copper RI/RO Module

3C510506 SuperStack II Hub TR Copper/Fiber RI/RO Module

3C510513 SuperStack II Hub TR ONTrunk Fiber Module

3C510514 SuperStack II Hub TR ONTrunk Copper Module

Cables

3C510507 Spare Cascade Cable

3C510509 4 ft. Cascade Cable

3C510508 8 ft. Redundant Ring Cascade Cable

Bulletin Boards

Management agent software upgrades are available from these 3Com bulletin boards:

Australia	(61) (2) 9955 2073
France	(33) (1) 69 86 69 54
Germany	(49) (89) 627 32 188 or 627 32 189
Hong Kong	(852) 2537 5608
Italy	(39) (2) 273 00680 (fee required)
Japan	(81) (3) 3345 7266
Singapore	(65) 534 5693
Taiwan	(886) (2) 377 5838
U.K.	(44) (1442) 278278
U.S.	(1) (408) 980 8204

3Com Corporation
P.O. Box 58145
5400 Bayfront Plaza
Santa Clara
CA 95052-8145
USA



RACK MOUNTING KIT INSTRUCTIONS

Introduction

The Hub TR 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 Hub TR* overleaf.

Wall Mounting Hub TR Units

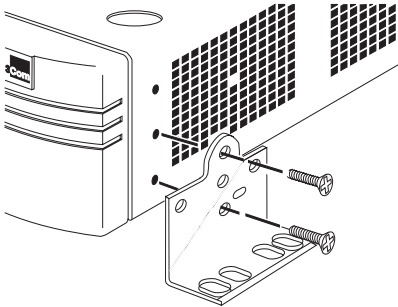


WARNING: *Disconnect all cables from the Hub TR unit(s) before continuing. Remove the self-adhesive pads from underside of the unit(s), if already fitted.*

Fitting the brackets to wall mount one unit:

- Place the Hub TR unit the right way up on a hard, flat surface with the front facing towards you.
- Locate a mounting bracket over the mounting holes on one side of the unit, as shown in diagram 1 below.
- Insert the two screws and fully tighten with a screwdriver.

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



To wall mount the Hub TR unit(s):

Ensure that the wall you are going to use is smooth, flat, dry and sturdy. Attach a piece of plywood (12" x 20" x 0.5") securely to the wall if necessary, and mount the Hub TR unit(s) as follows:

- Position the unit(s) against the wall (or plywood) with the front of the unit(s) facing sideways. Mark on the wall the position of the screws holes for both wall brackets. Drill the four holes.
- Using suitable fixings and screws (not provided), attach the unit(s) securely to the wall (or plywood).
- Reconnect all cables.

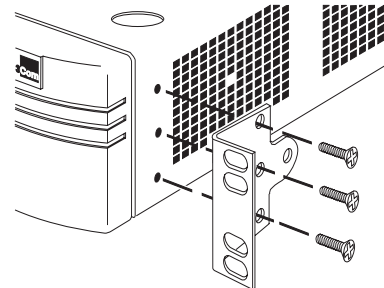
Rack Mounting Hub TR Units

The Hub TR is 1U high and will fit a standard 19inch rack.



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

- Place the unit the right way up on a hard, flat surface with the front facing towards you.
- Locate a mounting bracket over the mounting holes on one side of the unit, as shown in diagram below.
- Insert the two screws and fully tighten with a suitable screwdriver.
- Repeat the two previous steps for the other side of the unit.
- Insert the unit into the 19" rack and secure with suitable screws (not provided).
- Reconnect all cables.





LIMITED 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:

Internetworking products - One year

Ethernet Stackable Hubs and Unmanaged Ethernet Fixed Port Repeaters Lifetime* (One Year if not registered)

Power supply and fans in these stackable hubs and unmanaged repeaters - One Year

Other hardware products - One year

Spare parts and spares kits - 90 days

If a product does not operate as warranted 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 pursuant to any warranty.

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 magnetic media containing software against failure during the warranty period. No updates are provided. 3Com's sole obligation hereunder 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 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 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 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 Service Center or an Authorized 3Com Service Center, within the warranty period. Products returned to 3Com's 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 by 3Com.

WARRANTIES EXCLUSIVE: IF A 3COM PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. 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, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

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ELECTRO-MAGNETIC COMPATIBILITY

FCC Statement

This equipment has been tested with a Class A computing device and has been found to comply with part 15 of FCC Rules. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take whatever steps are necessary to correct the interference.

This digital apparatus does not exceed the Class A limits for radio emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage édicté par le ministère des Communications du Canada.

CSA Statement

This Class B digital apparatus meets all requirements of the Canadian interference-Causing Equipment Regulations.

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



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