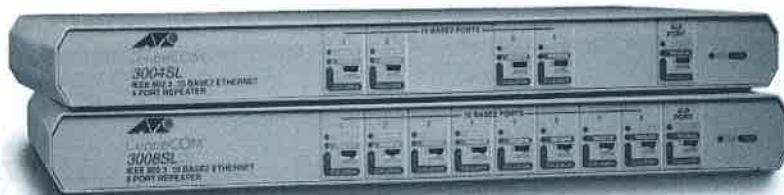




## CentreCOM Multiport Repeaters

- IEEE 802.3 compliant and Ethernet Version 1.0 and 2.0 compatible
- Connects up to eight thin (10Base-2) coaxial network segments
- Automatic/manual partitioning of network segments
- Supports all Ethernet media including fiber-optics via an AUI port
- Externally accessible termination switch on BNC ports
- Packet regeneration/retiming and Jabber lock-up protection
- Occupies just one slot in a 19-inch rack
- Receive, SQE/COL and On-Line LEDs per port
- One-year warranty



### **AT-3004SL**

4-PORT WITH ONE AUI, SLIM-LINE

### **AT-3008SL**

8-PORT WITH ONE AUI, SLIM-LINE

IEEE 802.3 COMPLIANT/ ETHERNET COMPATIBLE

The CentreCOM Multiport Repeaters are designed to connect up to eight Ethernet/IEEE 802.3 thin (10Base-2) network segments. In addition to the thinnet interfaces, a single IEEE 802.3 Attachment Unit Interface (AUI) is provided for attachment to external transceivers. In this way, these repeaters allow for connection between the different media (thick or thinnet coaxial, fiber-optic and twisted pair) with the choice of the appropriate transceiver.

With each BNC equipped interface, a 50  $\Omega$  internal cable termination is provided via an externally accessible switch. This feature enables the thinnet cable to attach directly to the repeater interface, thus eliminating the need for a T-connector and terminator.

The AT-3004SL and AT-3008SL provide four and eight BNC interfaces respectively, and a single IEEE 802.3 AUI, which provides easy attachment to the media.

The CentreCOM Multiport Repeaters provide packet regeneration, which results in a higher performance network. Packet regeneration includes regenerating preamble, retiming of the data packets and extending collision fragments to ensure collision enforcement.

Fault protection is provided by the CentreCOM Multiport Repeaters in two distinct ways. First, each segment will automatically disconnect itself when 32 consecutive collisions occur on the same segment. Secondly, jabber protection will automatically insert an idle state (10  $\mu$ s duration) for packets over 5 ms, but less than 20 ms in length.

Network diagnostics are provided on the front of the CentreCOM Multiport Repeaters with three LEDs for each network segment. Packet "Receive" and "Collision" are displayed, aiding in troubleshooting each segment. Segment "On-Line" is also displayed to aid in fault isolation, which together with a segmentation switch, provides a manual partitioning capability for each segment.

# AT-3004SL, AT-3008SL

## STATUS INDICATORS

Power	Indicates power is on
On-Line	Indicates segment is connected to the network
Receive	Indicates packet is being repeated from the segment
Collision	Indicates collision is occurring on the segment

## PACKET TRANSMISSION CHARACTERISTICS

### Delay Times:

(Any segment in to all other segments out)

Thin to Thin	
Start of Packet	1150 ns Maximum
Collision to Jam	1200 ns Maximum
Thin to Thick	
Start of Packet	1000 ns Maximum
Collision to Jam	1200 ns Maximum
Thick to Thin	
Start of Packet	700 ns Maximum
Collision to Jam	970 ns Maximum

### Preamble:

Input	42 bits Minimum including SFD
Output	64 bits including SFD (last 2 bits are 1,1)

### Jam Output:

Pattern of 1,0 is transmitted to all segments when collision detector of any active segment is on.

### Minimum Packet Repeated:

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

### Fault Protection:

Automatic disconnection of faulty segments if either 32 consecutive collisions occur or collision detection is on for longer than 1 ms. Resets automatically after one packet is successfully transmitted.

### Jabber Lock-Up Protection:

Does not repeat jabber lock-up before detection by the transmitting node's external transceiver. The Multiport Repeaters insert an idle state of 10  $\mu$ s after 5 ms of continuous transmission.

## THIN (BNC) SEGMENTS

### Type:

BNC receptacle with gold center contact, for use with BNC type plugs and RG58 Thinnet cable. Each segment is connected to an internal 50  $\Omega$  terminator (externally switchable.) All segment grounds are connected to chassis grounds.

### Internal Transceiver:

Complies to the IEEE 802.3 standard.

### Segment Length:

0 to 185 meters (RG58) terminated at both ends. Maximum of 29 other transceivers on any one segment. (Minimum spacing 0.5 meters between transceivers.)

## AUI INTERFACE

Parameter:	Typical	Range
Frequency Range		10 MHz
RX and CP Pair		
Input Impedance		
Differential Mode	78 $\Omega$	76 to 80 $\Omega$
Common Mode	20 $\Omega$	
Common Mode		
Voltage Range		
RX or CP Pair	0 to 30 V	0 to 5 V
Input Sensitivity		
RX or CP Pair	$\pm 100$ mV	$\pm 75$ to 150 mV
Waveform Symmetry		
TX Pair	$\pm 0.5$ ns	$\pm 1.0$ ns
Output Voltage Into	78 $\Omega$	
X Pair	$\pm 900$ mV	$\pm 550$ mV
Transceiver Cable	IEEE 802.3/0 to 50 m in length	

### Connector Shell Type:

Protective ground 15-pin female D-connector

## POWER CHARACTERISTICS

### Input Voltage (Auto Ranging):

100 to 120 VAC, 50/60 Hz, 1.0 A
200 to 240 VAC, 50/60 Hz, 0.5 A

### Power:

Consumption	50 W
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## PHYSICAL CHARACTERISTICS

Dimensions:	43.2 cm x 25.2 cm x 4.6 cm (17.0 in x 9.9 in x 1.7 in)
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Weight:	2.2 kg (4 lb 13 oz)
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### Temperature:

Operating	0° to 50° C
Storage	-20° to 60° C

Relative Humidity:	5% to 80% noncondensing
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### Electrical/Mechanical Approvals:

EMI	FCC Class A, Vfg-B
Safety	UL, CSA, TUV-GS

# Specifications

## ORDERING INFORMATION

Part Number	Description
AT-3004SL-X5	4 BNC ports 1 AUI port
AT-3008SL-X5	8 BNC ports 1 AUI port
Where "X"	1 for 100-120 V with U.S. power cord included 2 for 200-240 V without power cord included



## Ethernet Hubs

Unmanaged Ethernet 19" workgroup hubs with internal power supply

AT-3012SL, AT-3016SL, AT-3024SL

Network Utilisation LEDs

TAA



\* Rackmounts included with all models



### AT-3012SL-xx

xx = 15 for US power cord, 30 for UK power cord, 25 for no power cord

Physical specs: 432mm by 127mm by 46mm, 2.0 Kg, 17" x 5" x 1.8", 4.2lbs

**12 Ports** 2 x 1 Port AUI/F x 1 Port

### AT-3016SL-xx

xx = 15 for US power cord, 30 for UK power cord, 25 for no power cord

Physical specs: 432mm by 127mm by 46mm, 2.0 Kg, 17" x 5" x 1.8", 4.2lbs

**16 Ports** 2 x 1 Port AUI/F x 1 Port

### AT-3024SL-xx

xx = 15 for US power cord, 30 for UK power cord, 25 for no power cord

Physical specs: 432mm by 127mm by 46mm, 2.0 Kg, 17" x 5" x 1.8", 4.2lbs

**24 Ports** 2 x 1 Port AUI/F x 1 Port

## Multiport Repeaters

AT-3004SL, AT-3008SL

TAA



### AT-3004SL-xx

xx = 15 for US power cord, 25 for no power cord

Physical specs: 432mm by 252mm by 46mm, 2.2 Kg, 17" x 9.9" x 1.8", 4.8lbs

**4 Ports** AUI/F x 1 Port

### AT-3008SL-xx

xx = 15 for US power cord, 25 for no power cord

Physical specs: 432mm by 252mm by 46mm, 2.2 Kg, 17" x 9.9" x 1.8", 4.8lbs

**8 Ports** AUI/F x 1 Port

\* Rackmounts included with all models

## Optional accessories for AT-3000 hubs & repeaters

### AT-RKMT-5

19" rackmount kit (with fingerpulls) for AT-3012/16/24 and for AT-3004/3008SL

### AT-BRKT-18

Wall mounting bracket for AT-3012/16/24 and for AT-3004/3008SL

## INFORMATION



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