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Micro Hubs

AT-RH505BE
AT-RH509BE

Quick Install Guide

Allied Telesyn
Simply Connecting the World

Electrical Safety
IMPORTANT: This equipment must be installed in accordance with safety precautions. To see any safety information in this guide in multiple languages, refer to the “Translated Safety Information Booklet” at the page number indicated by the ➪ icon.

Elektrische Sicherheit
WICHTIG: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich. Wenn Sie eine der Sicherheitsinformationen dieser Anleitung in mehrsprachiger Übersetzung lesen möchten, finden Sie diese in der Broschüre "Übersetzte Sicherheitsinformationen" unter der Seitennummer, auf die mit dem Symbol ➪ verwiesen wird. (German)

Elektrisk sikkerhed
VIGTIGT: Dette udstyr skal installeres i overensstemmelse med sikkerhedsadvarslerne. Sikkerhedsvejledningen i denne flersprogede håndbog kan findes i afsnittet "Oversatte sikkerhedsinformationer" på det sidenummer, der er angivet ved ➪bolet. (Danish)

Elektrische veiligheid
BELANGRIJK: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd. Om veiligheidsinformatie in deze gids in meerdere talen te zien, refereren aan de kop "Vertaalde veiligheidsinformatie" op de door het ➪bool aangegeven pagina. (Dutch)

Sécurité électrique
IMPORTANT: Cet équipement doit être utilisé conformément aux instructions de sécurité. Pour consulter les avertissements en diverses langues dans ce guide, reportez-vous à la section «þTraductions des avertissements de sécuritéþ», qui figure à la page signalée par l'icône .➪ (French)

Sähköturvallisuus
TÄRKEÄÄ: Tämä laite on asennettava turvaohjeiden mukaisesti. Pour consulter les avertissements en diverses langues dans ce guide, reportez-vous à la section «þTraductions des avertissements de sécuritéþ», qui figure à la page signalée par l'icône .➪nish)

Sicurezza elettrica
IMPORTANTE: questa apparecchiatura deve essere installata rispettando le norme di sicurezza. Per le informazioni sulla sicurezza in più lingue contenute in questa guida, consultare la sezione "Informazioni di sicurezza tradotte" alla pagina indicata dall'icona ➪. (Italian)

Elektrisk sikkerhet
VIKTIG: Dette utstyret skal installeres i samsvar med sikkerhetsregler.Du kan se all sikkerhetsinformasjonen i denne veiledningen på flere språk ved å slå opp på overskriften "Oversatt sikkerhetsinformasjon" på sidetallet angitt av symbolet .➪rwegian)

Segurança Eléctrica
IMPORTANTE: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança. Para ver qualquer informação sobre segurança neste guia, em vários idiomas, consultar a secção entitulada “Informação de Segurança Traduzida”, no número de página indicado pelo ícone ➪. (Portuguese)

Seguridad eléctrica
IMPORTANTE: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad. Para ver cualquier información de seguridad en esta guía en múltiples idiomas, consulte el encabezamiento de la “Información de seguridad traducida” en la página cuyo número indica el icono ➪. (Spanish)

Elsäkerhet
OBS! Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används. . För flerspråkiga säkerhetsvarningar i denna handledning hänvisas du till den sida som följer efter ikonen ➪er rubriken "Översatta säkerhetsvarningar." (Swedish)

RADIATED ENERGY

U.S. Federal Communications Commission
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 this instruction guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note: Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

Industry Canada
This Class A digital equipment 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.



Warning

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures ➪ page 5.



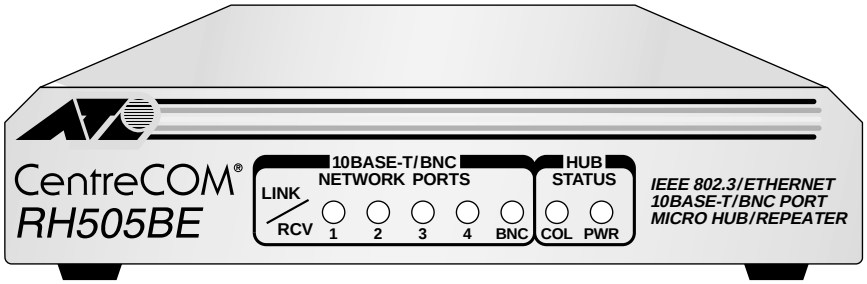
Warning

This product requires shielded cables to comply with Class A emission limits. If not used with shielded cables, this product may cause radio interference in which case the user may be required to take adequate measures ➪ page 6.

European Community (EC) Electromagnetic Compatibility Directive
This equipment has been tested and found to comply with the requirements of European Emissions Standard EN55022 Class A and the Generic European Immunity Standard EN50082-1 that requires compliance to the following standards:

a) IEC 801-2 Electrostatic discharge
b) IEC 801-3 RF Immunity
c) IEC 801-4 Transient burst

ELECTRICAL SAFETY TUV EN60950, UL1950, CSA950



EUROPE - EU
Electrical Safety TUV-EN60950
Use only a Power Supply that has been Licensed by a EU Notified Body (For example: TUV,BSI,VDE) for use in the country of end use, with a output rated DC 5V, minimum 1.2 A."
USA/CANADA
Electrical Safety UL 1950, CSA 950
Use only a UL Listed/CSA Certified AC Power Supply with an output rated DC 5V, minimum 1.2 A." Utiliser seulement une alimentation c.a. homologuée UL/CSA, avec un courant nominal de sortie de 5 V c.c., minimum 1,2 A."

Verifying Package Contents

Make sure that you have received the following items:

- AT-RH505BE or AT-RH509BE hub (dependent upon purchase)
- AC power supply (specific for U.S., U.K., and Continental Europe)
- This quick install guide
- Translated safety information booklet
- Warranty card
- Self-adhesive rubber feet (4)
- Velcro kit (2 pads)

AT-RH505BE and AT-RH509BE Hub Overview

The AT-RH505BE and AT-RH509BE five (10 Mbps)and nine-port hubs are 10Base-T desktop Ethernet hubs that include:

- Four/eight 10Base-T ports (RJ45)
- One BNC interface for 10Base2 backbone support and stacking
- Easy to read LEDs for port and hub status
- DC power connector

Both hubs are specifically designed for small office environments. Their Velcro mounting kit makes it convenient for positioning on a file cabinet, desk-side, a wall, or other locations.

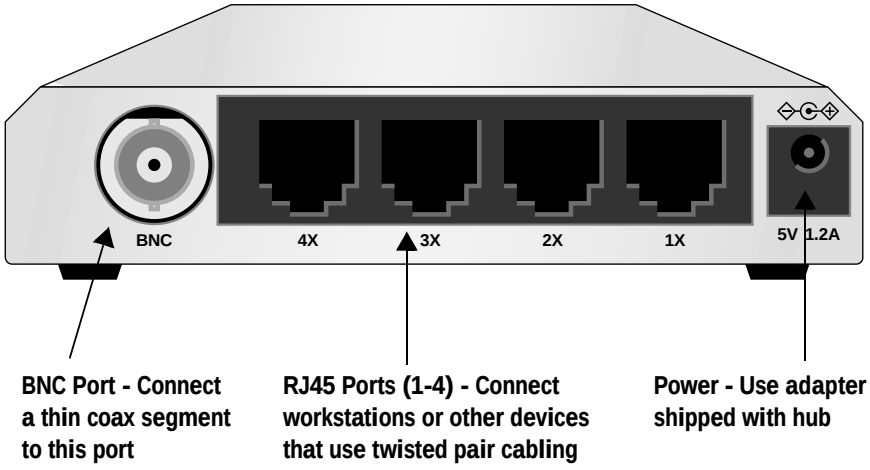
Table 1 AT-RH505BE and AT-RH509BE Micro Hub Models

Models	Description
AT-RH505BE	Four 10Base-T (shielded RJ45) and one 10Base2 (BNC) port
AT-RH509BE	Eight 10Base-T (shielded RJ45) and one 10Base2 (BNC) port

Functional Description

The AT-RH500 Series hubs performs the following functions:

- Preamble regeneration
- Fragment extension
- MAU jabber lockup protection
- Auto partitioning/reconnection
- Twisted pair cable reverse polarity detection and automatic correction



Desktop and Wall Installation

To install a single AT-RH500 Series hub either with the Velcro kit or on the desktop, do the following:

1. For wall installation, place two Velcro pads on the bottom of the unit, then place the other pads on a wall. Align the unit's Velcro pads with the two pads on the wall to attach the unit to the wall. For desktop installation, attach the four rubber feet to the bottom of the unit. Then place the hub on a secure desktop.

Caution

Air vents must not be blocked and must have free access to the room ambient air for cooling ◅➡ page 13.

2. Plug the power supply into a wall socket and connect the DC cable to the unit. Check the LEDs to ensure that the PWR LED lights. See Table 1.
3. Connect the twisted pair cables to the hub's RJ45 ports. Connect the other ends of the twisted pair cables to the computer's network adapter card.

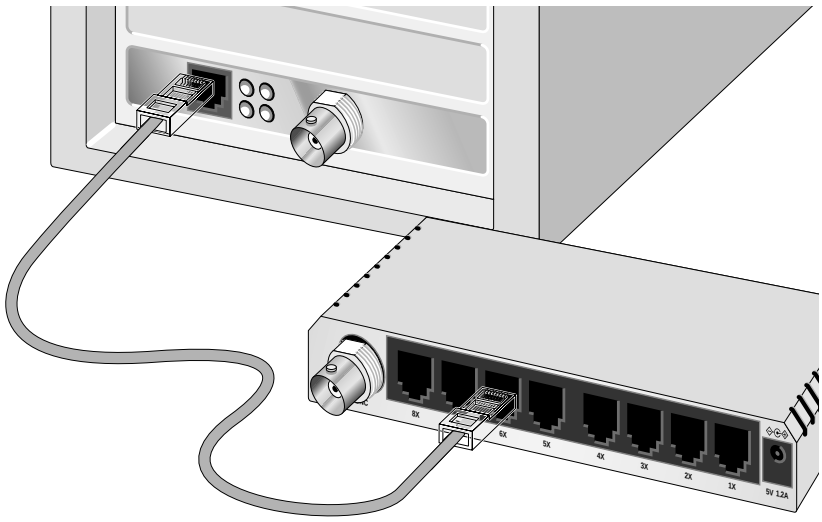


Figure 1 Standalone Hub Installation

NOTE: Cable length must not exceed 100 m (328 ft).

Table 2 AT-RH500 Series Hubs LEDs

LED	Color	State	Description
LINK/RCV (Ports)	Green	ON	ON indicates that the link test pulse is receiving properly.
		Flashing	Flashing indicates that a packet is being received on the specified port.
		OFF	OFF indicates that a connection defect is occurring such as UTP cable.
BNC (Ports)	Green	ON	ON indicates that power is being supplied to the BNC drivers (Port 5 and Port 9).
		Flashing	Flashing indicates that a packet is received on Port 5 or port 9.
		OFF	OFF indicates that no power is being supplied to the BNC connector.
COL (Hub)	Yellow	Flashing	Flashing indicates that a collision is occurring on the network.
PWR (Hub)	Green	ON	ON indicates that the unit is receiving power.
		OFF	OFF indicates that the unit is not receiving power.

Applications

The BNC interface provides for the following hub configurations:

- In a bus topology for connecting up to 30 hubs
- In a stacked configuration for network expansion
- As a backbone connection to legacy LANs

NOTE: When attaching the hub to a router or other device, verify the port type used on these devices prior to attaching any cables.

Stacking Hubs Using the BNC Port

1. Connect a BNC-T connector to the BNC port on the hub.
2. If the hub is at the terminal end of a trunk segment, connect a BNC terminator to the open end of the T connector.
3. Connect coaxial cable to an open end on the T connector attached to the BNC port on the hub.
4. Connect the other end of the coaxial cable to the BNC port on the next device in the segment.

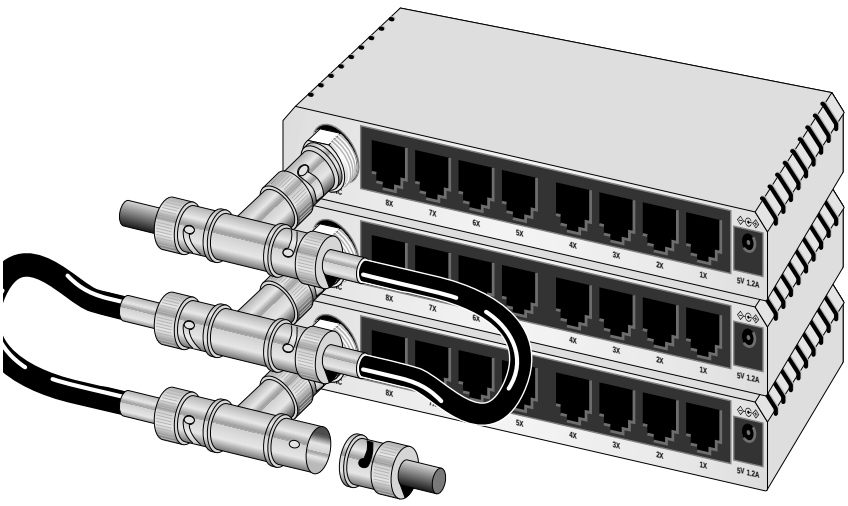


Figure 2 BNC Connection for Stacking Hubs

NOTE: The minimum distance between BNC connections on the segment is 0.5 m (1.64 ft). Maximum cable segment is 185 m (607 ft) with a maximum of 30 nodes.

Troubleshooting

1. Verify power for the hub and all attached devices by checking the PWR LED on the hub to make sure it lights green.
2. Make sure that all devices are securely attached to the network and that the adapter card(s) are operating.
3. Follow the recommended cable distances and repeater limitations.
4. A specific port may have been partitioned from the network. Check for a defective network adapter or cable connection and make sure that all devices are connected to the network by a single path.
5. If thin coaxial cable is used, make sure that the cable run is terminated at both ends using a BNC terminator. If no cables or terminators are connected to the BNC port, ignore the status LED for this port.

Table 3 Technical Specifications

Physical	
Dimensions	W x D x H 99 mm x 54 mm x 21 mm (AT-RH505BE) 158 mm x 54 mm x 21 mm (AT-RH509BE)
Weight	180 g (AT-RH505BE) 270 g (AT-RH509BE)
Environmental	
Operating temperature	0 ^{0}C to 40 ^{0}C
Storage temperature	-20 ^{0}C to 80 ^{0}C
Operating altitude	up to 10,000 ft
Humidity limits	5% to 80% (non-condensing)
Electrical	
Power Consumption	4 W (AT-RH505BE) 6 W (AT-RH509BE)
Input Voltage	5.0 VDC
Input Current	1.2 A
Standards	
Network	IEEE 802.3 10Base-T and 10Base2
Safety	UL1950, CSA22.2 No. 950, TUV (EN60950, EN41003)
EMI Emissions	FCC Class A, VCCI Class A, EN55022 Class A
EMI Immunity	
EN50082-1 (ESD immunity IEC 801-2 1984 Level 2, RF immunity IEC-801-3 1984 Level 2, and EFT/Burst Immunity IEC 801-4 1988 Level 2)	
CE Compliant	
Reliability	
MTBF	153,000 hrs at 25 ^{o}C or above (AT-RH505BE) 102,000 hrs at 25 ^{o}C or above (AT-RH509BE)

Where To Find Allied Telesyn

Location	Phone/Fax
Americas U.S.A., Canada, Mexico, Central America, South America	1 (800) 428-4835 1 (918) 628-3222
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Australia Australia, New Zealand	(+61) 2-943-5111 (+61) 2-943-4966
France France, Belgium, Luxembourg, The Netherlands, Middle East, Africa	(+33) 1-60-92-15-32 (+33) 1-69-28-37-49
Germany Germany, Switzerland, Austria, Eastern Europe	(+49) 30-435-90-00 (+49) 30-435-706-50
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Japan	(+81) 3-3443-5640 (+81) 3-3443-2443
United Kingdom United Kingdom, Denmark, Norway, Sweden, Finland, Iceland	(+44) 1-235-442500 (+44) 1-235-442590
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CompuServe	Go ALLIED
Internet, World Wide Web and FTP site	http://www.alliedtelesyn.com

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