

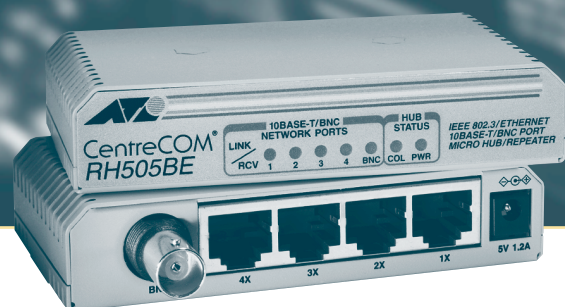
### AT-RH505BE

5-Port Micro Hub with external power adapter

### AT-RH509BE

9-Port Micro Hub with external power adapter

IEEE 802.3 Compliant/Ethernet compatible



CentreCOM

Micro Hubs

## Low-cost Connectivity Solutions

As the market leader in unmanaged hubs, Allied Telesyn excels in delivering highly reliable, low-cost connectivity solutions to its customers. The AT-RH505BE and AT-RH509BE twisted pair micro hubs have been designed specifically to serve small office networks. A single AT-RH505BE and AT-RH509BE hub can create a small network for connecting up to five and nine Personal Computers, respectively. In addition to the twisted pair interfaces (RJ45), a BNC port provides direct attachment to thin coax media, eliminating the need for an external transceiver. The network can be easily expanded by stacking with another hub. With the BNC interface, up to 30 hubs can be interconnected on a single segment, leaving all UTP ports free for use.

## IC and Surface Mount Technology (SMT)

The AT-RH505BE and AT-RH509BE utilize the latest IC and Surface Mount Technology (SMT), which increases functionality and reliability. These hubs are very small in size, yet they provide the complete functionality of large hubs including packet regeneration and port partitioning. Each port automatically detects the polarity of the receive pair and reverses should the pair be incorrectly installed. It also includes autopartitioning capabilities, where each port automatically disconnects itself after repeated collisions are detected and automatically reconnects when the error condition is cleared.

## Extremely Compact and Easy to Install

The rugged metal case has been developed to accommodate the limited space of a typical small office environment. Extremely compact in size, the AT-RH505BE and AT-RH509BE fit conveniently on the corner of a desk. Both hubs include a velcro kit for flexible desktop and wall placement, eliminating the need for installation tools. The hubs support jabber lock-up protection on all interfaces, preventing transceiver lock-up resulting from packets that exceed the maximum packet length. Network diagnostic LEDs are provided on the front of the AT-RH505BE and AT-RH509BE to simplify installation, network trouble-shooting and fault isolation. An LED is associated with each twisted pair and the thin coax port to monitor status and operation at all times ("Packet Receive" and "Link OK"). Additionally, there are two central LEDs indicating "Collision" and "Power".

# Specifications

## Status Indicators

### Front Panel Central:

Power Green indicates power is on  
Collision Amber indicates there is a collision detected within the hub

### Front Panel Per Port:

No Light Indicates no link  
Steady Green Indicates that the segment is not partitioned and that there is a valid link  
Flashing Green Indicates packet is being received from the segment

## Packet Transmission Characteristics

### Delay Times:

(Any port in to all other ports out)

UTP to UTP  
Start of packet 2100 ns Maximum  
Collision to Jam 2050 ns Maximum

### BNC to UTP

Start of packet 1950 ns Maximum  
Collision to Jam 2050 ns Maximum

### Preamble:

Input 32 bits Minimum including SFD  
Output 64 bits including SFD (last 2 bits are 1,1)

### Jam Output:

A pattern of 1,0 is sent to all ports (except receive port) when a collision is detected.

### Packet Fragment Extension:

96 bits including preamble. Packet fragments are extended using the 1,0 pattern.

### Auto Partitioning/Reconnection:

Port partitioning occurs after 32 consecutive collisions or if collision has a duration of more than 1ms. Reconnection occurs after 512 bits are received or transmitted on the partitioned port without collision (IEEE standard algorithm) or after data is transmitted without collision for 512 bits (alternate algorithm.)

### Jabber Lock-Up Protection:

For packets that exceed 64k bit, packet output is interrupted for 96 bit times

## Power Characteristics

### External Power Adapter:

Voltage 100 to 120 VAC, 50/60 Hz, 0.25 A  
200 to 240 VAC, 50/60 Hz, 0.125 A

### Power Consumption:

AT-RH505BE 4W Maximum  
AT-RH509BE 6 W Maximum

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## UTP Interface (IEEE 802.3 10BaseT Compliant)

Transmitter:	Typical	Range
Peak Differential Signal Amplitude	2.5V	2.2 to 2.8V
Transmitter Jitter	±3.5 ns	
Harmonics Content		>27dB below fundamental
<b>Common Mode</b>		
Output Voltage		<50 mV
Silence Voltage	0	±50 mV
Link Test Pulse	100 ns	60 to 130 ns
Output Impedance	100 ohm	85 to 115 ohm
UTP Length		100 metres

Receiver:	Typical	Range
Receiver Threshold	-400 mV	-300 to -520 mV
Differential Noise Rejection	300 mV	

## Coaxial Interface (IEEE 802.3 Compliant)

Transmitter:	Typical	Range
Input Impedance		>100 kohm
Coaxial Tap Capacitance	<6pF	
Input/Output		

Voltage:	Typical	Worst
DC Offset	-.01 V	-.05 to 0 V
AC Offset	1.86 Vp-p	1.2 to 2.4 Vp-p
Transmit Rise/Fall Time	25 ns	±5 ns

## Physical Characteristics

### Dimensions:

AT-RH505BE 9.9 cm x 5.4 cm x 2.1 cm  
(3.9 in x 2.2 in x 0.8 in)  
AT-RH509BE 15.8 cm x 5.4 cm x 2.1 cm  
(6.2 in x 2.2 in x 0.8 in)

### Weight:

AT-RH505BE 180 g (6 oz)  
AT-RH509BE 270 g (10 oz)

### Temperature:

Operating 0° to 40° C  
Storage -20° to 60° C

### Relative Humidity:

5% to 80% non-condensing

### Electrical/Mechanical Approvals:

EMI FCC Class A, EN55022 Class A, CE Certified  
Safety UL, CSA, TUV-GS

## Ordering Information

Part Number	Description
AT-RH505BE-XO	5-port 10BaseT micro hub, 4 RJ45 ports, 1 BNC port
AT-RH509BE-XO	9-port 10BaseT micro hub, 8 RJ45 ports, 1 BNC port
Where X	1 For 100-120 V with U.S. power cord included 3 For 200-240 V with U.K. power cord included 5 For 200-240 V with Central European power cord included