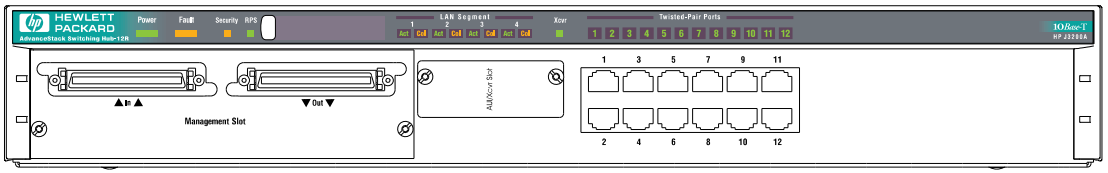
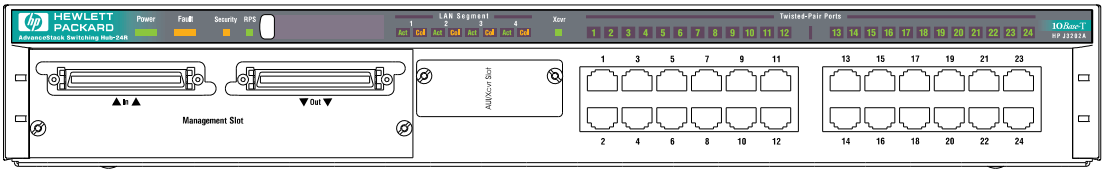
HP AdvanceStack 10BT Switching Hubs Installation Guide

The Switching Hubs are a family of multiport repeaters. With these hubs you can connect computers, printers, and servers together to exchange files. This guide shows you how to install your Switching Hub. The three models of the Switching Hubs are:

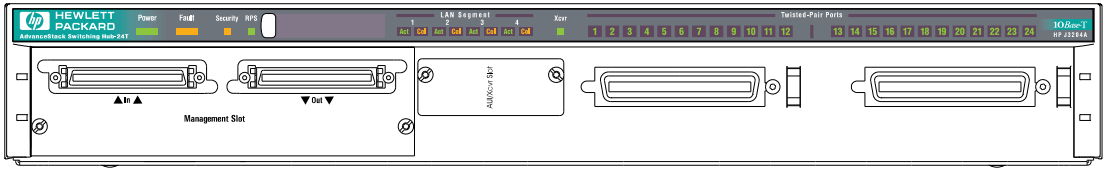
HP J3200A Switching Hub-12R



HP J3202A Switching Hub-24R



HP J3204A Switching Hub-24T



This installation guide describes how to:

1. Verify included parts.
2. Install any optional modules.
3. Mount the hub.
4. Connect the hubs together with Extender Cables.
5. Verify that the hub operates correctly.
6. Connect network cables using RJ-45 and telco connectors.

Throughout the manuals, these hubs will be abbreviated as the Hub-12R, Hub-24R, and Hub-24T.

Verify Included Parts

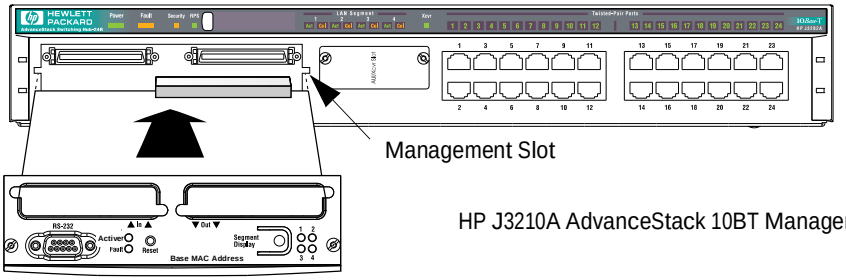
Each of the three HP Switching Hubs has the following components shipped with it:

- *HP AdvanceStack 10BT Switching Hubs Installation Guide* (5964-4661)
- *HP AdvanceStack 10BT Switching Hubs Reference Manual* (5964-4662)
- *Topology Examples for the HP Switching Hubs* (5182-9815)
- Warranty booklet
- Extender Cable (5182-9814)
- Accessory kit (5063-8570) (shipped with the Hub-12R and Hub-24R):
  - two mounting brackets
  - two cable ties
  - four M3 screws to attach brackets to hub
  - four 5/8-inch number 12-24 screws to attach hub to rack
- Accessory kit (5063-8603) (shipped with the Hub-24T):
  - all of the above plus two telco mounting hooks and two 4-40 screws to attach a telco hook to a telco plug
- Power cord, one of the following:

Australia/New Zealand	(8120-6810)
Denmark	(8120-6814)
Europe	(8120-6811)
Japan	(8120-6798)
South Africa	(8120-6813)
Switzerland	(8120-6815)
United Kingdom	(8120-6809)
United States/Canada	(8120-6812)

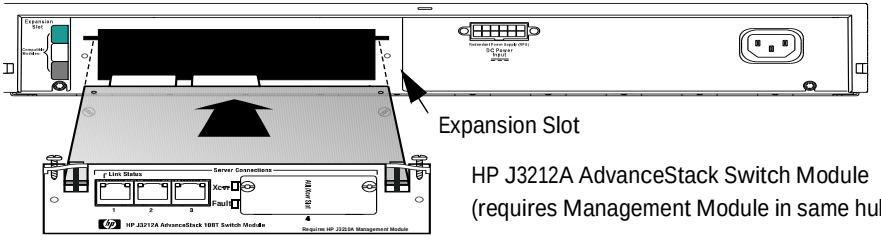
Install Any Optional Modules

Install optional modules into the Management Slot or the Expansion Slot by following the instructions in the manuals that accompany these products:



Front of Hub

HP J3210A AdvanceStack 10BT Management Module



Back of Hub

HP J3212A AdvanceStack Switch Module
(requires Management Module in same hub or stack)

Note

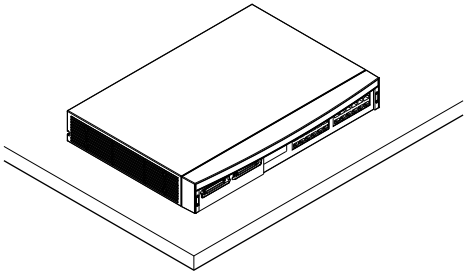
Before installing a module into the Expansion Slot or Management Slot, unplug the hub. If you do not install an optional module, verify that the cover plate is still screwed into the slot.

Mount the Hub

After the modules are inserted, you are ready to put the hub in a stable location. The Switching Hub can be mounted in three ways:

- on a table
- in a rack or cabinet
- on a wall

Hub on a Table - no tools needed

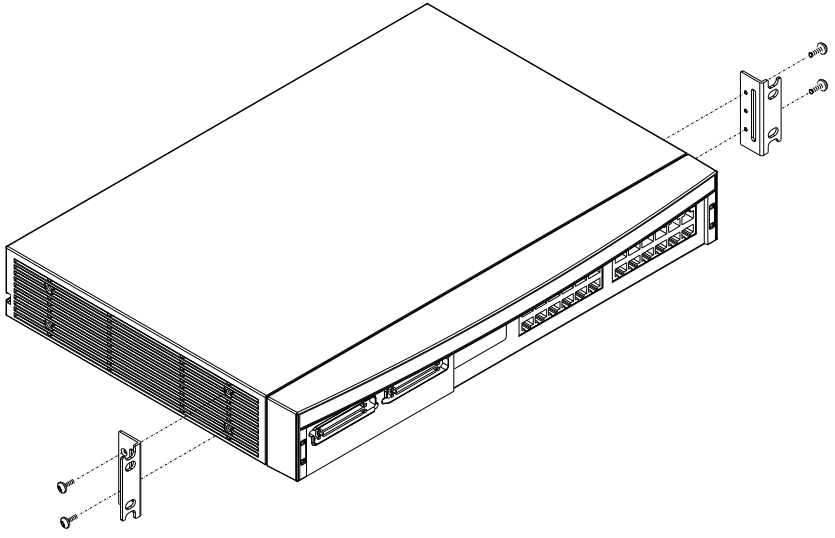


Sturdy table in an isolated area.

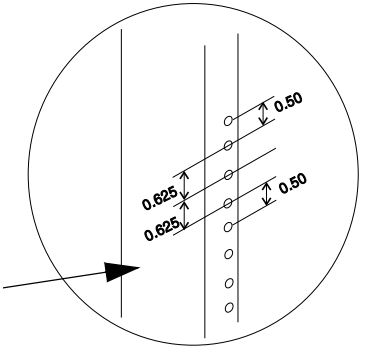
Hub in a Rack or Cabinet

The Switching Hub is designed to be mounted in any EIA-standard 19-inch telco equipment rack. To order a rack for your hub, call HP at 1-800-538-8787 to order product number HP 46298D. For your safety, read the mounting precautions in appendix C, “Safety and Regulatory” in the *Switching Hub Reference* before mounting a hub.

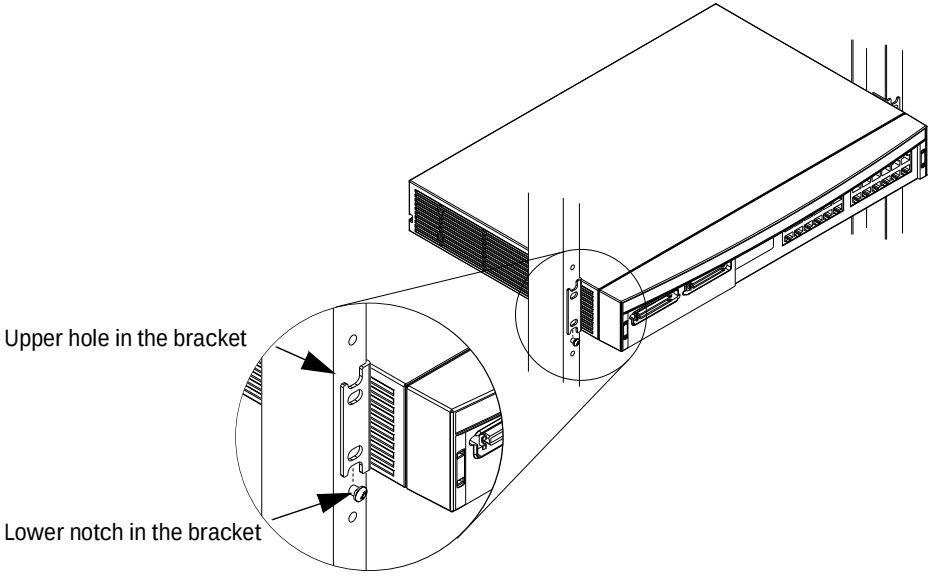
1. Attach the mounting brackets to the hub with the included 10-mm M4 screws.



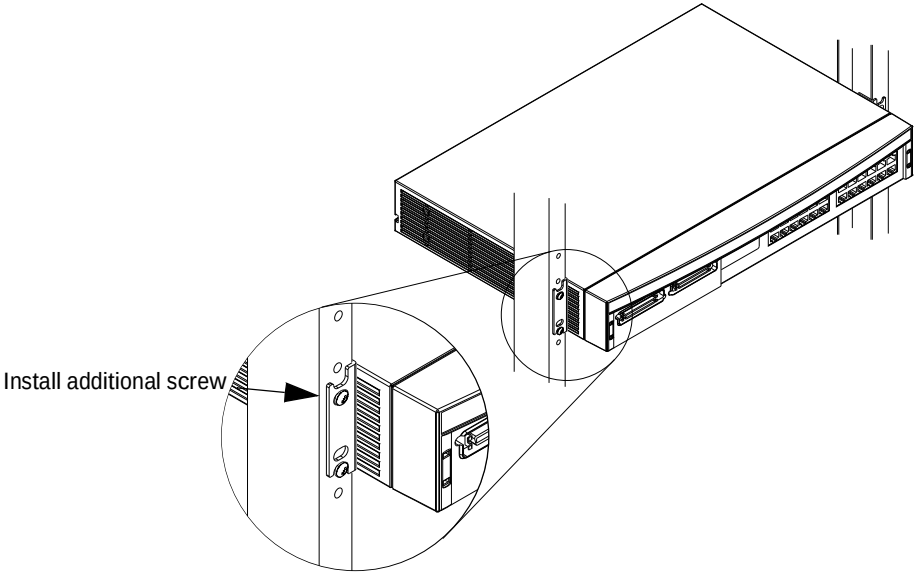
2. Partially install a screw (5/8-inch number 12-24) into the top hole of a pair of holes 0.5 inches apart in each rack/cabinet upright. Tighten each screw two turns. Ensure that the screws in each upright are at the same level.



3. Place the hub in the rack and lower it so the notches in the bottom of the bracket slide onto the screws. Tighten these screws-*be careful not to overtighten*.



4. Install the other number 12-24 screw into the upper hole in each bracket. Tighten these screws- be careful not to overtighten.

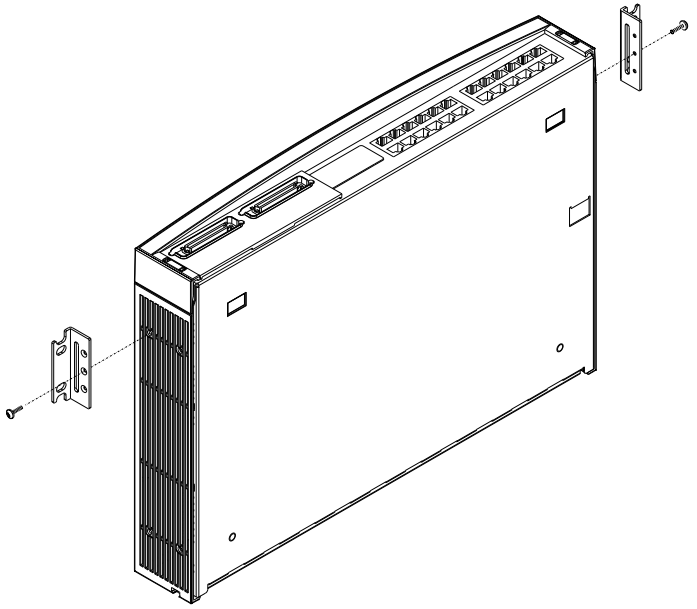


Mounting the Hub on a Wall

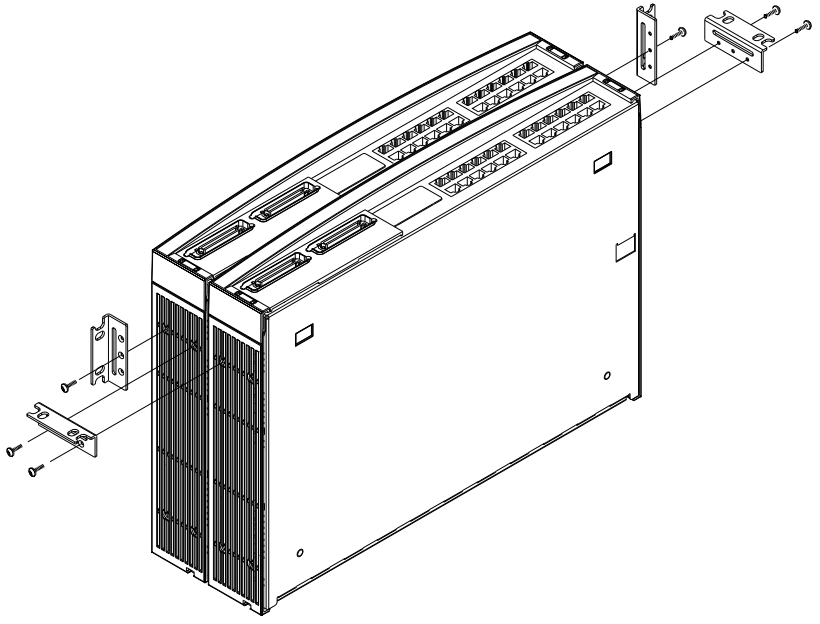
You can put one hub on a wall or stack two hubs together on a wall. Note that a hub should be mounted only to a wall or wood surface that is at least 1/2-inch plywood or its equivalent.

Attach the hub to the wall or wood surface with 5/8-inch number 12 wood screws (not included):

One hub on a wall:

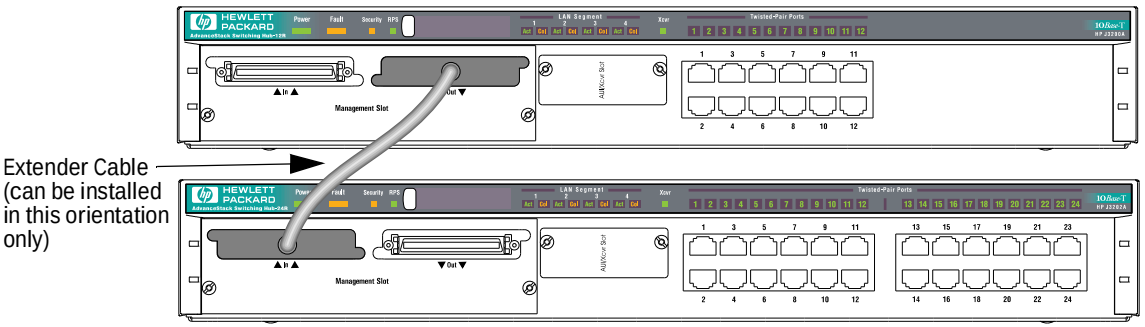


Two hubs on a wall:



Connecting the Switching Hubs Together with Extender Cable

Attach the included Extender Cable from one hub to another:



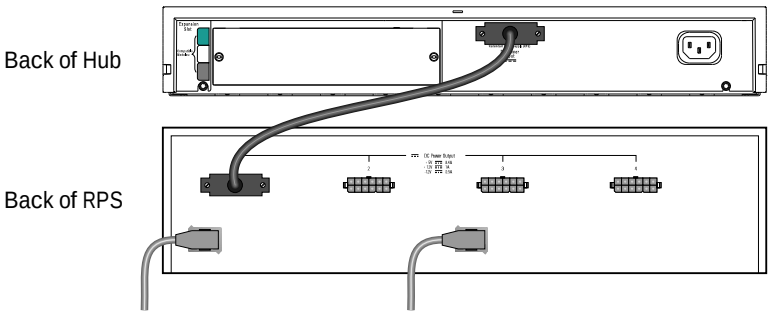
The Extender Cable provides communication between the hubs. If you add an HP Management Module, network management travels over this cable also. You can connect an Extender Cable when the power is on or off. Never leave an Extender Cable unconnected at one end.

Longer Cables Option

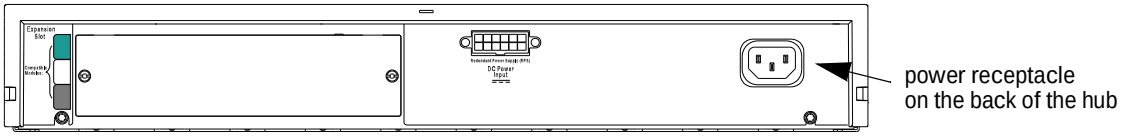
If you need longer cable, order Long Extender Cable 71 cm (28 inch) (5182-9869) from 1-800-538-8787. Note that a maximum of two Long Extender Cables are allowed per stack.

Verify That the Hub Works Correctly

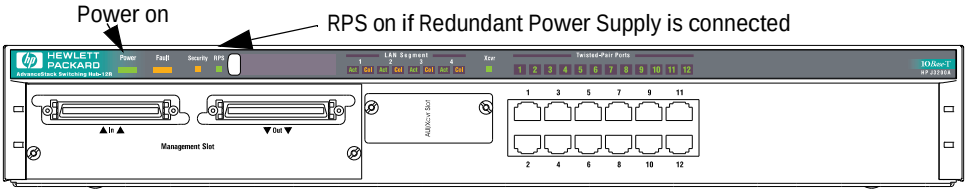
1. *(Optional.)* This product is supported by the HP J2962A Redundant Power Supply (RPS). If you have this HP RPS, connect the RPS to the hub now.



2. If you are not using an RPS, plug the included power cord into the hub's power cord receptacle and into an AC power source as shown below.



3. Check the LEDs during self test. Initially, all LEDs are on except the Expansion Slot LEDs and Transceiver if an Expansion Slot Module or transceiver is not installed. After the two second self test (or 10 second self test with Management Module), the following LEDs are on:



If the above behavior does not happen, use this troubleshooting information to diagnose the problem:

Condition	Diagnostic Tip
Power LED is *OFF*	Check power cord and power source connections. If connections are secure, then try a different outlet, or try a different power cord to see if the power cord is the problem.
RPS LED is *OFF* and should be *ON*	The hub is not receiving power from the Redundant Power Supply (RPS) or the cable connection is loose. If you have an RPS connected, check the cable connections. Try connecting the RPS to a different outlet.
Module Fault LED is *ON*	Turn off the hub and reinsert this module making sure the screws are tightened. If the Fault LED is still on, insert the module into a different hub.
Hub Fault LED is *ON*	A hub or slot module hardware failure was detected during self-test. Self-test does not complete so the LEDs will stay on longer than 60 seconds. If you have installed a Switch Module in the stack, verify that a Management Module is also installed in that stack. Power cycle the hub. If this condition persists, the hub may have to be replaced. Contact your HP-authorized dealer or HP representative for assistance.
Hub Fault LED is *flashing*	Corresponding LED (such as RPS or port) will also flash at the same time. Make sure SQE is disabled for the transceiver module if the AUI/Xcvr LED is flashing.

If the above tips do not help, see chapter 3, "Troubleshooting" in the *Switching Hubs Reference Manual* for additional information.

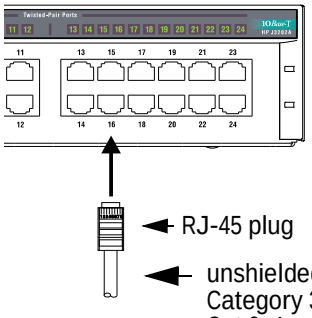
Connecting Network Cables

Using RJ-45 Connectors

To connect:
Push the RJ-45 plug into the RJ-45 jack until the tab on the plug clicks into place.

When power is on for the hub and the connected device, the Port LED should light to confirm a powered-on device (e.g., end node) is at the other end of the cable.

To disconnect:
Press the small tab on the plug and pull the plug out of the jack.



If the Port LED is *not* on, use this table to solve the problem:

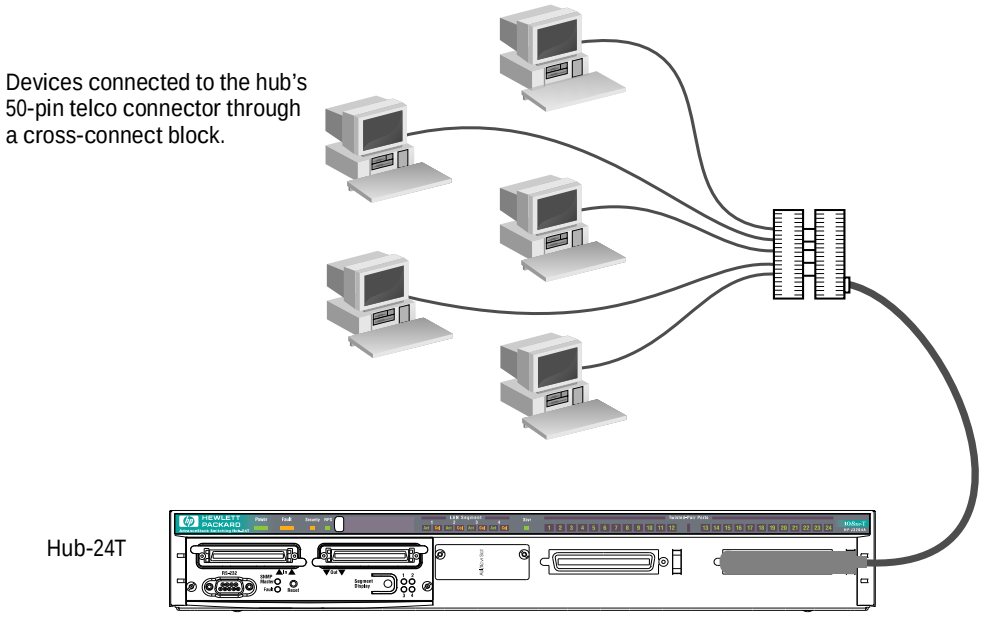
Condition	Diagnostic Tip
Port LED is still off when a cable is connected	Try: - For the indicated port, verify that both ends of the cabling are snug: hub and end node. - Verify the end node and hub are both *on*. - A different port or a different cable. If you have installed the Management Module, use the ASCII console or HP AdvanceStack Assistant to determine the state of the port and re-enable the port if desired.

Note

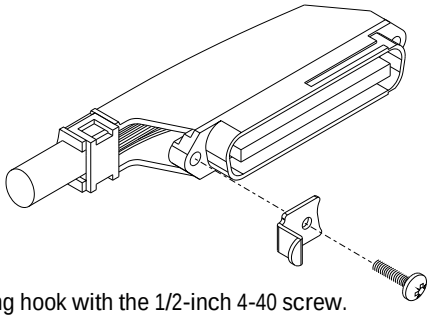
Do not use twisted-pair, thin coax, or fiber cables to make a Switching Hub to Switching Hub connection across the stack. The Extender Cable is for Switching Hub to Switching Hub connections only.

Using Telco Connectors with the Hub-24T

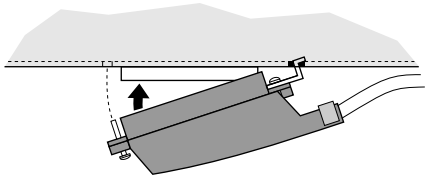
If you prefer to make your twisted-pair connections through a cross-connect block, wiring closet, or other intermediary connection, the Hub-24T has industry-standard 50-pin telco connectors.



To use a telco connector:



1. Attach the mounting hook with the 1/2-inch 4-40 screw.



2. Insert hook in slot on the hub's face.

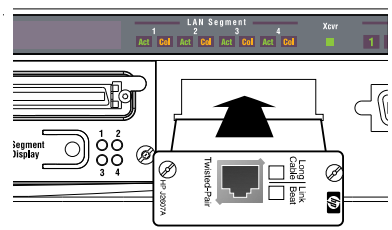
3. Pivot the telco plug onto the connector and press into place.

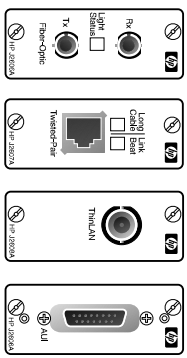
4. Tighten the screw on the telco plug. Be careful not to overtighten the screw.

To remove a telco connector, reverse this process.

AUI/Xcvr Slot

An optional transceiver module can be installed in the hub's AUI/Xcvr slot to provide additional connectivity choices, including:





HP Fiber-Optic Transceiver Module (HP J2606A)
Maximum Distance: 1000 meters

HP Twisted-Pair Transceiver Module (HP J2607A
Category 3, 4 maximum Distance: 100 meters
Category 5 maximum Distance: 150 meters

HP ThinLAN Transceiver Module (HP J2608A)
Maximum distance: 185 meters

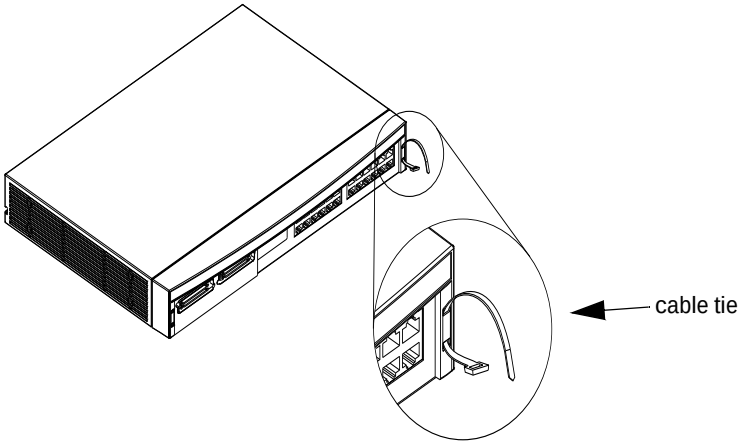
HP AUI Port Module (HP J2609A)
(to attach external transceivers)

Do not use this port for Switching Hub to Switching Hub connections in the stack. See the documentation accompanying the optional transceiver modules for cabling configurations for those modules. To use an external transceiver on a hub, the SQE Test and Loopback Test options, if present,

must be disabled on the transceiver.

Cable Management

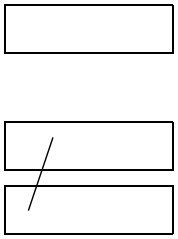
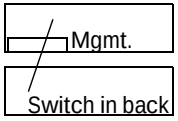
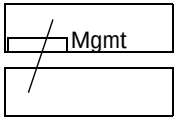
The HP Switching Hubs have been designed to help you with the problem of managing your network cables. On both sides of the front of each hub are two holes that accept a cable tie to tie-wrap your cables:



(continued on next page)

Where to Go From Here

Your hub is now correctly installed and is able to send and receives data between end nodes, servers, and printers. Depending on your setup, use this table to determine what steps need to be taken next.

Your Hub Setup	Detailed Description	Communication Status	What You Need to Do
	One hub or stack of 2 or more hubs with: - No Management Module - No Switch Module	All users are on segment 1 and can communicate together.	No software configuration needed. If Act or Col LEDs are on all of the time, add a Management Module and external switch or Switch Module to distribute ports evenly over the four segments.
	Stack of 2 or more hubs with: - Management Module - Switch Module	All users are distributed evenly over segments 1, 2, 3, and 4 and can communicate together.	No software configuration or optimization needed.
	Stack of one or more hubs with Management Module only	All users are on segment 1 and can communicate together.	If Act and Col LEDs are on most of the time, segment your stack by either: -adding a Switch Module -adding more LAN adapters to the servers. - adding an external switch. If you only add a Management Module and move the ports to other segments in software, remember that users *cannot* communicate between the segments. Add an external switch or Switch Module to this stack for communication between all the segments.

If you need to set the IP address, see the Management Module manual for information on how to use the ASCII console or HP AdvanceStack Assistant. For a Novell Netware network, no configuration is necessary.

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