Allied Telesis™

Enterprise

8000S Series

9400 Series

AT-AR770S

SwitchBlade x908

VCStack™

AT-x900-24XT

Internet

VIDEO

AT-AR770S

NMS

ZTC

iMAP

iMAP

EPSRing™

10GbE

iMG

8600 Series

9400 Series

AT-AR750S

Large Business

SwitchBlade x908

iMG

iMG

iMG

AT-x900-48FS

Multi-Tenant Unit

8000S Series

AT-AR415S

Small Business

Proven Capabilities in Converged
(IP) Voice, Video and Data

Contents

Allied Telesis

Allied Telesis is a world class leader in delivering IP/Ethernet network solutions to the global marketplace. We create innovative, standards-based IP networks that seamlessly connect users with their voice, video and data services.

We are an international company headquartered in Japan with major divisions in Europe, Asia and North and South America. Our partners include the world's largest distributors, integrators, solution providers and resellers to assure you receive immediate local service and support.

Our worldwide research and development centers work to bring you innovative products that help your company succeed. We also operate state-of-the art production facilities, compliant with the world's stringent environmental policies, manufacturing more than 600 different products every month, which are shipped globally.

As a major industry manufacturer and importer, Allied Telesis is committed to providing you with products designed and built to the highest possible quality. Our manufacturing conforms to appropriate ISO 9000 standards, and all of our facilities adhere to the strict ISO 14001 standard to ensure a healthy world environment.

Allied Telesis...

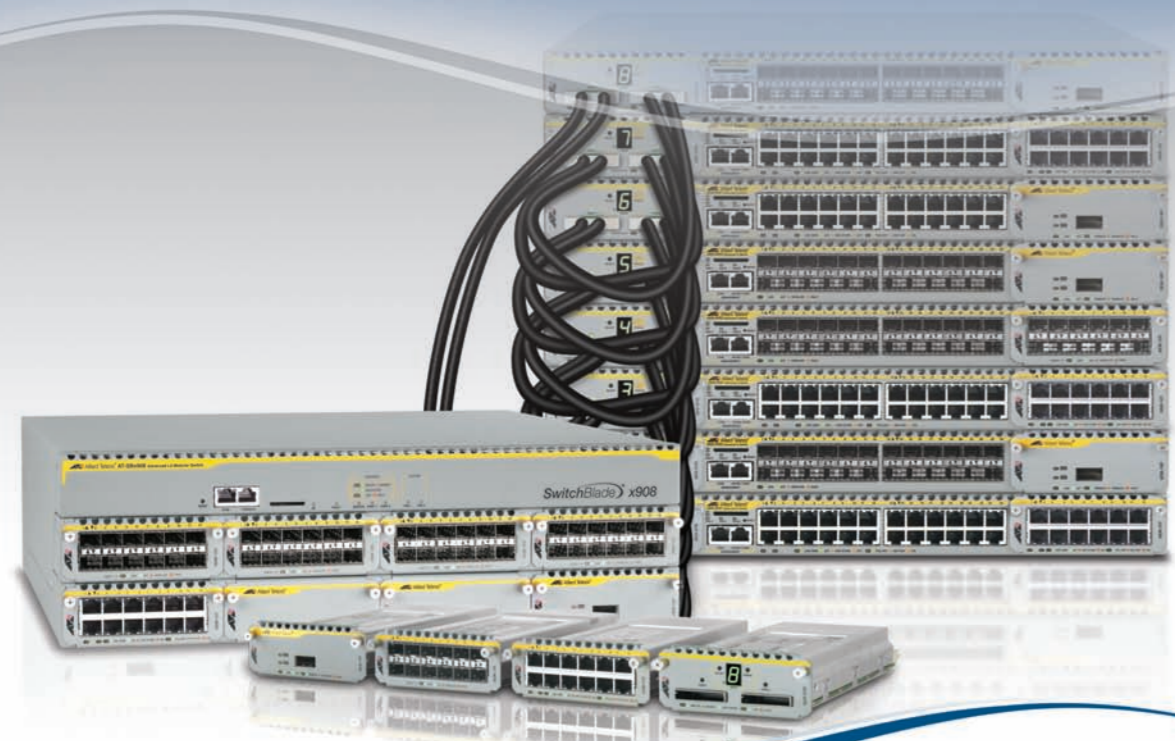**Known for reliability**
Chosen for affordability
Awarded for innovation

Allied Telesis has been designing, manufacturing and selling networking products for over 20 years. Our philosophy of producing products of the highest quality, at affordable prices, has resulted in Allied Telesis products being deployed in networks of all types and sizes across the world. Our proven track record of providing solid technology, excellent support and full feature products has allowed Allied Telesis to become the worldwide de-facto standard in many areas of technology. With a portfolio of products that can provide end-to-end networking for both Service Provider, Enterprise and SMB customers, Allied Telesis is the natural choice for many world class organizations.

Market Solutions

Carriers and PTTs
Competitive carriers can differentiate themselves by deploying Triple Play services that provide voice, video and data via one access line, together with deployment of fiber optics for the infrastructure. Our residential service gateways provide true end-to-end differentiation for IOCs, versus legacy ATM/TDM solutions. Together, they make a compelling combination.

Public Utilities
Many utilities are investing in technology to deliver backbone services over their fiber plant to local communities and private businesses. Our IP/Ethernet solutions for FTTx include an end-to-end suite of products optimized to deliver wholesale access, retail services or a combination of both.

Education
High-bandwidth, secure networks help deliver advanced teaching and communications tools that benefit students, teachers and administrators through virtual online classrooms, remote access to teaching specialists and automated attendance programs. Our high performance, multi-layer switching solutions provide intelligent, scalable and reliable connectivity from 10Mbps to 10Gbps.

Multi-Tenant and Multi-Dwelling Units (MTU/MDU)
By meeting a growing demand from business and residential tenants for bundled voice, video and data services, you can profitably compete with incumbent telephone and cable operators to offer services in your Multi-Dwelling or Multi-Tenant Units. Our IP/Ethernet solutions help you efficiently consolidate access traffic and offer scalable high-speed services to the residents and companies who share your buildings.

Healthcare
Advances in voice, video and data networking can make medical professionals faster, more accurate and more patient friendly. Our solutions keep you compliant with privacy regulations and help open up new opportunities for both patient care and broadband 'to-the-pillow' services, including audio and Internet services, pay-per-use channels and Video-on-Demand (VoD).

Cities and Municipalities
Many municipalities and cities are building their own funded backbone and access networks to provide high-speed Internet, telephone and video to employees, residents and businesses. Our wired and wireless broadband IP/Ethernet solutions help municipalities and cities to build the most scalable, flexible, and cost-effective voice, video and data infrastructure available today.

Enterprises
Our multi-layer switch and router technology offers advanced features that ensure high-availability, manageability, security, adaptability and performance. Our intelligent, secure end-to-end IP network infrastructure scales to flexibly accommodate bandwidth-hungry voice, video and data applications into enterprises.

Small and Medium Business
Allied Telesis has one of the industry's most extensive product line-ups for small and medium-sized businesses seeking affordable and easy-to-deploy wired and wireless products for voice, video and data. Our switch, router, VoIP and wireless access solutions can be combined to deliver a high performance, feature-rich and flexible solution for a reliable and long-lasting network.

Discover the Advantages of Allied Telesis' Partner*Portal*

If you are a reseller who wants to grow your business by reaching into new and existing markets, then we invite you to register on our Partner*Portal* – your one-stop resource for taking a step ahead of the competition.

Not your typical partner site, Partner*Portal* is more than half-hearted promos and empty promises. It is an interactive resource packed with design assistance, product support information and special promotions just for our portal partners.

Partner*Portal* is flexible, offering you effortless access to our exclusive promotions and programs.

Why Should You Join Partner*Portal*?

Partner*Portal* is your secure 24-hour resource for Allied Telesis product information, promotional programs and special pricing deals. Register today to access these and other valuable tools to help you win bids and grow your business.

Product Finders

Looking for a replacement solution? Need to convert a competitive part number? Want to upgrade from a legacy product? Check out our complete array of product selector resources.

Product Support

Our extensive 'Support' section offers detailed information, tools, images and specifications on Allied Telesis products, services and solutions.

Promotions

From standard rebates and bundles to buy/get offers, portal partners save with promotions and special pricing on switches, routers, media converters and more!

Register and start winning business today

In Europe, please register at http://partnerportal.alliedtelesis.co.uk
For the US and Latin America, please register at http://partnerportal.alliedtelesis.com

Global Service & Support Programs

Net.Cover® Service and Support Programs

Allied Telesis offers service and support programs to protect your network infrastructure investment. These services are designed to augment the coverage offered by Allied Telesis' warranties.

- Net.Cover
- Net.Professional Services
- Allied Campus

These service and support programs may not be available in all regions. Contact your local sales office for more information.

Net.Cover

Allied Telesis' Net.Cover is a comprehensive service and support program designed to protect vital network systems from unscheduled downtime. This comprehensive service array includes features such as multi-level technical phone support, priority queuing, and advanced product replacement. Net.Cover services include:

- *Online knowledge base*
- *Software updates with proactive change notification*
- *Next business day advanced product replacement*
- *Priority queuing and escalation*
- *Configuration assistance*
- *No out-of-warranty expenses*

Renewable Net.Cover contracts run for one, three or five years. Custom contracts are available upon request. Contact your local sales office for more information.

Allied Campus

Allied Telesis creates a wealth of training material designed to help its customers to better design, implement and maintain their networks. Courses are designed to cater for a range of technical ability and networking experience. Anyone who sells, installs, maintains or troubleshoots and supports Allied Telesis products will find these courses invaluable.

Each course incorporates a hands-on laboratory session with instructor led training in a comfortable environment that simulates real network issues. When you pass each course, you will receive a certificate that allows you to attend the more advanced courses or specialist courses, and gain easy access to Allied Telesis' internal support engineers.

Net.Professional Services

Allied Telesis has assembled a team of highly trained, experienced network engineers and project managers to help you design, integrate, deploy, and manage increasingly complex converged IP networks. Our engineering services encompass all aspects of network development, from network design and deployment, to management and integration. We use proven, tested gate and acceptance processes that ensure a smooth initial deployment, error free integration, and seamless change management.

Unmanaged Switches

FAST ETHERNET

SUBCATEGORY	FEATURE	AT-FS705LE	AT-FS705L	AT-FS705EFC	AT-FS708LE
FORM FACTOR		» Wallmountable » Desktop	» Wallmountable » Desktop	» Wallmountable » Desktop	» Wallmountable » Desktop
PORTS AND MEDIA SUPPORT	10/100TX	5	5	4	8
	100FX			1 × SC, MMF	
	SFP (1000Mbps)				
POWER SUPPLY		External	Internal	External	External
POWER OVER ETHERNET	IEEE 802.3af				
	PoE enabled ports				
	Max number of full power ports				
	Mode				
	PoE power				
SCALABILITY	MAC address table size	2K	2K	4K	4K
ENVIRONMENTAL	Cooling	Fanless	Fanless	Fanless	Fanless
DIMENSIONS	(W × D × H)	10 × 7.9 × 2.6cm 3.93 × 3.11 × 1in	19.6 × 11.6 × 3.6cm 7.71 × 4.56 × 1.42in	17.9 × 9.8 × 1.7cm 7.04 × 3.85 × .67in	15 × 7.8 × 2.6cm 5.9 × 3.07 × 1in
	Weight	.3kg / .66lbs	.61kg / 1.34lbs	.36kg / .79lbs	.5kg / 1.1lbs
IDEAL ENVIRONMENT		» Small home / office networks » Extend edge of larger network	» Small home / office networks » Extend edge of larger network	» Edge switch on fiber-based network	» Small home / office networks » Extend edge of larger network
CUSTOMER'S NEEDS		» Small or no IT » Cost effective » Simple to install	» Small or no IT » Cost effective » Simple to install	» Interface to fiber backbone network » Longer than 100m cable runs » Cost effective » Simple to install	» Small or no IT » Cost effective » Simple to install

FAST ETHERNET

SUBCATEGORY	FEATURE	AT-FS708	AT-FS708/POE	AT-FS709FC	AT-FS716L	AT-FS717FC	AT-FS724L
FORM FACTOR		» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable
PORTS AND MEDIA SUPPORT	10/100TX	8	8	8	16	16	24
	100FX			1 × SC. MMF		1 × SC. MMF	
	SFP (1000Mbps)			1			
POWER SUPPLY		Internal	Internal	Internal	Internal	Internal	Internal
POWER OVER ETHERNET	IEEE 802.3af		■				
	PoE enabled ports		8				
	Max number of full power ports		4				
	Mode		B				
	PoE power		65W				
SCALABILITY	MAC address table size	4K	4K	4K	4K	4K	4K
ENVIRONMENTAL	Cooling	Fanless	Fan	Fanless	Fanless	Fanless	Fanless
DIMENSIONS	(W × D × H)	24.9 × 11.6 × 3.6cm 9.8 × 4.56 × 1.42in	32 × 22 × 4.3cm 12.6 × 8.66 × 1.69in	22 × 12 × 3.6cm 8.66 × 4.72 × 1.42in	24.9 × 11.6 × 3.6cm 9.8 × 4.56 × 1.42in	29.5 × 11.5 × 4cm 11.61 × 4.52 × 1.57in	43 × 17.4 × 4.3cm 17 × 16.92 × 1.69in
	Weight	.9kg / 1.98lbs	1.9kg / 4.19lbs	2kg / 4.4lbs	.9kg / 1.98lbs	.93kg / 2.05lbs	2.5kg / 5.5lbs
IDEAL ENVIRONMENT		» Small home / office networks » Extend edge of larger network	» Small office network with wireless, IP cameras	» Edge switch on fiber-based network	» Small office network	» Edge switch on fiber-based network	» Small office network
CUSTOMER'S NEEDS		» Small or no IT » Cost effective » Simple to install	» Ability to power wireless access points, cameras, etc. » Interface to fiber backbone network » Longer than 100m cable runs » Cost effective » Simple to install	» Interface to fiber backbone network » Longer than 100m cable runs » Cost effective » Simple to install	» Small or no IT » Cost effective » Simple to install	» Interface to fiber backbone network » Longer than 100m cable runs » Cost effective » Simple to install	» Small or no IT » Cost effective » Simple to install

GIGABIT ETHERNET

SUBCATEGORY	FEATURE	AT-GS900/5E	AT-GS900/8E	AT-GS900/8	AT-GS900/8POE
FORM FACTOR		» Wallmountable » Desktop	» Wallmountable » Desktop	» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable
PORTS AND MEDIA SUPPORT	10/100/1000T	5	8	8	8
	SFP (1000Mbps)				1
POWER SUPPLY		External	External	Internal	Internal
POWER OVER ETHERNET	IEEE 802.3af				■
	PoE enabled ports				8
	Max number of full power ports				4
	PoE power				65W
SCALABILITY	MAC address table size	4K	4K	4K	8K
ENVIRONMENTAL	Cooling	Fanless	Fanless	Fanless	Fan
DIMENSIONS	(W × D × H)	19.5 × 11.4 × 3.8cm 7.67 × 4.48 × 1.5in	19.5 × 11.4 × 3.8cm 7.67 × 4.48 × 1.5in	26.6 × 16.2 × 4.4cm 10.47 × 6.38 × 1.73in	33 × 22 × 4.4cm 13 × 8.66 × 1.73in
	Weight	.65kg / 1.43lbs	.65kg / 1.43lbs	1.4kg / 3.08lbs	1.86kg / 4.1lbs
IDEAL ENVIRONMENT		» Small home / office networks » Extend edge of larger network	» Small home / office networks » Extend edge of larger network	» Small home / office networks » Extend edge of larger network	» Small office network with wireless, IP cameras
CUSTOMER'S NEEDS		» High performance » Small or no IT » Cost effective » Simple to install	» High performance » Small or no IT » Cost effective » Simple to install	» High performance » Small or no IT » Cost effective » Simple to install	» High performance » Ability to power wireless access points, cameras, etc. » Interface to fiber backbone network » Longer than 100m cable runs » Cost effective » Simple to install

GIGABIT ETHERNET

SUBCATEGORY	FEATURE	AT-GS900/16	AT-GS900/24
FORM FACTOR		» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable
PORTS AND MEDIA SUPPORT	10/100/1000T	16	24
	SFP (1000Mbps)		
POWER SUPPLY		Internal	Internal
SCALABILITY	MAC address table size	8K	8K
ENVIRONMENTAL	Cooling	Fanless	Fanless
DIMENSIONS	(W × D × H)	33 × 23.1 × 4.4cm 13 × 9.09 × 1.73in	33 × 23.1 × 4.4cm 13 × 9.09 × 1.73in
	Weight	2.38kg / 5.24lbs	2.99kg / 6.6lbs
IDEAL ENVIRONMENT		» Small home / office networks » Extend edge of larger network	» Small home / office networks » Extend edge of larger network
CUSTOMER'S NEEDS		» High performance » Small or no IT » Cost effective » Simple to install	» High performance » Small or no IT » Cost effective » Simple to install

Unmanaged switches require no configuration by the end user, making them ideal for SOHO (Small Office, Home Office) applications. To ensure that they easily inter-operate with older legacy equipment (printers, routers, etc), they support a number of features to aid compatibility.

Auto-negotiation

With auto-negotiation, the switch automatically matches the highest possible common speed between each switch port and each end-node. For example, if an end-node is capable of only 10Mbps, the switch sets the port connected to the end-node to 10Mbps. This ensures that the network operates at the maximum possible speed, as the switch and the end-point determine both the speed (10, 100 or 1000Mbps, and whether they can operate in full-duplex (transmit and receive simultaneously), or half-duplex mode).

Auto MDI/MDI-X

All of the twisted pair ports on the switches are auto-MDI and IEEE 802.3ab compatible. The ports use the auto-MDI feature to automatically configure themselves as MDI or MDI-X when connected to an end-node. Consequently, you can use a straight-through twisted pair cable to connect any network device to a port. This simplifies installation, as the end user need not require different cables to connect switches to switches, or switches to end-points.

Notes

WebSmart Switches

SUBCATEGORY	FEATURE	FAST ETHERNET				GIGABIT ETHERNET			
		AT-FS750/16	AT-FS750/24	AT-FS750/24POE	AT-FS750/48	AT-GS950/8	AT-GS950/16	AT-GS950/24	AT-GS950/48
FORM FACTOR		» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable
PORTS AND MEDIA SUPPORT	10/100TX	16	24	24	48	8	16	24	48
	10/100/1000T	2 (combo)	2 (combo)	2 (combo)	2				
	SFP	2 (combo)	2 (combo)	2 (combo)	2	2 (combo)	2 (combo)	2 (combo)	2 (combo)
	100FX SFP support	■	■	■			■	■	■
POWER SUPPLY		Internal	Internal	Internal	Internal	Internal	Internal	Internal	Internal
POWER OVER ETHERNET	IEEE 802.3af			■					
	PoE enabled ports			12					
	Max number of full power ports			6					
	Mode			A					
	PoE power			100W					
SCALABILITY	MAC address table size	8K	8K	8K	8K	4K	8K	8K	8K
ENVIRONMENTAL	Cooling	Fan	Fan	Fan	Fan	Fanless	Fan	Fan	Fan
MANAGEMENT	Web	■	■	■	■	■	■	■	■
	CLI	■	■	■	■		■	■	■
	SNMPv1 / v2	■	■	■	■		■	■	■
NETWORK RESILIENCE	Spanning-Tree	■	■	■	■	■	■	■	■
	Rapid Spanning-Tree	■	■	■	■		■	■	■
	Link aggregation (LACP)	■	■	■	■	■	■	■	■
	IGMP snooping (v1 / v2)	■	■	■	■		■	■	■
	Port setting (speed, availability, flow control)	■	■	■	■	■	■	■	■
QoS	IEEE 802.1p priority queues	4	4	4	4	4	4	4	4
SECURITY	IEEE.802.1Q VLANs	64	64	64	64	32	64	64	64
	IEEE 802.1x	■	■	■	■	Pass-through	■	■	■
	RADIUS / DHCP client	■	■	■	■		■	■	■
OTHER	Jumbo frames (9K)					■	■	■	■
	Port mirroring	■	■	■	■	■	■	■	■
	MAC filtering / ingress/egress rate limiting / broadcast storm control	■	■	■	■		■	■	■
DIMENSIONS	(W x D x H)	35.2 x 25.6 x 4.32cm 13.85 x 10 x 1.7in	44 x 25.7 x 4.32cm 17.3 x 10.11 x 1.7in	44.4 x 32.3 x 4.35cm 17.3 x 12.67 x 1.7in	44.4 x 32.3 x 4.35cm 17.3 x 12.67 x 1.7in	28 x 17.9 x 4.3cm 11 x 7 x 1.7in	35.2 x 25.6 x 4.32cm 13.85 x 10 x 1.7in	44 x 25.7 x 4.32cm 17.3 x 10.11 x 1.7in	44.4 x 32.3 x 4.35cm 17.3 x 12.67 x 1.7in
	Weight	2.38kg / 5.24lbs	3.24kg / 7.14lbs	4.133kg / 9.11lbs	3.79kg / 8.35lbs	1.61kg / 3.5lbs	2.38kg / 5.24lbs	3.24kg / 7.14lbs	4.05kg / 8.92lbs
IDEAL ENVIRONMENT		» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge	» Classroom » Home office » SMB » Security at the edge
CUSTOMER'S NEEDS		» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Low cost Power over Ethernet » Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network	» Management at the edge » Basic, entry level, security » Web-based management » Copper Ethernet at the edge of the fiber network

WebSmart switches offer the simplicity of unmanaged switches with the performance and reliability of managed switches. This provides a cost-effective solution that helps you integrate management at the edge of your network. WebSmart switches allow you to use web-based management features such as port-based VLANs, IEEE 802.1p QoS, port trunking/link aggregation, port mirroring, priority queues and IEEE 802.1x security support.

Use Straight From the Box

WebSmart switches can be used straight from the box, with no configuration required. In this mode they operate just like any other unmanaged switch. Only when the management is enabled will users release the additional features and functionality.

Affordable Solutions

WebSmart switches offer a solution with key 'managed switch' features – yet without the price tag normally associated with managed switches.

The switches are perfect for budget-constrained companies looking for advanced features like Quality of Service (QoS), port mirroring, Virtual LAN (VLAN) and Power over Ethernet (PoE). In addition, WebSmart switches can be used on the edge of a large managed network whilst still providing high levels of security, as the backbone network will provide all the client authentication.

Notes

Power over Ethernet Switches

SUBCATEGORY	FEATURE	AT-FS708/POE	AT-GS900/8POE	AT-FS750/24POE	AT-8000/8POE	AT-8000S/24POE	AT-8000S/48POE	AT-8524POE	AT-8624POE	AT-8000GS/24POE	AT-9424T/POE
FORM FACTOR		» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable
SWITCH FUNCTIONALITY		Unmanaged	Unmanaged	Smart	Layer 2	Layer 2	Layer 2	Layer 2+	Layer 3	Layer 2	Layer 3
PORTS AND MEDIA SUPPORT	10/100TX	8		24	8	24	48	24	24		
	10/100/1000T		8	2	1 (combo)	2	2			24	24
	SFP	1 1000Mbps	1 (combo) 1000Mbps	2 (combo) 100 or 1000Mbps	1 1000Mbps	2 (combo) 100 or 1000Mbps	2 (combo) 100 or 1000Mbps			4 (combo) 100 or 1000Mbps	4 (combo) 1000Mbps
	Modular uplinks							2	2		
MODULAR UPLINKS	1 x 1000T							AT-A46	AT-A46		
	1 x GBIC							AT-A47	AT-A47		
	1 x 100FX							AT-A45	AT-A45		
POWER SUPPLY	PSU type	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal
	Redundant PSU option							■	■		
	Redundant PSU chassis (inc 1 PSU)							AT-RPS3104	AT-RPS3104		
	Additional redundant PSU							AT-PWR3101	AT-PWR3101		
POWER OVER ETHERNET	IEEE 802.3af	■	■	■	■	■	■	■	■	■	■
	PoE enabled ports	8	8	12	8	24	48	24	24	24	24
	Max number of full power ports	4	4	6	6	12	24	24	24	9	24
	Mode	B	B	A	B	B	B	A	A		
	PoE power	65W	65W	100W	95W	180W	375W	400W	400W	140W	370W
SCALABILITY	MAC address table size	4K	8K	8K	8K	8K	8K	8K	8K	8K	16K
	Stacking					■ (6)	■ (6)			■ (6)	
ENVIRONMENTAL	Cooling	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan
MANAGEMENT	Web			■		■	■	■	■	■	■
	CLI				■	■	■	■	■	■	■
	Telnet				■	■	■	■	■	■	■
	SNMP			■	■	■	■	■	■	■	■
NETWORK RESILIENCE	Spanning-Tree			■	■	■	■	■	■	■	■
	Link aggregation (LACP)			■		■	■	■	■	■	■
QoS	IEEE 802.1p priority queues			4		4	4	4	4	4	8
SECURITY	IEEE.802.1Q VLANs			64	256	256	256	256	256	4096	4096
	RADIUS			■		■	■	■	■	■	■
	TACACS					■	■	■	■	■	■
	SSH/SSL						■	■	■	■	■
	IEEE 802.1x			■		■	■	■	■	■	■
	DoS protection										■
ROUTING											
DIMENSIONS	(W x D x H)	32 x 22 x 4.3cm 12.6 x 8.66 x 1.69in	33 x 22 x 4.4cm 13 x 8.66 x 1.73in	44 x 32.3 x 4.35cm 17.3 x 12.67 x 1.7in	33 x 22.8 x 4.3cm 13 x 9 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 34.7 x 4.3cm 17.3 x 13.7 x 1.7in	43.8 x 40.6 x 4.4cm 17.24 x 15.98 x 1.73in	43.8 x 40.6 x 4.4cm 17.24 x 15.98 x 1.73in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 40.8 x 4.4cm 17.2 x 16.1 x 1.75in
	Weight	1.9kg / 4.19lbs	1.86kg / 4.1lbs	4.133kg / 9.11lbs	2.2kg / 4.9lbs	3.7kg / 8.15lbs	5.6kg / 12.34lbs	6kg / 13.22lbs	6kg / 13.22lbs	3.50kg / 7.71lbs	6.17kg / 13.60lbs

Power over Ethernet allows a copper Ethernet cable to provide power as well as data connectivity to a remote device. This device could be a VoIP phone, a security camera, or a wireless access point. Allied Telesis offers a range of PoE switch products delivering all the switching functionality needed for the network, plus power to PoE capable connected devices. Using PoE devices alleviates the need to provide power at the remote end of the data link.

How Much Power?

The IEEE 802.3af Power over Ethernet standard allows for any Power Sourcing Equipment (PSE) to provide up to 15.4Watts of power to the Powered Devices (PD, or the end-point). The amount of power drawn is classified in the following table. A port connected to a network node that is not a Powered Device (that is, a device that receives its power from another power source) functions as a regular Ethernet port, without PoE. The PoE feature remains enabled on the port but no power is delivered to the device.

Class	Usage	Min. Power Levels Output at the PSE	Max. Power Levels Output at the PD
0	Default	15.4W	0.44W to 12.95W
1	Optional	4.0W	0.44W to 3.84W
2	Optional	7.0W	3.84W to 6.49W
3	Optional	15.4W	6.49W to 12.95W

Power Budget

Users should ensure that the maximum power drawn by all the attached Powered Devices (PDs) should not exceed the maximum power that can be delivered by the Power Sourcing Equipment (PSE, or switch). Should this occur, then the switch will use a pre-determined algorithm to determine which ports get power and which ports do not get power (see user manuals for exact details on each switch).

Cable Types

Power over Ethernet is designed to run over existing standard Ethernet cables. However, for Fast Ethernet there are two modes of operation.

Mode A – Injects power onto the data wires
Mode B – Uses 'spare pairs' to transmit the power

Gigabit copper connections use all four pairs to connect.

Power Injectors

Allied Telesis also has a power injector and power splitter which can be used to inject or extract power over a single UTP connection (see page 36.).

- AT-6101G Power injector
- AT-6102G Power splitter

Notes

Fast Ethernet Switches

SUBCATEGORY	FEATURE	AT-8000/8POE	AT-8000S/16	AT-8000S/24	AT-8000S/24POE	AT-8000S/48	AT-8000S/48POE	AT-8516F/SC	AT-8524M	AT-8524POE	AT-8550/SP	AT-8624T/2M	AT-8624POE	AT-8648T/2SP	AT-x900-48FE	AT-x900-48FS
FORM FACTOR		» Wallmountable » Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable
SWITCH FUNCTIONALITY		Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2+	Layer 2+	Layer 2+	Layer 2+	Layer 3	Layer 3	Layer 3	Advanced Layer 3	Advanced Layer 3
PORTS AND MEDIA SUPPORT	10/100TX	8	16	24	24	48	48		24	24	48	24	24	48	48	
	10/100/1000T	1 (combo)	1 (combo)	2 (combo)	2 (combo)	2 (combo)	2 (combo)				2 (combo)					
	100FX							16 (SC)								
	SFP	1 1000Mbps	1 (combo) 100 or 1000Mbps	2 (combo) 100 or 1000Mbps	2 (combo) 100 or 1000Mbps	2 (combo) 100 or 1000Mbps	2 (combo) 100 or 1000Mbps				2 (combo) 1000Mbps				4 (1000Mbps)	48 (100Mbps) 4 (1000Mbps)
	Modular uplinks							2	2	2		2	2			
MODULAR UPLINKS	1 x 1000T							AT-A46	AT-A46	AT-A46		AT-A46	AT-A46			
	1 x GBIC							AT-A47	AT-A47	AT-A47		AT-A47	AT-A47			
	1 x 100FX							AT-A45	AT-A45	AT-A45		AT-A45	AT-A45			
POWER SUPPLY	PSU type	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Hot swap internal	Hot swap internal
	-48vDC PSU option								■						■	■
	Redundant PSU option							■		■	■	■	■	■		
	Redundant PSU chassis (inc 1 PSU)							AT-RPS3004	AT-RPS3004	AT-RPS3104	AT-RPS3004	AT-RPS3004	AT-RPS3104	AT-RPS3004		
	Additional redundant PSU							AT-PWR3004	AT-PWR3004	AT-PWR3101	AT-PWR3004	AT-PWR3004	AT-PWR3101	AT-PWR3004	AT-PWR01 (AC or DC)	AT-PWR02 (AC) AT-PWR01 (DC)
POWER OVER ETHERNET	IEEE 802.3af	■			■		■			■			■			
	PoE enabled ports	8			24		48			24			24			
	Max number of full power ports	6			12		24			24			24			
	Mode	B			B		B			A			A			
	PoE power	95W			180W		375W			400W			400W			
SCALABILITY	MAC address table size	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	16K	16K
	Stacking		■ (6)	■ (6)	■ (6)	■ (6)	■ (6)									
ENVIRONMENTAL	Cooling	Fan	Fanless	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Hot swappable fan module	Hot swappable fan module
	Temperature range (°C)	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 50°C	0°C to 50°C
MANAGEMENT	Web		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	CLI / Telnet / SNMP	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
NETWORK RESILIENCE	Spanning-Tree	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Link aggregation (LACP)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	EPSR														■	■
QoS	IEEE 802.1p priority queues	4	4	4	4	4	4	4	4	4	4	4	4	4	8	8
SECURITY	IEEE.802.1Q VLANs	256	256	256	256	256	256	256	256	256	256	256	256	256	4096	4096
	Guest VLANs		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	RADIUS / TACACS / SSH/SSL / IEEE 802.1x		■	■	■	■	■	■	■	■	■	■	■	■	■	■
	DoS protection							■	■	■	■	■	■	■	■	■
ROUTING	RIPv1 and v2											■	■	■	■	■
	IPv4											■	■	■	■	■
	IPv6														■	■
	OSPFv2 / VRRP													■	■	■
DIMENSIONS	(W x D x H)	33 x 22.8 x 4.3cm 13 x 9 x 1.7in	33 x 23 x 4.3cm 13 x 9.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 34.7 x 4.3cm 17.3 x 13.7 x 1.7in	43.8 x 18.4 x 4.4cm 17.24 x 7.24 x 1.73in	43.8 x 22.2 x 4.4cm 17.24 x 8.7 x 1.73in	43.8 x 40.6 x 4.4cm 17.24 x 15.98 x 1.73in	43.8 x 26.16 x 4.4cm 17.24 x 10.3 x 1.73in	43.8 x 22.2 x 4.4cm 17.24 x 8.7 x 1.73in	43.8 x 40.6 x 4.4cm 17.24 x 15.98 x 1.73in	43.8 x 26.16 x 4.4cm 17.24 x 10.3 x 1.73in	44 x 44 x 4.4cm 17.3 x 17.3 x 1.73in	44 x 44 x 4.4cm 17.3 x 17.3 x 1.73in
	Weight	2.2kg 4.9lbs	1.95kg 4.29lbs	3.15kg 6.94lbs	3.7kg 8.15lbs	3.38kg 7.45lbs	5.6kg 12.34lbs	3.5kg 7.6lbs	3.3kg 7.27lbs	6kg 13.22lbs	3.6kg 7.94lbs	3.3kg 7.27lbs	6kg 13.22lbs	3.6kg 7.94kg	7.61kg (with 1 PSU) 16.78lbs	7.61kg (with 1 PSU) 16.78lbs

Security

IEEE 802.1x Authentication

This protocol uses an authentication server to store details of each user who has been granted access to the network. The authentication criteria can be a computer MAC address, but can also include IP address, username and password etc. Initially, the switch port will be blocked, but when a computer connects, it will only be connected to the authentication server. If the request to access the network is granted, then the switch will be programmed with the necessary details, such as VLAN membership. This type of security simplifies the task of the network administrator. They can keep all of their security data on a server and not have to program each switch. It has the added benefit of allowing the users to connect to any port on the network.

Denial of Service Attack

A DoS attack is a hacker's way of by-passing security on a network. The basic premise is to overload the CPU inside the switch, causing the switch to fail in the tasks that it needs to perform. In this vulnerable state, it is then easier for the hacker to gain entry onto the network. Switches that support DoS protection can identify when an attack is taking place, and can then cut off the offending traffic. This maintains the integrity of the remainder of the network.

Guest VLANs

Switches with Guest VLAN functionality provide a highly effective means of providing DMZ-like functionality on a Layer 2 network by separating private and public resources. Access to private resources requires successful IEEE 802.1x authentication, but access to public resources (like Internet access) are available to guests who otherwise will not successfully authenticate or do not have an IEEE 802.1x client. This allows organizations to provide hospitable connectivity to visitors without letting them freely roam the network.

Traffic Segmentation

In order to isolate network traffic between different workgroups, a network can be segmented into Virtual LANs (VLANs). These VLANs provide all the benefits of separate physical networks, allowing secure connectivity for multiple departments over a common physical infrastructure. Within the IEEE standard, Allied Telesis has designed a range of switches with appropriate VLAN support for specific applications from the edge to the core of the network.

Quality of Service (QoS)

In converged voice, video and data networks or in networks where data traffic includes time critical application data, packet prioritization becomes a key factor in efficient network operations. Packet prioritization can be achieved by having a switch define the Quality of Service (QoS) required by different data streams. Voice packets, for example, must be given the highest priority in a converged network in order to produce high quality, unbroken audio reproduction. Voice packets can be given a higher priority and will therefore be forwarded by network devices ahead of less important time sensitive traffic such as e-mail. The IEEE standard for QoS allows up to eight different levels of prioritization.

Notes

Gigabit Ethernet Switches

SUBCAT	FEATURE	AT-9000/28	AT-8000GS/24	AT-8000GS/24POE	AT-8000GS/48	AT-9408LC	AT-9424T	AT-9424T/POE	AT-9448T/SP	AT-9424Ts	AT-9424Ts/XP	AT-9448Ts/XP	AT-9924T	AT-9924SP	AT-x900-12XT/S	AT-x900-24XT	AT-x900-24XS	AT-SBx908
FORM FACTOR		» Desktop » Rackmountable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Rackmountable » Stackable
SWITCH FUNCTIONALITY		Layer 2	Layer 2	Layer 2	Layer 2	Layer 2+	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Advanced Layer 3	Advanced Layer 3	Advanced Layer 3	Advanced Layer 3	Advanced Layer 3	Advanced Layer 3
PORTS AND MEDIA SUPPORT	10/100/1000T	24	24	24	48	4	24	24	48	24	24	48	24	48	12	24		
	SFP	4 100 or 1000Mbps	4 (combo) 100 or 1000Mbps	4 (combo) 100 or 1000Mbps	4 (combo) 100 or 1000Mbps	4 1000Mbps	4 (combo) 1000Mbps	4 (combo) 1000Mbps	4 (combo) 1000Mbps	4 (combo) 1000Mbps	4 (combo) 1000Mbps		4 1000Mbps	24 100 or 1000Mbps	12 (combo) 100 or 1000Mbps		24 100 or 1000Mbps	
	Modular uplinks														1	2	2	8
	Fixed 1000SX (MMF)					8												
	Fixed XFP (10GbE)										2	2						
MODULAR UPLINKS	12 x 10/100/1000T														AT-XEM-12T	AT-XEM-12T	AT-XEM-12T	AT-XEM-12T
	12 x SFP (100 or 1000Mbps)														AT-XEM-12S	AT-XEM-12S	AT-XEM-12S	AT-XEM-12S
	1 x XFP														AT-XEM-1XP	AT-XEM-1XP	AT-XEM-1XP	AT-XEM-1XP
POWER SUPPLY	PSU type	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Hot swap internal	Hot swap internal	Fixed internal	Hot swap internal	Hot swap internal	Hot swap internal
	-48vDC PSU option																	Q4 2008
	Redundant PSU option			■				■	■	■	■		■	■		■		■
	Redundant PSU chassis (inc 1 PSU)					AT-RPS3204			AT-RPS3204	AT-RPS3204	AT-RPS3204							
	Additional redundant PSU					AT-PWR3202			AT-PWR3202	AT-PWR3202	AT-PWR3202		AT-PWR01	AT-PWR01		AT-PWR01	AT-PWR01	AT-PWR05
POWER OVER ETHERNET	IEEE 802.3af			■				■										
	PoE enabled ports			24				24										
	Max no. of full power ports			9				24										
	Mode			B				B										
	PoE power			140W				370W										
SCALABILITY	MAC address table size	8K	8K	8K	8K	16K	16K	16K	16K	16K	16K	16K	16K	16K	16K	16K	16K	16K
	Stacking		■ (6)	■ (6)	■ (6)					AT-StackXG (8)	AT-StackXG (8)	AT-StackXG (8)			AT-XEM-STK	AT-XEM-STK	AT-XEM-STK	Rear stacking (2)
ENVIRONMENTAL	Cooling	Fanless	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Fan	Hot swappable fan module	Hot swappable fan module	Fan	Hot swappable fan module	Hot swappable fan module	Hot swappable fan module
	ECO-switch technology																	
	Temperature range (°C)	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 50°C	0°C to 50°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C
MANAGEMENT	Web	■		■			■	■	■	■	■		■	■		■		■
	CLI / Telnet / SNMP	■	■	■	■		■	■	■	■	■		■	■		■		■
NETWORK RESILIENCE	Spanning-Tree	■	■	■	■		■	■	■	■	■		■	■		■		■
	Link aggregation (LACP)	■	■	■	■		■	■	■	■	■		■	■		■		■
	EPSR																	
QoS	IEEE 802.1p priority queues	8	4	4	4	8	8	8	8	8	8	8	8	8	8	8	8	8
SECURITY	IEEE.802.1Q VLANs	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096	4096
	RADIUS / IEEE 802.1x	■	■	■	■		■	■	■	■	■		■	■		■		■
	TACACS		■	■	■		■	■	■	■	■		■	■		■		■
	SSH/SSL		■	■	■		■	■	■	■	■		■	■		■		■
	DoS protection			■			■	■	■	■	■		■	■		■		■
ROUTING	RIPv1 and v2 / IPv4						■	■	■	■	■		■	■	■	■	■	■
	IPv6														Q4 2008	Q4 2008	Q4 2008	Q4 2008
	OSPFv2 / VRRP												■	■	■	■	■	■
	ECMP					■							■	■	■	■	■	■
DIMENSIONS	(W x D x H)	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 25.7 x 4.3cm 17.3 x 10.1 x 1.7in	44 x 22.2 x 4.4cm 17.3 x 8.7 x 1.7in	43.8 x 30.4 x 4.4cm 17.3 x 12 x 1.75in	44 x 40.8 x 4.4cm 17.2 x 16.1 x 1.75in	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44.5 x 44 x 4.4cm 17.5 x 17.3 x 1.7in	44.5 x 44 x 4.4cm 17.5 x 17.3 x 1.7in	44 x 35 x 4.4cm 17.3 x 13.8 x 1.7in	44 x 44 x 4.4cm 17.3 x 17.3 x 1.7in	44 x 44 x 4.4cm 17.3 x 17.3 x 1.7in	44 x 45.6 x 13.2cm 17.3 x 18 x 5.2in
	Weight	3.61kg / 7.95lbs	3.15kg / 6.94lbs	3.50kg / 7.71lbs	3.38kg / 7.45lbs	3kg / 6.6lbs	4.21kg / 9.35lbs	6.17kg / 13.60lbs	4.57kg / 10lbs	4.23kg / 9.4lbs	4.23kg / 9.4lbs	5kg / 11.11lbs	6.8kg / 15lbs	6.8kg / 15lbs	5.3kg / 11.6lbs	7.3kg (with 1 PSU)	7.3kg (with 1 PSU)	14.32kg (no PSUs)

Network Resilience

Many business critical networks deploy devices that are resilient to power and other network related failures. Redundant power supplies and cooling fans enhance the availability of individual network devices, while UPS and backup generators protect against power outages. Advanced software features protect against device, port, or cable failures by intelligently re-routing data flows via redundant paths. These traditional features include Spanning-Tree, Rapid Spanning-Tree, Multiple Spanning-Tree and Virtual Router Redundancy Protocol (VRRP).

Ethernet Protected Switched Rings (EPSR)

Putting a ring of Ethernet switches at the core of a network is a simple way to increase the network's resilience—such a network is no longer susceptible to a single point of failure. Traditionally, Spanning-Tree based technologies are used to protect rings, but they are relatively slow to recover from link failure. This can create problems for applications that have strict loss requirements, such as voice and video traffic, where the speed of recovery is highly significant. EPSR provides high-speed (<50ms) reconfigurations in the event of a failure, ensuring no noticeable loss of service in these types of installation.

Dual Core Networking

Traditional core switches provide resilience by having one chassis actively running, whilst a second sits in standby. Users therefore pay for two chassis', but only ever get the throughput and performance of a single chassis. A range of Allied Telesis switches with Virtual Chassis Stacking (VCStack) allow both core switches to actively pass traffic, with one also being the backup in the event of a failure. Thus for the majority of the time, users benefit from twice the performance of a traditional core network.

VLAN Double Tagging (Q-in-Q)

VLAN double-tagging can be useful for customers such as Internet Service Providers (ISP), allowing them to use VLANs internally while mixing traffic from clients that is already VLAN-tagged. The first VLAN tag is used by the ISP to route traffic across their own network, whilst the second VLAN tag is that of the end user customer. The use of this feature allows end users to have physically distributed networks, which they can manage themselves, carried over an independent infrastructure.

ECO – Switch

Allied Telesis switching products featuring the ECO-Switch logo have been designed to operate at significantly lower power than traditional switches. This not only reduces the environmental impact on the planet by choosing to deploy this technology, but also reduces the operational running costs of the switch.
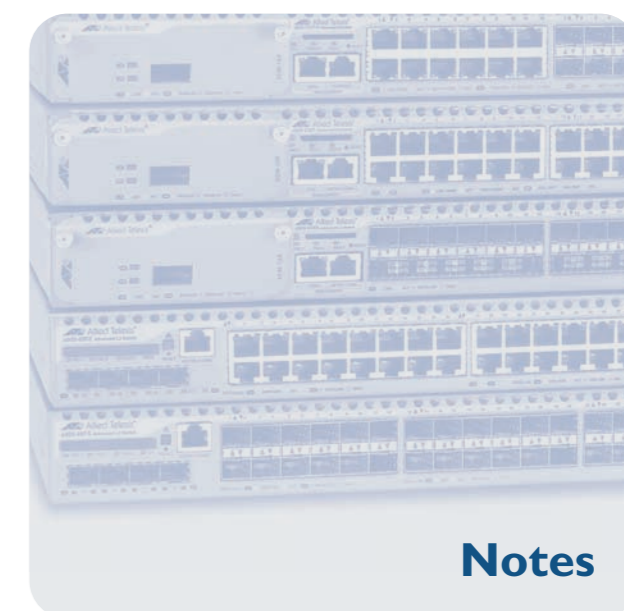
Notes

10 Gigabit Switches

SUBCATEGORY	FEATURE	AT-9424Ts/XP	AT-9448Ts/XP	AT-x900-12XT/S	AT-x900-24XT		AT-x900-24XS	AT-SBx908
FORM FACTOR		» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable	» Desktop » Rackmountable » Stackable		» Desktop » Rackmountable » Stackable	» Rackmountable » Stackable
SWITCH FUNCTIONALITY		Layer 3	Layer 3	Advanced Layer 3	Advanced Layer 3		Advanced Layer 3	Advanced Layer 3
PORTS AND MEDIA SUPPORT	10/100/1000T	24	48	12	24			
	100FX						24	
	SFP	4 (combo) 1000Mbps		12 (combo) 100 or 1000Mbps				
	Modular uplinks			1	2		2	8
	Fixed XFP (10GbE)	2	2					
MODULAR UPLINKS	12 x 10/100/1000T			AT-XEM-12T	AT-XEM-12T		AT-XEM-12T	AT-XEM-12T
	12 x SFP			AT-XEM-12S	AT-XEM-12S		AT-XEM-12S	AT-XEM-12S
	1 x XFP			AT-XEM-1XP	AT-XEM-1XP		AT-XEM-1XP	AT-XEM-1XP
POWER SUPPLY	PSU type	Fixed internal	Fixed internal	Fixed internal	Hot swap internal		Hot swap internal	Hot swap internal
	-48vDC PSU option				■		■	Q4 2008
	Redundant PSU support						■	■
	Redundant PSU chassis (inc 1 PSU)	AT-RPS3204	AT-RPS3204					
	Additional redundant PSU	AT-PWR3202	AT-PWR3202		AT-PWR01		AT-PWR01	AT-PWR05
SCALABILITY	MAC address table size	16K	16K	16K	16K		16K	16K
	Stacking	AT-StackXG (8)	AT-StackXG (8)	AT-XEM-STK	AT-XEM-STK		AT-XEM-STK	Rear stacking ports (2)
ENVIRONMENTAL	Cooling	Fan	Fan	Fan	Hot swappable fan module		Hot swappable fan module	Hot swappable fan module
MANAGEMENT	Web	■	■					
	CLI / Telnet / SNMP	■	■					
NETWORK RESILIENCE	Spanning-Tree	■	■	■	■		■	■
	Link aggregation (LACP)	■	■	■	■		■	■
	EPSR			■	■		■	■
QoS	IEEE 802.1p priority queues	8	8	8	8		8	8
SECURITY	IEEE.802.1Q VLANs	4096	4096	4096	4096		4096	4096
	RADIUS	■	■	■	■		■	■
	TACACS	■	■					
	SSH/SSL	■	■	■	■		■	■
	IEEE 802.1x	■	■	■	■		■	■
	DoS protection	■		■	■		■	■
ROUTING	RIPv1 and v2	■	■	■	■		■	■
	IPv4	■	■	■	■		■	■
	IPv6			Q4 2008	Q4 2008		Q4 2008	Q4 2008
	OSPFv2			■	■		■	■
	VRRP			■	■		■	■
	ECMP	■	■	■	■		■	■
DIMENSIONS	(W x D x H)	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44 x 30.5 x 4.4cm 17.3 x 12 x 1.7in	44 x 35 x 4.4cm 17.3 x 13.8 x 1.7in	44. x 44 x 4.4cm 17.5 x 17.3 x 1.7in		44. x 44 x 4.4cm 17.5 x 17.3 x 1.7in	44 x 45.6 x 13.2cm 17.3 x 18 x 5.2in
	Weight	4.23kg / 9.4lbs	5.04kg / 11.11lbs	5.3kg / 11.6lbs	7.3kg (with 1 PSU)		7.3kg (with 1 PSU)	14.32kg (no PSUs)

Allied Telesis XEM Modules

All of these modules provide non-blocking performance and are compatible with the x900 series and the SwitchBlade® x908.

AT-XEM-STK

AT-XEM-1XP

AT-XEM-12S

AT-XEM-12T

The 10 Gigabit Ethernet, 10GbE or 10 GigE standard was first published in 2002 as IEEE Standard 802.3ae-2002 and is the fastest of the Ethernet standards. It defines a version of Ethernet with a nominal data rate of 10Gbit/s, ten times as fast as Gigabit Ethernet. This is making 10 Gigabit Ethernet the main technology used for backbone networks at the current period in time.

Affordable Solutions

10 Gigabit solutions are extremely affordable for customers requiring this level of performance. Using fiber optic cables to provide connectivity, XFP modules are significantly less expensive than 10 x SFP modules for the same distance of connectivity. (For information on SFP and XFP modules, see pages 22-23.)

Implementing the Standard

The IEEE standard allows multiple implementations for use over the different types of fiber optic cable. In the 10GBASE-X media types, an 'S' stands for the 850 nanometer (nm) wavelength of fiber optic operation, an 'L' stands for 1310 nm, and an 'E' stands for 1550 nm. The letter 'X' denotes 8B/10B signal encoding, while 'R' denotes 66B encoding. Therefore, Allied Telesis' XFP are as follows

SFP	Standard	Wavelength	Cable Type
AT-XPSR	10GBase-SR	850nm	Multi-mode fiber (MMF)
AT-XPLR	10GBase-LR	1310nm	Single-mode fiber (SMF)
AT-XPER40	10GBase-ER	1550nm	Single-mode fiber (SMF)
AT-XPER80	10GBase-ER	1550nm	Single-mode fiber (SMF)

Notes

SwitchBlade x908

SwitchBlade x908 is the latest core switching product from Allied Telesis
The Allied Telesis SwitchBlade x908 advanced Layer 3 modular switch delivers exceptional performance and functionality through eight high-speed expansion bays. Key features of the switch make it the ideal solution for both enterprise and service provider customers.

Advanced Layer 3 Modular Switch
The Allied Telesis SwitchBlade x908 industry leading modular switch incorporates eight high-speed 60Gbps expansion bays, delivering a new generation of high performance. The SwitchBlade x908 provides scalable and versatile switching solutions for today's enterprise networks. The highly configurable SwitchBlade x908 3RU modular switch combines an advanced IPv4 Layer 3 feature set and comprehensive IPv6 routing features, with wirespeed IPv6 hardware capability, future proofing the network. Featuring dual hot swap PSUs, an advanced QoS feature set, multi-casting support, and LAN resiliency support, the SwitchBlade x908 also provides service provider capabilities such as a large Layer 3 route table, and EPSR support. Stacking between two units is supported via fixed stacking connectors on the rear of the chassis, providing 160Gbps of stacking bandwidth. The SwitchBlade x908 incorporates the AlliedWare Plus™ operating system, using an industry standard Command Line Interface (CLI), facilitating effortless manageability.

Performance
With a massive 640Gbps of switching fabric, the SwitchBlade x908 has more than enough performance to provide wirespeed routing and throughput to any port. With the switching fabric capable of a forwarding rate of 476Mpps, (maximum throughput is 262Mpps with current expansion modules), the design is future proofed for planned enhanced modules.

Expandability
Each SwitchBlade x908 modular switch features high-speed stacking interface, allowing two switches to be inter-connected in a Virtual Chassis Stack (VCStack) through a 160Gbps bandwidth link. Operating in this mode, both switches are fully operational, whilst providing resilience at the core of the network.

Flexibility
The XEM (Expansion Modules) allow connectivity at speeds from Ethernet to 10 Gigabit Ethernet. The same XEM modules are compatible with the x900 series of switches (see page 19), enabling users to re-deploy modules when reconfiguring their networks, and reducing spares requirements. By using small port count modules, users can build highly granular and flexible networks, whilst also reducing overall system costs in applications requiring only a small number of fiber or copper links.

Each SwitchBlade x908 switch can support the following number of interfaces:

Interface Type	Max Speed	XEM Module	# Ports
SFP	Gigabit	AT-XEM-12S	96
RJ-45	Gigabit	AT-XEM-12T	96
XFP	10 Gigabit	AT-XEM-1XP	8

Resilience
Network resilience is provided in both hardware and network architecture. Dual hot swappable power supplies ensure uninterrupted operation of a switch, whilst the virtual Chassis Stack (VCStack) provides a resilient network architecture should a single switch fail. In addition to standard resiliency Spanning-Tree based protocols, the AT-SBx908 support EPSR (Ethernet Protected Switched Rings), which allows networks to re-configure and re-establish connections in as little as 50ms. This allow the switch to be used in voice and video applications, which require minimal interruptions to the data streams.

IPv4 and IPv6
The switch combines an advanced IPv4 Layer 3 feature set and also comprehensive IPv6 routing features, with wirespeed IPv6 hardware capability. This allows the switch to be deployed in current networks, allowing it to easily migrate to future networks when IPv6 is deployed.

AlliedWare Plus Operating System
The SwitchBlade x908 uses the latest AlliedWare Plus operating system. Utilizing an industry standard Command Line Interface (CLI), it features an intuitive management interface, requiring minimal product specific training, easily allowing certified network engineers to configure the switch.


Switch Features

Network Access Control (NAC)
NAC allows you unprecedented control over user access to your network, in order to mitigate threats to network infrastructure. NAC provides this security optimally at the interface between the user and the network, assigning network access based on identity, access method, location and end-point security status.

Allied Telesis switches support NAC by using IEEE 802.1x port-based authentication in partnership with standards-compliant dynamic VLAN assignment. Once a user is authenticated, a VLAN ID is dynamically assigned to the user, based on that user's identity, and on the end-points adherence to the security policies of the network. The user is then either granted appropriate access to network resources, or is offered remediation via a remediation VLAN to improve the end-points security posture.

Our switches also support alternatives to IEEE 802.1x port-based authentication. For example, we support Web authentication to enable guest access, and MAC authentication to enable end-points that do not have an IEEE 802.1x supplicant. Furthermore, features such as multi-authentication allow authentication in cases where multiple users share a port. A Guest VLAN (also known as Default VLAN) can be configured to provide a catch-all for users without an IEEE 802.1x supplicant. As well as supporting a RADIUS client for remote authentication, our switches also support a local RADIUS server for local authentication.
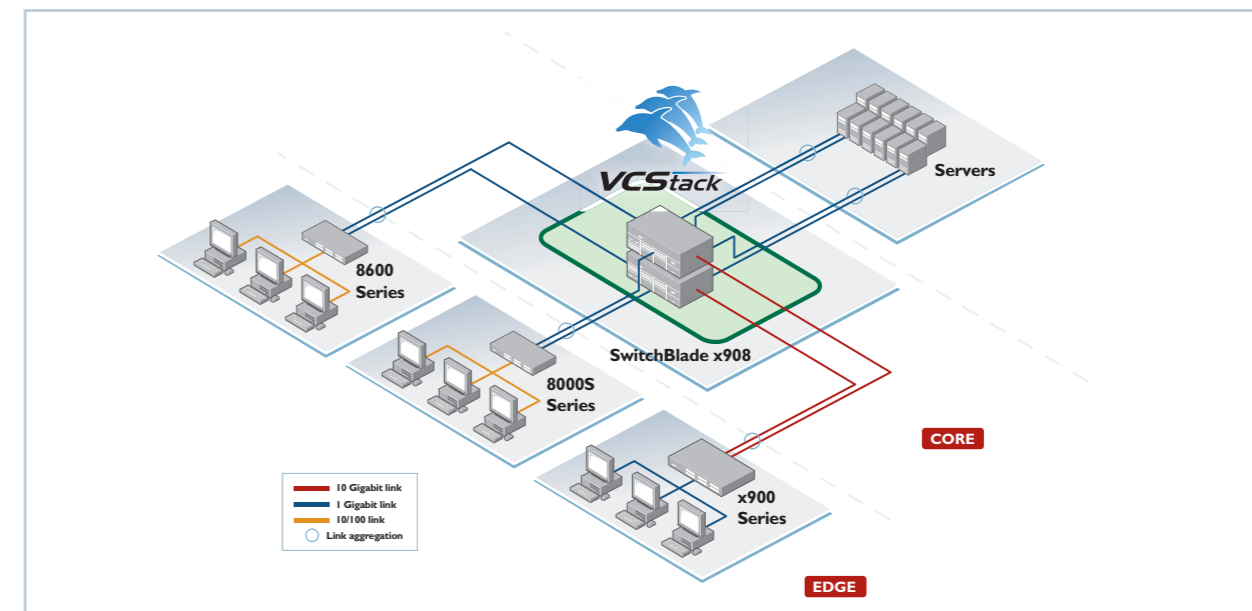
Resilient Core Solution
With two 160Gbps stacking ports on the rear of the device, the SwitchBlade x908 is an ideal solution for enterprises wanting to create a resilient core without going to the expense of a full chassis solution. The use of stacking across the two devices allows them to appear as a single node on the network.

Link aggregation between the stacked core and distribution or edge switches, as illustrated in the diagram, provides increased bandwidth as well as resiliency, with dual links to the virtual chassis stack connecting to different chassis members. Link aggregation to the servers creates a resilient connection to important data.

Notes

Optical Components

GIGABIT FIBER OPTICS				
SUBCATEGORY	AT-SPSX	AT-G8SX	AT-SPEX	AT-SPLX10	AT-G8LX10
FORM FACTOR	SFP	GBIC	SFP	SFP	GBIC
FIBER TYPE	MMF	MMF	MMF	SMF	SMF
NUMBER OF FIBERS	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)
SPEED	1000Mbps	1000Mbps	1000Mbps	1000Mbps	1000Mbps
MAX FIBER DISTANCE	220 / 550m	220 / 550m	2km	10km	10km
Rx WAVELENGTH	850nm	850nm		1310nm	1310nm
Tx WAVELENGTH	850nm	850nm	1310nm	1310nm	1310nm
CONNECTOR TYPE	LC	SC	LC	LC	SC

GIGABIT FIBER OPTICS				
SUBCATEGORY	AT-SPBD10-13	AT-SPBD10-14	AT-SPLX40	AT-SPLX40/1550	AT-SPZX80
FORM FACTOR	SFP	SFP	SFP	SFP	SFP
FIBER TYPE	SMF	SMF	SMF	SMF	SMF
NUMBER OF FIBERS	1 (BiDi)	1 (BiDi)	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)
SPEED	1000Mbps	1000Mbps	1000Mbps	1000Mbps	1000Mbps
MAX FIBER DISTANCE	10km	10km	40km	40km	80km
Rx WAVELENGTH	1310nm	1490nm	1310nm	1550nm	1550nm
Tx WAVELENGTH	1490nm	1310nm	1310nm	1550nm	1550nm
CONNECTOR TYPE	LC - BiDi	LC - BiDi	LC	LC	LC

FAST ETHERNET FIBER OPTICS				
SUBCATEGORY	AT-SPFX/2	AT-SPFXBD-LC-13	AT-SPFXBD-LC-15	AT-SPFX/15	AT-SPFX/40
FORM FACTOR	SFP	SFP	SFP	SFP	SFP
FIBER TYPE	MMF	SMF	SMF	SMF	SMF
NUMBER OF FIBERS	2 (Rx,Tx)	1 (BiDi)	1 (BiDi)	2 (Rx,Tx)	2 (Rx,Tx)
SPEED	100Mbps	100Mbps	100Mbps	100Mbps	100Mbps
MAX FIBER DISTANCE	2km	10km	10km	15km	40km
Rx WAVELENGTH	1310nm	1310nm	1510nm	1310nm	1310nm
Tx WAVELENGTH	1310nm	1510nm	1310nm	1310nm	1310nm
CONNECTOR TYPE	LC	LC - BiDi	LC - BiDi	LC	LC

10 GIGABIT FIBER OPTICS			
SUBCATEGORY	AT-XPSR	AT-XPLR	AT-XPER40	AT-XPER80
FORM FACTOR	XFP	XFP	XFP	XFP
FIBER TYPE	MMF	SMF	SMF	SMF
NUMBER OF FIBERS	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)	2 (Rx,Tx)
SPEED	10G	10G	10G	10G
MAX FIBER DISTANCE	300m	10km	40km	80km
Rx WAVELENGTH	850nm	1310nm	1550nm	1550nm
Tx WAVELENGTH	850nm	1310nm	1550nm	1550nm
CONNECTOR TYPE	LC	LC	LC	LC

COPPER		
SUBCATEGORY	AT-SPTX	AT-G8T
FORM FACTOR	SFP	GBIC
SPEED	10/100/1000T	10/100/1000T
MAX COPPER DISTANCE	100m	100m
CONNECTOR TYPE	RJ-45	RJ-45

Optical Connectors

The networking industry is constantly changing the types of optical network connector, to keep pace with the increasing demands of higher data throughput and smaller physical footprints. Currently, Allied Telesis supports four major types of fiber connections.

ST Connector

This is an older style connector (legacy) used only for Ethernet and Fast Ethernet networks. It is not recommended to install ST for new installations.

SC Connector

This connector is still popular for Gigabit, Fast Ethernet and Ethernet. It is however being superseded by the LC connector in Gigabit applications, as the LC connector is physically smaller, thus allowing a higher density of connectors. This connector is found on GBIC optical modules.

MT Connector

This is a small physical connector, which tends to be used for Fast Ethernet, and not for Gigabit.

LC Connector

This is a small physical connector, which is being used extensively in Gigabit and 10 Gigabit networks. This connector is found on SFP and XFP optical modules.

Notes

ETHERNET AND FAST ETHERNET STANDALONE MEDIA CONVERTERS

SUBCAT	FEATURE	AT-MC13	AT-MC101XL	AT-MC102XL	AT-MC103XL	AT-MC103LH	AT-MC104XL	AT-MC115XL
PORTS	Port 1	10T	100TX	100TX	100TX	100TX	100FX MMF (SC)	10T or 100TX
	Port 2	10FL (ST)	100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	10FL (ST) or 100FX (ST)
	Fiber type	MMF	MMF	MMF	SMF	SMF	SMF	MMF
IEEE STANDARD		10FL	100FX	100FX	100FX	100FX	100FX	100SX
Tx WAVELENGTH		850nm	1310nm	1310nm	1310nm	1310nm	1310nm	850nm
Rx WAVELENGTH		850nm	1310nm	1310nm	1310nm	1310nm	1310nm	850nm
MAX FIBER DISTANCE		2km	2km	2km	15km	40km	15km	2km
FUNCTIONALITY	Media type	■	■	■	■	■	■	■
	Rate and speed							
	MissingLink support		■	■	■	■	■	
	Smart MissingLink support							
	Max frame size	9KB	9KB	9KB	9KB	9KB	9KB	9KB
	Diagnostic LEDs	6	7	7	7	7	7	8
POWER OVER ETHERNET	IEEE 802.3af							
	PoE enabled ports							
	Max no. of full power ports							
	Mode							
	PoE power							
POWER SUPPLY	PSU type	External	External	External	External	External	External	External
	Compatible with AT-MCR12 12 slot chassis	■	■	■	■	■	■	■
	Compatible with AT-MCR1 1 slot chassis	■	■	■	■	■	■	■
DIMENSIONS	(W × D × H)	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in
	Weight	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs

ETHERNET AND FAST ETHERNET STANDALONE MEDIA CONVERTERS

SUBCAT	FEATURE	AT-MC116XL	AT-FS201	AT-FS202	AT-PC232/POE	AT-FS232	AT-FS232/1	AT-FS232/2	AT-FS238A/1	AT-FS238B/1
PORTS	Port 1	10T or 100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX
	Port 2	10FL (SC) or 100FX (SC)	100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)
	Fiber type	MMF	MMF	MMF	MMF	MMF	SMF	SMF	BiDI - SMF	BiDI - SMF
IEEE STANDARD		100SX	100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX
Tx WAVELENGTH		850nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1550nm
Rx WAVELENGTH		850nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1550nm	1310nm
MAX FIBER DISTANCE		2km	2km	2km	2km	2km	15km	40km	15km	15km
FUNCTIONALITY	Media type	■	■	■	■	■	■	■	■	■
	Rate and speed		■	■	■	■	■	■	■	■
	MissingLink support	■	■	■	■	■	■	■	■	■
	Smart MissingLink support				■	■	■	■	■	■
	Max frame size	9KB	1532bytes	1532bytes	1916bytes	1532bytes	1532bytes	1532bytes	1532bytes	1532bytes
	Diagnostic LEDs	8	7	7	13	9	9	9	9	9
POWER OVER ETHERNET	IEEE 802.3af				■					
	PoE enabled ports				1					
	Max no. of full power ports				1					
	Mode				A					
	PoE power				15.4W					
POWER SUPPLY	PSU type	External	External	External	Internal	External	External	External	External	External
	Compatible with AT-MCR12 12 slot chassis	■	■	■		■	■	■	■	■
	Compatible with AT-MCR1 1 slot chassis	■	■	■		■	■	■	■	■
DIMENSIONS	(W × D × H)	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	15.5 × 13.1 × 4cm 6.1 × 5.16 × 1.58in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in
	Weight	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.75kg / 1.65lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs

GIGABIT STANDALONE MEDIA CONVERTERS

SUBCAT	FEATURE	AT-MC1004	AT-MC1008/GB	AT-MC1008/SP	AT-GS2002/SP	AT-PC2002POE
PORTS	Port 1	1000T	1000T	1000T	10/100/1000T	10/100/1000T
	Port 2	1000SX	GBIC	SFP	SFP	SFP 100 or 1000Mbps
	Fiber type	SC	SC*	LC*	LC*	LC*
IEEE STANDARD		1000SX	1000SX and LX	1000SX and LX	1000SX and LX	100FX and 1000X
Tx WAVELENGTH			Depends on GBIC	Depends on SFP	Depends on SFP	Depends on SFP
Rx WAVELENGTH			Depends on GBIC	Depends on SFP	Depends on SFP	Depends on SFP
MAX FIBER DISTANCE		550m	Depends on GBIC	Depends on SFP	Depends on SFP	Depends on SFP
FUNCTIONALITY	Media type	■	■	■	■	■
	Rate and speed		■	■	■	■
	MissingLink support	■	■	■	■	■
	Smart MissingLink support	■	■	■	■	■
	Max frame size	9KB	9KB	9KB	1536bytes	1536bytes
	Diagnostic LEDs	8	8	8	11	15
POWER OVER ETHERNET	IEEE 802.3af					■
	PoE enabled ports					1
	Max no. of full power ports					1
	PoE power					15.4W
POWER SUPPLY	PSU type	External	External	External	External	Internal
	Compatible with AT-MCR12 12 slot chassis	■	■	■	■	
	Compatible with AT-MCR1 1 slot chassis	■	■	■	■	
DIMENSIONS	(W × D × H)	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	10 × 9.5 × 2.5cm 3.93 × 3.74 × 1in	15.5 × 13.1 × 4cm 6.1 × 5.16 × 1.58in
	Weight	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.3kg / .66lbs	.75kg / 1.65lbs

* Dependent on SFP

Allied Telesis media converters enable the connection of disparate cabling types in networks where many cabling types exist. Network segments may also operate at different speeds and media converters can be used to convert between one speed and another. Typically, media converters are used to connect copper and fiber-optic cabling that coexist in a network. Converters exist in a variety of standalone, multi-port and modular forms. These different physical forms address the need for different applications and conversion densities.

Allied Telesis is the world's largest media converter manufacturer. Our vast range of products provides connectivity solutions for almost all the needs of carrier, enterprise, and small to medium business customers.

MissingLink™

Allied Telesis' MissingLink feature enables a media converter to pass the link status of their connections and thereby trigger corrective action when a problem on a link is detected. For example, if the twisted pair cable to the 10/100TX port on an Allied Telesis media converter were to fail, the unit would respond by dropping the link on the 100FX fiber-optic port. Most managed devices, such as switches and routers, can be configured to take a specific recovery action in the event of the loss of connection on a port. In some cases, the unit can be configured to seek a redundant path to a disconnected end-node or send out a trap to a network management station, and so alert the network administrator of the problem.

Smart MissingLink™

Allied Telesis' Smart MissingLink feature has identical operation to MissingLink, with the added functionality that the media converter will also flash the Link LED of the port with the link failure. This aids with diagnostics, allowing network administrators to more quickly locate, and rectify the fault.

Redundancy

In many cases, Allied Telesis media converters are critical components in a network carrying data between sites over long distances. It is imperative that all efforts are taken to ensure reliability of the network, and thus a network design with redundancy is mandatory. The components most likely to fail are the power supplies. The majority of Allied Telesis media converters can be deployed with hot swappable, hot removable power supplies to ensure maximum uptime.
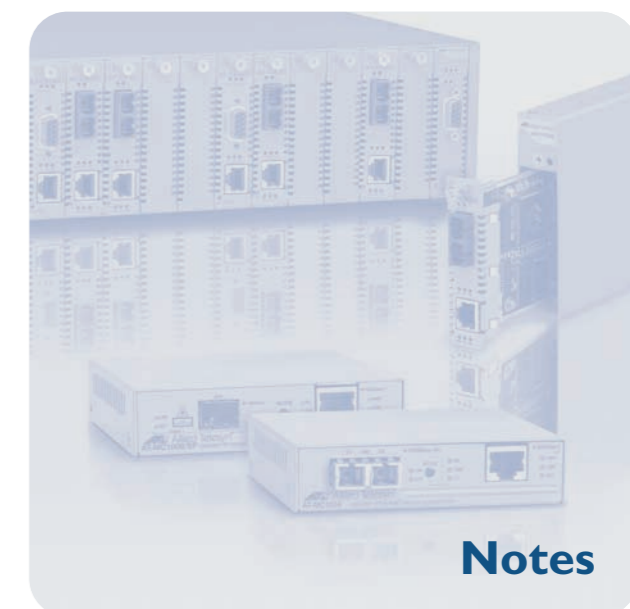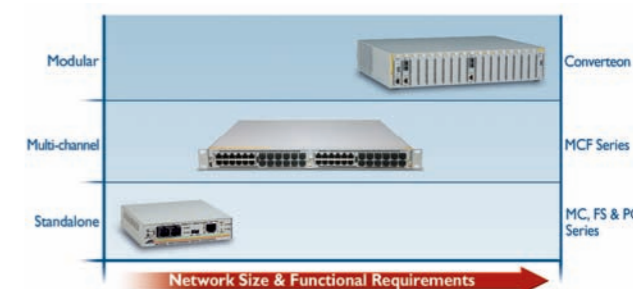
Notes

Media Conversion

Mounting Options

The majority of unmanaged AT-MC, AT-GS and AT-FS series media converters can be mounted in a number of ways to suit the installation.

Desktop

All Allied Telesis media converters have the option to be fitted with rubber feet. These allow the product to be desktop mounted.

Wall

A standalone media converter or switch can be easily mounted on a wall, or under a table using the AT-WLMT.

- **AT-WLMT** *Wall-mount fixture. (supplied in packs of 10)*

Rack

All the larger multi-channel and modular media converters ship with 19'' rack-mount kits. Smaller media converters may also be rack-mounted in a number of ways:

AT-MCR1 Chassis

This small chassis can be rack-mounted, and allows a single standalone media converter, or two port switch, to be powered by an internal power supply. It is available with either AC or -48vDC power supply.

AT-MCR12 Chassis

This chassis allows up to 12 standalone media converters or switches to be mounted in a chassis. The chassis supports optional redundant power supplies and can be AC or DC powered.

AT-Tray1 and AT-Tray4

These simple trays allow either one or up to four standalone media converters to be mounted into a rack.

SUBCATEGORY	FEATURE	AT-MCF2012LC	AT-MCF2012LC/1	AT-MCF2032SP
			AT-MCF2000 CHASSIS	
PORTS	Port 1	12 × 10/100TX	12 × 10/100TX	12 × 10/100/1000T
	Port 2	12 × 100FX (LC)	12 × 100FX (LC)	12 × SFP
	Fiber type	MMF	MMF	Depends on SFP
IEEE STANDARD		100FX	100FX	1000X
Tx WAVELENGTH		1310nm	1310nm	Depends on SFP
Rx WAVELENGTH		1310nm	1310nm	Depends on SFP
MAX FIBER DISTANCE		2km	15km	Depends on SFP
FUNCTIONALITY	Media type	■	■	■
	Rate and speed	■	■	■
	MissingLink support	■	■	■
	Smart MissingLink support			■
	Max frame size	1632bytes	1632bytes	10KB
	Diagnostic LEDs	■	■	■
DIMENSIONS	(W × D × H) MCF2000	46 × 44 × 4.4cm 18 × 17.3 × 1.7in	46 × 44 × 4.4cm 18 × 17.3 × 1.7in	46 × 44 × 4.4cm 18 × 17.3 × 1.7in
	Weight	8.5kg / 18.74lbs	8.5kg / 18.74lbs	8.5kg / 18.74lbs

AT-MCF2000

Multi-channel Manageable Media Converter

The AT-MCF2000 provides ultra high-density, modular, multi-channel media conversion, with high availability and is ideal for fiber deployments. The units can be used unmanaged, or SNMP managed with the installation of the optional management module.

Features

- *Small, 1RU chassis*
- *High-density conversion, with up to 24 Fast Ethernet channels*
- *Hot swappable media blades (max of two)*
- *Hot swappable management module (AT-MCF2000M)*
- *Stack multiple chassis using stacking modules (AT-MCF2000S)*
- *Hot swappable power supply modules (AT-MCF2000AC)*
- *Resilient power supply modules*
- *Operates in unmanaged and managed modes*

Stacking AT-MCF2xxx Chassis

The AT-MCF2000 can be stacked together to provide a single management entity for the complete stack of up to eight chassis' or a maximum of 16 media blades. One chassis has a SNMP management module installed (AT-MCF2000M), and this inter-connects with the other chassis' that are all fitted with a stacking module (AT-MCF2000S).

PC

AT-MCF2000 Chassis with **AT-MCF2000M** Management Module

AT-MCF2000 Chassis with **AT-MCF2000S** Stacking Module

AT-MCF2300 Chassis with **AT-MCF2000S** Stacking Module

Notes

Media Conversion

SUBCATEGORY	FEATURE	CONVERTEON					CONVERTEON							
		AT-CV101	AT-CV102	AT-CV102/1	AT-CV102/2	AT-CM201	AT-CM202	AT-CM202/1	AT-CM202/2	AT-CM212A/1	AT-CM212B/1	AT-CV1KSS	AT-CM2K0S	AT-CM70S
PORTS	Port 1	100TX	100TX	100TX	100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	SFP	10/100/1000T	4 × 10/100TX 1 × T1/E1
	Port 2	100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX - BiDi	100FX - BiDi	Depends on SFP	SFP	100Mbps SFP
	Fiber type	MMF	MMF	SMF	SMF	SMF	MMF	SMF	SMF	SMF - BiDi	SMF - BiDi	Depends on SFP	Depends on SFP	Depends on SFP
IEEE STANDARD		100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX	100FX	1000X	1000X	
Tx WAVELENGTH		1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1550nm	1310nm		
Rx WAVELENGTH		1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1310nm	1550nm	1310nm	1310nm		
MAX FIBER DISTANCE		2km	2km	15km	40km	2km	2km	15km	40km	15km	15km	Depends on SFP	Depends on SFP	Depends on SFP
FUNCTIONALITY	Media type	■	■	■	■	■	■	■	■	■	■	■	■	■
	Rate and speed					■	■	■	■	■	■	■	■	■
	MissingLink support	■	■	■	■	■	■	■	■	■	■	■	■	■
	Smart MissingLink support	■	■	■	■	■	■	■	■	■	■	■	■	■
	Max frame size	9KB	9KB	9KB	9KB	1535bytes	1535bytes	2535bytes	2535bytes	2535bytes	2535bytes	9KB	1632bytes	1535bytes
	Diagnostic LEDs	8	8	8	8	9	9	9	9	9	9	7	9	23
	Rate limiting					■	■	■	■	■	■		■	
OAM	Dying gasp support					■	■	■	■	■	■		■	■
	Management					■	■	■	■	■	■		■	
DIMENSIONS	(W × D × H)	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	2.2 × 7.3 × 13cm .85 × 2.89 × 5.1in	4.4 × 7.3 × 13cm 1.71 × 2.89 × 5.1in
	Weight	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.27kg / .06lbs	.54kg / 1.2lbs

Converteon™

Managed Media Conversion System

The Converteon family provides the next generation of managed media conversion. Expandable from a single unit to a modular 18 slot chassis, Converteon primarily provides Fast Ethernet and Gigabit rate media conversion. Current support for IEEE 802.3ah EFM (Ethernet in the First Mile) makes Converteon ideal for both service providers and enterprise.

AT-CV1000

1 slot

Feature

■ External power adapter

AT-CV1203

2 slots

Features

■ External power adapters (1 as standard)
■ Resilient power adapters (AT-CV1200PSU)
■ Supports dying gasp

AT-CV5000

18 slot rack-mount chassis

Features

■ Redundant AC chassis
■ Optional Telnet and SNMP management (AT-CV5M02)
■ Optional redundant management with the addition of a 2nd management module (AT-CV5M02)
■ Hot swappable blades
■ Field serviceable power supplies and fans
■ Hot swappable power supply modules (AT-PWR14)
■ Resilient power supply modules (maximum of 2)

OAM

The Operation, Administration and Maintenance (OAM) is a group of functions that provides tools and utilities used to manage a network. The OAM feature part of the IEEE 802.3a standard, and is used to provide network indication, system configuration, performance monitoring, security management, diagnostic functions and configuration. Each function in the OAM feature is described below:

Operations: Coordinates actions between Administration and Maintenance functions.

Administration: Coordinates administrative functions such as designing a system or network, processing order, assigning addresses, tracking usage and accounting.

Maintenance: Coordinates maintenance functions such as diagnosing and troubleshooting system features that do not work as planned.

Without OAM, each individual end-point on a network would need to be managed separately, requiring higher cost end-point hardware, more complex and expensive end-point equipment, and a huge increase in the amount of network traffic (SNMP) needed to monitor the network.
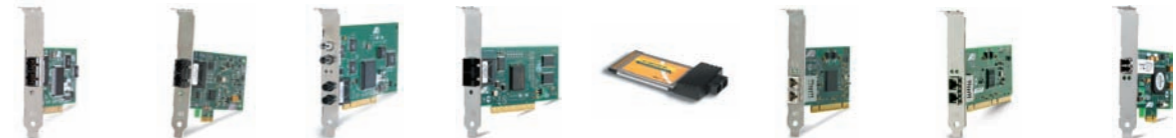
With OAM, low-cost end-points communicate with a central SNMP managed media converter, thus simplifying the network topology, and significantly reducing network cost.

Dying Gasp (IEEE 802.3ah)

Dying gasp is a short message sent by the remotely located media converter to a central media converter, when a power outage occurs. The message indicates to the central converter that the link was lost due to power, and not to either a fault in the remote equipment of the fiber link. Dying gasp is supported on the AT-CV1203 2 slot chassis. This chassis provides network resilient through two external power adapters. The central chassis is notified when the first supply fails, and again via dying gasp when the second supply fails.

Notes

SUBCATEGORY	FEATURE	COPPER AT-2750TX	AT-2916T	AT-2971T	AT-2972T/2	COPPER AND FIBER AT-2451FTX	AT-2701FTX	FIBER AT-2701FX	AT-2711FX	AT-2746FX	AT-2750FX	AT-2801FX	AT-2916SX	AT-2931SX	AT-2972SX
BUS TYPE		PCI (32-bit)	PCI (32-bit)	PCI-x (32/64-bit)	PCIe (x4)	PCI (32-bit)	PCI (32-bit)	PCI (32-bit)	PCIe (x1)	PCI (32-bit)	PCI (32-bit)	CardBus	PCI (32-bit)	PCI-x (32/64-bit)	PCIe (x4)
PORTS AND MEDIA SUPPORT	10/100TX	■													
	10/100/1000T		■	■	■										
	10FL					SC, ST					SC, ST				
	100FX						MT, SC, ST	MT, SC, ST	MT, SC, ST	MT, SC, ST	MT, SC, ST	SC, ST			
	1000SX												LC, SC	LC, SC	1 or 2 LC (SX/2)
QoS	IEEE 802.1p priority queues		■	■	■	■	■	■	■	■			■	■	■
PERFORMANCE	TCP/IP checksum CPU offload		■	■	■								■	■	■
	Jumbo frames		■	■	■				■				■	■	■
	Link aggregation support		■	■	■	■		■			■		■	■	■
	Link aggregation failover		■	■	■	■	■				■		■	■	■
MANAGEMENT	Wake-on-LAN		■		■	■	■	■			■		■	■	■
	Managed boot agent (PXE remote boot ROM)	No socket	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	No socket		2.1	2.1	2.1
	VLAN support		■	■	■	■	■	■		■	■		■	■	■
	Advanced power management (ACPI)		■	■	■	■	■	■	■	■		■	■	■	■
	SNMP				■									■	■
SECURITY	DES encryption	■									■				
	3DES encryption	■									■				
	AES encryption	■									■				
DRIVER SUPPORT	Vista		■	■	■	■	■	■	■	■		■	■	■	■
	Vista 64-bit		■	■	■	■	■	■	■	■		■	■	■	■
	Windows XP	■	■	■	■	■	■	■	■	■		■	■	■	■
	Windows XP 64-bit		■	■	■	■	■	■	■	■		■	■	■	■
	Windows 2003	■	■	■	■	■	■	■	■	■		■	■	■	■
	Windows 2003 64-bit		■	■	■	■	■	■	■	■		■	■	■	■
	Windows 2000		■	■	■	■	■	■	■	■		■	■	■	■
	NDIS2		■	■	■	■	■	■	■	■		■	■	■	■
	NetWare 6.x		■	■	■	■	■	■	■	■		■	■	■	■
	Linux 2.4		■	■	■	■	■	■	■	■		■	■	■	■
	Linux 2.6		■	■	■	■	■	■	■	■		■	■	■	■
IPv6 SUPPORT		■	■	■	■	■	■	■	■	■	■		■	■	■
DIAGNOSTICS	LEDs	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Virtual cable tester		■	■											
PHYSICAL	Low profile bracket and full height provided	■	■	■	■	■	■	■	■	■	■		■	■	■
DIMENSIONS	(W × H)	16.9 × 6.5cm 6.7 × 2.56in	12.1 × 4.5cm 4.76 × 1.77in	16.8 × 6.8cm 6.6 × 2.67in	16.8 × 6.8cm 6.6 × 2.67in	16.8 × 6.5cm 6.6 × 2.56in	16.8 × 6.5cm 6.6 × 2.56in	16.8 × 6.5cm 6.6 × 2.56in	12.1 × 6.9cm 4.76 × 2.71in	17.7 × 8.3cm 7 × 3.25in	16.9 × 6.5cm 6.7 × 2.56in	12 × 6.9cm 4.76 × 2.71in	11.9 × 6.4cm 4.68 × 2.5in	16.8 × 6.4cm 6.6 × 2.5in	16.8 × 6.8cm 6.6 × 2.67in
	Weight	.07kg / .15lbs	.04kg / .09lbs	.06kg / .13lbs	.06kg / .13lbs	.07kg / .15lbs	.07kg / .15lbs	.07kg / .15lbs	.04kg / .11lbs	.09kg / .19lbs	.07kg / .15lbs	.05kg / .09lbs	.06kg / .13lbs	.07kg / .15lbs	.06kg / .13lbs
IDEAL ENVIRONMENT		» Desktop computers in ultra secure areas	» Desktop requiring Gigabit connectivity	» Service requiring Gigabit connectivity	» Service requiring Gigabit connectivity	» Desktop computers in secure areas	» Desktop computers in secure areas	» Desktop computers in secure areas	» Laptop computers in secure areas	» Laptop computers in secure areas	» Desktop computers in secure areas	» Laptop computers in secure areas	» Desktop computers in secure areas	» Service requiring Gigabit connectivity	» Service requiring Gigabit connectivity
CUSTOMER'S NEEDS		» Data encryption	» Low-cost	» High performance » Load balancing » Redundant links	» High performance » Load balancing » Redundant links	» 10Mbps fiber connectivity » Choice of fiber or copper interfaces	» 100Mbps fiber connectivity » Choice of fiber or copper interfaces	» 100Mbps fiber connectivity	» 100Mbps fiber connectivity » Modern PCIe computer	» 100Mbps fiber connectivity » Laptop connectivity	» Data encryption	» 100Mbps fiber connectivity » Laptop connectivity	» Performance » Desktop connectivity	» High performance » Load balancing » Redundant links	» High performance » Load balancing » Redundant links

Tagged VLAN Support

Simple interface cards either do not support VLANs, or can only be members of a single VLAN. Allied Telesis' fiber NIC offerings have advanced VLAN support which allows the card to be a member of multiple VLANs. This allows a single interface card to be installed in a server, rather than multiple cards, one for each VLAN. Implementing VLANs on a network ensures additional data security as only users of the same VLAN can share information.

Load Balancing and Auto-Failover (LBFO)

Allied Telesis provides LBFO on the majority of its NICs. This feature is primarily intended to be used with multiple interface cards in servers. Bandwidth is increased by sending the traffic over two or more interface cards and the network resiliency is also improved by providing a redundant link from the server to the network should a link fail. The LBFO feature allows the bandwidth from a network server to be effectively doubled, as the two interface cards function as one virtual adapter.

Managed Boot Agent (MBA) Support

The MBA support on Allied Telesis NICs allows network administrators to perform pre-boot procedures on a system, such as installing an operating system, running a virus checker, or downloading a predefined system configuration. This feature, coupled with the Wake-on-LAN (WoL) function, allows computers to be remotely powered-on during non-work hours to perform configuration and maintenance tasks. Pre-boot Execution Environment (PXE) support is included in Allied Telesis' NICs. It allows a workstation or computer to boot from a remote server connected to the network prior to booting from the local hard drive.
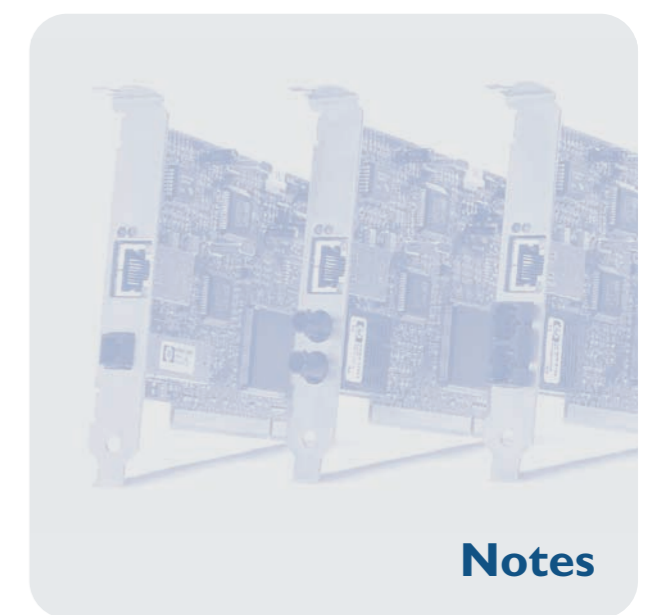
Jumbo Frames Support

Normal Ethernet packets are limited to a maximum size of 1548bytes. Packets which are received that are larger than this are normally rejected by the interface card as errors. The jumbo frame support is beneficial to sending large packets, especially where the data contained in these packets either has a time critical element, or is so large that the time taken to send multiple smaller packets is too great. Jumbo frame packets are normally up to 9000bytes long.

Advanced Power Management (ACPI)

ACPI is part of the environmental control initiative for computers. Allied Telesis NICs support ACPI which places the system in a low power state when it is not receiving or transmitting data.

Wake-on-LAN (WoL) is a feature of interface cards that allows a computer fitted with a card to be remotely powered on. The computer receives a special data packet via the network port that will cause the computer to boot. This coupled with PXE support allows network administrators to gain complete access to all computers on their network.

Notes

SUBCATEGORY	FEATURE	ETHERNET ROUTER AT-WA1104G	SECURE MODULAR VPN ROUTERS AT-AR415S	SECURE MODULAR VPN ROUTERS AT-AR750S	SECURE GIGABIT MODULAR VPN ROUTER AT-AR770S	SECURE xDSL ROUTERS AT-AR440S	SECURE xDSL ROUTERS AT-AR441S	SECURE xDSL ROUTERS AT-AR442S	DSL ROUTERS AT-AR256E v3	DSL ROUTERS AT-ARW256E v3
FORM FACTOR		» Wallmountable » Desktop	» Desktop » Rackmountable	» Desktop » Rackmountable	» Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop » Rackmountable	» Wallmountable » Desktop	» Wallmountable » Desktop
PORTS AND MEDIA SUPPORT	10/100TX	1 (WAN) + 4 (LAN)	1 (WAN) + 4 (LAN)	2 (WAN) + 5 (LAN)		5 (LAN)	5 (LAN)	5 (LAN)	4 (LAN)	4 (LAN)
	10/100/1000T				6 (LAN)					
	SFP				2 (combo) 100 or 1000Mbps					
	Wireless IEEE 802.11b/g	1								1
	xDSL (WAN)					ADSL2/2+ (Annex A)	ADSL2/2+ (Annex B)	SHDSL	ADSL2/2+ (Annex A)	ADSL2/2+ (Annex A)
	TR-068 WAN access								■	■
	Async port		1	1	1	■	■	■		
	PIC bays		1 (optional)	2 (optional)	2 (optional)	1 (optional)	1 (optional)	1 (optional)		
PIC BAYS	E1/T1 WAN		AT-AR020	AT-AR020	AT-AR020	AT-AR020	AT-AR020	AT-AR020		
	BRI - ISDN (S/T)		AT-AR021S	AT-AR021S	AT-AR021S	AT-AR021S	AT-AR021S	AT-AR021S		
	2Mbps sync port		AT-AR023	AT-AR023	AT-AR023	AT-AR023	AT-AR023	AT-AR023		
	4 x async		AT-AR024	AT-AR024	AT-AR024	AT-AR024	AT-AR024	AT-AR024		
	2 x FXS VoIP		AT-AR027			AT-AR027	AT-AR027	AT-AR027		
POWER SUPPLY		External	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	Fixed internal	External	External
ENVIRONMENTAL	In/outdoor usage	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor	Indoor
	Operating temp range (°C)	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 40°C	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 40°C	0°C to 40°C
MANAGEMENT	Web	■				■	■	■		
	CLI access		Async, Telnet	Async, Telnet	Async, Telnet	■	■	■	Telnet	Telnet
	SNMP		v2 and v3	v2 and v3	v2 and v3	v2 and v3	v2 and v3	v2 and v3	v1 and v2	v1 and v2
	UPnP	■							■	■
NETWORK RESILIENCE	VRRP		■	■	■	■	■	■		
QoS	IEEE 802.1p priority queues		■	■	■	■	■	■		
	Queueing mechanisms		■	■	■	■	■	■		
	Priority mechanisms		■	■	■	■	■	■		
SECURITY	IEEE.802.1Q VLANs		64	64	64	64	64	64		
	RADIUS	■	■	■	■	■	■	■		
	SSL		■	■	■	■	■	■		
	IEEE 802.1x	■	■	■	■	■	■	■		
	DoS protection	■	■	■	■	■	■	■	■	■
	Firewall	■	4000 sessions (AT-FL18B) 8000 sessions (AT-FL18C)	■	■	■	■	4000 sessions 8000 sessions (AT-FL18C) 16000 sessions (AT-FL18D)	■	■
OTHER	DMZ	■	■	■	■	■	■	■	■	■
	MAC filter	■	■	■	■	■	■	■	■	■
	IP / TCP / UDP filter	■	■	■	■	■	■	■	■	■
	URL filter	■								
	Peer to peer protocols detection			■	■					
	Encryption (DES, 3DES, AES)		■	■	■					
	VPN concurrent tunnels		1 - standard 5 - AT-FL19B, 10 - AT-FL19C 25 - AT-FL19D, 50 - AT-FL19E	250	1000	100	100	100		
ROUTING	RIPv1 and v2		■	■	■	■	■	■		
	IPv4	■	■	■	■	■	■	■	■	■
	IPv6		AT-AR400-ADVLDUPGRD	AT-AR700-ADVL3UPGRD	AT-AR700-ADVL3UPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD		
	OSPF		■	■	■					
	NAT / NAPT	■	■	■	■	■	■	■	■	■
	NAT VPN pass-through (sessions)	Multi								
	PPPoE / PPTP / L2TP		■	■	■	■	■	■	■	■
	DHCP client / server / relay	■	■	■	■	■	■	■	■	■
	WAN load balancing		AT-FL15 (option)	Included	Included	AT-FL15 (option)	AT-FL15 (option)	AT-FL15 (option)		
	Server load balancing		AT-AR400-ADVLDUPGRD	AT-AR700-ADVL3UPGRD	AT-AR700-ADVL3UPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD		
	BGP-4		AT-AR400-ADVLDUPGRD	AT-AR700-ADVL3UPGRD	AT-AR700-ADVL3UPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD	AT-AR400-ADVLDUPGRD		
DIMENSIONS	(W x D x H)	15.6 x 10.6 x 2.6cm 6.12 x 4.15 x 1.02in	30.5 x 19 x 4.5cm 12 x 7.48 x 1.77in	30.5 x 19 x 4.4cm 12 x 7.48 x 1.73in	44 x 23.9 x 4.4cm 17.3 x 9.4 x 1.73in	33.5 x 18 x 4.5cm 13.18 x 7 x 1.77in	33.5 x 18 x 4.5cm 13.18 x 7 x 1.77in	33.5 x 18 x 4.5cm 13.18 x 7 x 1.77in	15.5 x 12 x 3cm 6.1 x 4.7 x 1.2in	15.5 x 12 x 3cm 6.1 x 4.7 x 1.2in
	Weight	.22kg / .49lbs	1.75kg / 3.85lbs	1.92kg / 4.23lbs	2.95kg / 6.5lbs	1.96kg / 4.32lbs	1.96kg / 4.32lbs	1.96kg / 4.32lbs	.35kg / .77lbs	.35kg / .77lbs
IDEAL ENVIRONMENT		» Small business	» Medium business	» Medium business	» Large business	» Branch office	» Branch office	» Branch office	» Small business	» Small business
CUSTOMER'S NEEDS		» Intranet / Internet access » Indoor wireless bridge	» Remote access	» Remote access	» Remote access	» Head office connectivity	» Head office connectivity	» Head office connectivity	» DSL Internet access	» DSL Internet access

Virtual Private Networks

Virtual Private Networks are secure data tunnels connected over a Wide Area Network (WAN). They provide the user with an extension of a LAN (Local Area Network) in a remote location. By providing strong levels of authentication and data encryption, users are secure in the knowledge that their confidential information can be carried over the Internet. For central site applications, routers need to support multiple concurrent VPN tunnels, to cater for large numbers of remote tele-workers or remote offices.

Notes

Wireless
AP and Routers

SUBCATEGORY	FEATURE	DSL ROUTER AT-ARW256E v3	ETHERNET ROUTER AT-WA1104G	ACCESS POINT AT-WA7400	BASE ROUTERS AT-WR4562	BASE ROUTERS AT-WR4561	ROUTING CPE / BRIDGE AT-WR4542	ROUTING CPE / BRIDGE AT-WR4541a	ROUTING CPE / BRIDGE AT-WR4541g
FORM FACTOR		» Wallmountable » Desktop	» Wallmountable » Desktop	» Wallmountable » Desktop	» Wallmountable (AT-WR4501) » Pole mount	» Wallmountable (AT-WR4501) » Pole mount	» Wallmountable » Pole mount	» Wallmountable » Pole mount	» Wallmountable » Pole mount
PORTS AND MEDIA SUPPORT	10/100TX	4	1 + 4	1	1	1	1	1	1
	IEEE 802.11a/h			1					
	IEEE 802.11b/g	1	1	1					
	IEEE 802.11a/b/g/h				2	1		1	1
	ADSL2/2+ (Annex A)	1							
	TR-068 WAN access	■							
POWER SUPPLY	PoE			■	IEEE 802.3af compliant	IEEE 802.3af compliant	18vDC passive PoE	18vDC passive PoE	18vDC passive PoE
	External AC power supply	■	■				■		
SCALABILITY	Clustering			6					
ENVIRONMENTAL	In/outdoor usage	Indoor	Indoor	Indoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
	IEC 60529 ingress protection				IP66/67 (AT-TQ0051/53 cables)	IP66/67 (AT-TQ0051/53 cables)	IP65	IP66/67 (AT-TQ0051/53 cables)	IP66/67 (AT-TQ0051/53 cables)
	Temperature range (°C)	0°C to 40°C	0°C to 40°C	0°C to 40°C	-40°C to 70°C	-40°C to 70°C	-30°C to 50°C	-30°C to 50°C	-30°C to 50°C
MANAGEMENT	GUI	■		■	■	■	■	■	■
	CLI access	Telnet		Telnet, SSH	Telnet, MAC Telnet, SSH	Telnet, MAC Telnet, SSH	Telnet, MAC Telnet, SSH	Telnet, MAC Telnet, SSH	Telnet, MAC Telnet, SSH
	SNMP	v1, v2c		v1, v2c	v1	v1	v1	v1	v1
	UPnP	■		■					
	TR-069	■							
NETWORK RESILIENCE	IEEE 802.1D Spanning-Tree			■	■	■	■	■	■
	RSTP / LACP / VRRP				■	■	■	■	■
QoS	IEEE 802.1p priority queues								
	Queuing mechanisms				PFIFO (Packets First-In, First-Out), BFIFO (Bytes First-In, First-Out), SFQ (Stochastic Fairness Queuing), RED (Random Early Detect), PCQ (Per Connection Queue), HTB (Hierarchical Token Bucket)				
	Priority mechanisms				CIR (Committed Information Rate), MIR (Maximal Information Rate), Priority, Contention Ratio				
SECURITY	IEEE.802.1Q VLANs			■	■	■	■	■	■
	RADIUS			■	■	■	■	■	■
	SSH / SSL				■	■	■	■	■
	IEEE 802.1x			■	■	■	■	■	■
	DoS protection	■			■	■	■	■	■
	Firewall	■			■	■	■	■	■
	DMZ	■			■	■	■	■	■
	MAC filter	■			■	■	■	■	■
	IP / TCP / UDP filter	■			■	■	■	■	■
	URL filter				■	■	■	■	■
	Peer to peer protocols detection				■	■	■	■	■
ROUTING	RIPv1 and v2				■	■	■	■	■
	IPv4	■			■	■	■	■	■
	IPv6				■	■	■	■	■
	OSPFv2				■	■	■	■	■
	NAT / NAPT	■			■	■	■	■	■
	NAT VPN pass through (sessions)	■	Multi		■	■	■	■	■
	PPPoE / PPTP / L2TP	■	■		■	■	■	■	■
	DHCP server / relay	■			■	■	■	■	■
WIRELESS	WDS	■	■	■	■	■	■	■	■
	AutoChannel selection	■	■	■	■	■	■	■	■
	Dynamic channel planning			■					
	Client (STA) mode		■		■	■	■	■	■
	SSID / BSSID	2		8	256	256	1	1	1
	SSID hide	■	■		■	■	■	■	■
	WEP (bit)	64 / 128 / 256	64 / 128	64 / 128 / 152	64 / 128	64 / 128	64 / 128	64 / 128	64 / 128
	WPA PSK / EAP / TKIP / IEEE 802.11i (WPA2) PSK / EAP / AES	■			■	■	■	■	■
	IEEE 802.11e (WMM)			■					
	Antennas	2.4GHz (0dBi) omni	2.4GHz (2dBi) omni, detachable	2 × 2.4GHz (1.8dBi) / 5GHz (2.8dBi) omni, detachable	2 × external	2 × external	5GHz (22dBi) panel	5GHz (15dBi) panel	2.4GHz (15dBi) panel
DIMENSIONS	(W × D × H)	15.5 × 12 × 3cm 6.1 × 4.7 × 1.2in	15.6 × 10.6 × 2.6cm 6.12 × 4.15 × 1.02in	17.8 × 10.7 × 3cm 7 × 4 × 1.2in	21.2 × 5.7 × 18.3cm 8.3 × 2.2 × 7.2in	21.2 × 5.7 × 18.3cm 8.3 × 2.2 × 7.2in	34 × 34 × 5cm 13.4 × 13.4 × 2in	13.4 × 8.6 × 18.3cm 5.3 × 3.4 × 7.2in	13.4 × 8.6 × 18.3cm 5.3 × 3.4 × 7.2in
	Weight	.35kg / .77lbs	.22kg / .49lbs	.26kg / .57lbs	1.2kg / 2.65lbs	1.2kg / 2.65lbs	1.9kg / 4.19lbs	.46kg / 1.01lbs	.46kg / 1.01lbs
IDEAL ENVIRONMENT		» Small business	» Small business	» Small enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise
CUSTOMER'S NEEDS		» DSL Internet access	» Intranet / Internet access » Indoor wireless bridge	» Intranet access » HotSpot access	» WLL » Full HotSpot » Wireless bridge	» WLL » Full HotSpot » Wireless bridge	» WLL » Wireless bridge	» WLL » Wireless bridge	» WLL » Wireless bridge

Glossary

18vDC passive PoE — A simple, low-cost method of providing power down the spare pairs of an Ethernet cable.

IEC 60529 — The IP Code classifies the degrees of protection provided against the intrusion of solid objects (including body parts like hands and fingers), dust, accidental contact, and water in electrical enclosures. The higher the number, the more protection is provided.

TR-068 — (Technical Report 068) is a DSL Forum technical specification defining a protocol for remote configuration of end user ADSL based routers.

TR-069 — (Technical Report 069) is a DSL Forum technical specification defining a protocol for remote management of end user devices.

UPnP — Universal Plug & Play. UPnP enabled devices allow zero configuration by the user, as they use industry standard protocols to communicate with other network devices, operating systems etc, allowing easy installation.

WinBox — Is a PC application that can be run on MS Windows, MAC OSx and Linux and provides a GUI for configuring and monitoring every aspect of the AT-WR4500 wireless router.

DMZ — Demilitarized Zone. A set of IP addresses on a local LAN that can be accessed from the WAN. An example would be a Web server, which could be accessed from the Internet, but blocks all other WAN access to other local devices.

Client (STA) mode — The equipment's wireless interface can be configured to operate as a wireless client connecting to any other access points.

IEEE 802.11f (IAPP) — Inter Access Point Protocol. A protocol for simplifying and speeding up roaming between two access points.

WLL — Wireless Local Loop. Defines the wireless access of customer's premises to the telco operator network.

TDMA — Time Division Multiple Access. Is a QoS mechanism at the physical layer that allows the static assignment of predefined time slots to every station in a wireless access network.

Full HotSpot — It means that the equipment is able to implement a full featured HotSpot system including wireless access, Web pages management, multiple virtual HotSpots on a single radio interface, RADIUS server and customer's profile management application.

Wireless PoE and NICs

SUBCATEGORY	FEATURE	PSE PoE AT-6101G	PD PoE AT-6102G
FORM FACTOR		» Desktop	» Wallmountable » Desktop
PORTS AND MEDIA	10/100/1000T	1	1
POWER SUPPLY	PSU type	Fixed internal	PoE
POWER OVER ETHERNET	IEEE 802.3af	■	■
	PoE enabled ports	1	1
	Max number of full power ports	1	1
	Mode	B	A or B
	PoE power (W)	15.4	10
	DC out (V)		5 / 7.5 / 9 /12
ENVIRONMENTAL	Cooling	Fanless	Fanless
MANAGEMENT		Unmanaged	Unmanaged
DIMENSIONS	(W x D x H)	11.7 x 6 x 3.6cm 4.6 x 2.4 x 1.4in	8 x 5.6 x 2.6cm 3.1 x 2.2 x 1in
	Weight	.18kg / .40lbs	.08kg / .18lbs
CUSTOMER'S NEEDS		» Feeding protected Power over Ethernet to any Fast and Gigabit Ethernet equipment without having to replace non PoE switches	» Makes any non PoE equipment up to Gigabit Ethernet speed PoE capable » Extract power from a PoE line and supply 5 / 7.5 / 9 or 12vDC to any equipment

Glossary

PoE mode: A: feeding and receiving power on data pairs.
B: feeding and receiving power on spare pairs.
PSE: Power Sourcing Equipment. Feeding power to PD.
PD: Powered Device. Being powered by PSE.

SUBCATEGORY	FEATURE	WIRELESS NICS AT-WCU201G	AT-WCC201G	AT-WCP201G
BUS TYPE		USB 2.0	CardBus	PCI (32-bit)
PORTS AND MEDIA SUPPORT	IEEE 802.11b/g	■	■	■
	108Mbps TurboMode	■	■	■
QoS	IEEE 802.11e (WMM)	■	■	■
MANAGEMENT	Advanced power management (ACPI)	■	■	■
WIRELESS AND SECURITY	WiFi certification	■	■	■
	AutoChannel selection	■	■	■
	WEP (bits)	64 / 128 / 152	64 / 128 / 152	64 / 128 / 152
	IEEE 802.1x support	■	■	■
	WPA PSK / EAP / TKIP	■	■	■
	IEEE 802.11i (WPA2) PSK / EAP / AES-CCMP	■	■	■
	Antenna	2.4GHz (0dBi) embedded	2.4GHz (0dBi) embedded	2.4GHz (5dBi) external omni
	Antenna connector			1 x RP-SMA
DRIVER SUPPORT	Vista	■	■	■
	Vista 64-bit	■	■	■
	Windows XP and 2003	■	■	■
	Linux 2.4 and 2.6	Via NDIS wrapper	Via NDIS wrapper	Via NDIS wrapper
	IPv6 support			
DIAGNOSTICS	LEDs	■	■	■
PHYSICAL	Fitted with low profile bracket, full height provided			■
DIMENSIONS	(W x D x H)	8.1 x 2.5 x 1.2cm 3.2 x 1 x .5in	11 x 5.4 x .5cm 4.3 x 2.1 x .2in	12 x 6.5 x .5cm 4.7 x 2.6 x .2in
	Weight	.025kg / .06lbs	.048kg / .11lbs	.07kg / .15lbs

Glossary

WMM: Wireless Multimedia.

Wireless Antennas

ANTENNA TYPE	GAIN (dBi)	ALLIED TELESIS TenQ ANTENNA MODEL 2.4GHz	5GHz	LOBE WIDTH (°) Horizontal	Vertical	POLARIZATION
OMNI	2	AT-TQ0500		360	45	V
	5		AT-TQ0500	360	30	V
	8	AT-TQ0201E	AT-TQ0501E	360	17	V
	12	AT-TQ0202E	AT-TQ0502E	360	5	V
PANEL	8	AT-TQ0221E	AT-TQ0521E	75	50	V / H
	15	AT-TQ0222E	AT-TQ0522E	30	30	V / H
	20	AT-TQ0223E	AT-TQ0523E	15	15	V / H
SECTOR	12	AT-TQ0241E	AT-TQ0541E	120	15	V
	14	AT-TQ0242E	AT-TQ0542E	60	15	V
	18	AT-TQ0243E		30	15	V
PARABOLIC	19	AT-TQ0261E		15	15	V
	23		AT-TQ0561E	7.5	7.5	V
	24	AT-TQ0262E		8	8	V
	27.5		AT-TQ0562E	5.2	5.2	V

Glossary

Polarization: Defines the postition into space of electrical and magnetic field. The best signal transfer happens when both transmitting and receiving antennas have the same polarization. A 90° difference in polarization between transmitting and receiving antenna may produce up to -30dB of signal attenuation.

V: Vertical.
H: Horizontal.
V/H: V or H depending on mounting.

Antenna Type

Omni: Omnidirectional antennas radiate power uniformly in every direction on the horizontal plane. Mainly used for mobile user's access.
Panel: Is a flat antenna whose radiation lobe is similar to a cone. It's directional and is normally used to point-to-point links or at the end-points of a point-to-multipoint network.
Sector: Is a flat antenna whose radiation lobe is similar to a cone with an elliptical footprint. It's directional and is normally used in the central site of a point-to-multipoint network.
Parabolic: Is a dish shaped directional antenna, whose radiation lobe is similar to that of a Panel antenna. It's usually larger than a Panel and has a higher gain. It's suitable for long distance point-to-point links.

Notes

Wireless Accessories

SUBCATEGORY	FEATURE	WALL MOUNT	COAX CABLES				CAT5 CABLES		ANTENNA	RF SPLITTERS		SURGE PROTECTOR
		AT-WR4501	AT-TQ0001	AT-TQ0003	AT-TQ0041	AT-TQ0045	AT-TQ0051	AT-TQ0053	AT-TQ0500	AT-TQ0292	AT-TQ0592	AT-TQ0591
ENVIRONMENTAL	In/outdoor usage	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
ANTENNA / CABLE TYPE			HDF200	HDF200	HDF400	HDF400	CAT5 UTP	CAT5 UTP	Omni			
ANTENNA GAIN (dBi)	@ 2.4GHz								2			
	@ 5GHz								5			
INSERTION LOSS (dB)	@ 2.4GHz		-0.5	-1.7	-0.3	-1.2				-0.6	-0.5	-1.5
	@ 5GHz		-0.7	-2.7	-0.5	-2.1					-0.5	-1.5
CONNECTOR			1 × N plug 1 × RP-SMA plug	1 × N plug 1 × RP-SMA plug	2 × N plug	2 × N plug	1 × RJ-45 plug 1 × waterproof RJ-45 plug	1 × RJ-45 plug 1 × waterproof RJ-45 plug	1 × N plug	3 × N socket	3 × N socket	1 × N plug 1 × N socket
COMPATIBLE EQUIPMENT	AT-WR4541a / AT-WR4541g				■	■	■	■	■	■	■	■
	AT-WR4542						■	■				
	AT-WR4561 / AT-WR4562	■			■	■			■	■	■	■
	AT-WA7400		■	■								
DIMENSIONS	(W × D × H) / Length	18.9 × 8.9 × 3.7cm 7.4 × 3.5 × 1.5in	.5m 1ft 7.7in	3m 9ft 10in	.5m 1ft 7.7in	5m 16ft 4.9in	10m 32ft 9.6in	30m 98ft 5.1in	2.2 × 2.2 × 19cm .9 × .9 × 7.5in	7.7 × 5.5 × 4.2cm 3 × 2.2 × 1.7in	8 × 3 × 8cm 3.1 × 1.2 × 3.1in	6.5 × 3.4 × 2.5cm 2.6 × 1.3 × 1in
	Weight	.48kg / 1.06lbs	.10kg / .22lbs	.20kg / .44lbs	.12kg / .26lbs	.60kg / 1.32lbs	.50kg / 1.10lbs	1.50kg / 3.31lbs	.07kg / .15lbs	.33kg / .72lbs	.33kg / .72lbs	.14kg / .31lbs
IDEAL ENVIRONMENT		» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise	» WISP, enterprise
CUSTOMER'S NEEDS		» Wall-mount	» Higher gain or directional antenna	» Higher gain or directional antenna	» External antenna	» External antenna	» Achieve IP67 protection level for AT-WR4500 equipments		» HotSpot » AP	» Two antennas on one radio I/F	» Two antennas on one radio I/F	» Equipment lightning protection

Glossary

Gain
The only reason for designing and using special antennas is tot modify the 'radiation pattern'. Infact, an antenna works as a lens or a parabolic reflector concentrating the radiated power into a narrow beam and enhancing the received signals like a telescope. Therefore, the Gain expresses how much the antenna enhances the transmitted and received signals relative to simple radiators like a dipole or a dot shaped one, called 'isotropic'. In the first case the antenna gain is expressed in dBd (decibels over dipole) while in the latter it is expressed in dBi (decibels over isotropic).
Since a dipole's gain is 2.15 dBi and dB are logarithmic quantities, the antenna gain in dBi is equal to the gain in dBd plus 2.15.

Loss The attenuation of the cable or device. In dB.

WISP Wireless Internet Service Provider.

Using high gain antennas is not always a good idea!

Antennas have on electromagnetic waves the same effect that lenses have on light.

A high gain antenna does not increase the radiated power but simply concentrates the power fed by the transmitter in a certain area and 'magnifies' the received signal from the same area. Therefore choosing the right antenna is very important and largely affects the performances of every wireless network.

The various antenna types differ from each other in their footprint shape. Increasing the gain has the effect of reducing their footprint size.

An Omni-directional antenna concentrates the signal in a 360° belt around it. The higher the gain the thinner the belt is. The result is a better signal far from the antenna and a signal so low below the antenna that it can be impossible to communicate.

Panel and Parabolic antennas have a nearly circular footprint. Low gain panels can be used for both short distance point-to-point and point-to-multipoint links but can be successfully used for straight roads coverage too. High gain Panel and Parabolic antennas produce such a small spot that can be deployed only in medium to long distance point-to-point links.

A Sector antenna footprint is a horizontal ellipse whose width is usually 30°, 60°, 90° or 120°, therefore higher gain sector antennas have a vertically thinner footprint while keeping the same horizontal width. This allows for using Sector antennas in the central site of a point-to-multipoint link or for coverage of a certain 'sector' in mobile networks.

Choosing the right antenna is like choosing the best lighting system between various types of streetlamps and lighthouses. You will never choose the latter for lighting a yard.

Omni Antenna Radiation Lobes

LOW GAIN
HIGH GAIN
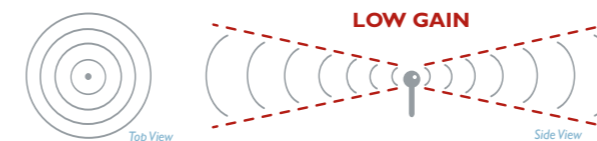
Panel and Sector Antenna Radiation Lobes

LOW GAIN
HIGH GAIN

Notes

iMAP Chassis

SUBCAT	FEATURE		MiniMAP 9100	iMAP 9400 Series		iMAP 9700 Series	
PART NUMBER			AT-TN-9101 / 2 / 3	AT-TN-251G		AT-TN-250G	
PHYSICAL HEIGHT			1RU	3RU		9RU	
POWER SUPPLY	Single AC		AT-TN-9102	Requires additional AT-TN-R111		Requires additional AT-TN-R113	
	Dual AC (option)		AT-TN-9103	Requires additional AT-TN-R111 and AT-TN-R112		Requires additional AT-TN-R113 and AT-TN-R114	
	Dual DC		AT-TN-9101	Standard		Standard	
CONTROLLER CARDS	Primary fabric controller		CFC12 (AT-TN-408-A)	CFC24 (AT-TN-401-C)	CFC56 (AT-TN-407-A)	CFC24 (AT-TN-401-C)	CFC56 (AT-TN-407-A)
	Optional redundant controller					CFC24 (AT-TN-401-C)	CFC56 (AT-TN-407-A)
NETWORK TRANSPORT	Slots		None - transport on CFC12 fabric	2	2	2	2
	Model		CFC12 fabric (AT-TN-408-A)	GE3 (AT-TN-301-C)	XE1 (AT-TN-308-A)	GE3 (AT-TN-301-C)	XE1 (AT-TN-308-A)
	Uplink ports		4 × SFP + 2 × 10/100/1000T	3 × SFP	1 × XFP	3 × SFP	1 × XFP
	Uplink speed		Gigabit	Gigabit	10GbE	Gigabit	10GbE
BLADE SLOTS			3	7		17 (16 with dual-fabric card)	
MAX PORTS	xDSL		72	168		408	
	Dual fiber (100Mbps)		30	70		170	
	BiDi fiber (100Mbps)		60	140		340	
	10/100TX (copper)		30	70		170	
	Gigabit		24	56		136	
	GEPON		192	448		1088	
TEMPERATURE RANGE (°C)			-40°C to 65°C	-40°C to 65°C		-40°C to 65°C	
DIMENSIONS	(W × D × H)		44 × 30 × 4.4cm 17.3 × 11.8 × 1.73in	44 × 30 × 13cm 17.3 × 11.8 × 5.11in		44 × 30 × 40cm 17.3 × 11.8 × 15.7in	
	Weight		4kg / 8.8lbs	7kg / 15.4lbs		15kg / .33lbs	

iMAP Controller Cards

SUBCAT	FEATURE	CFC12	CFC24	CFC56
PART NUMBER		AT-TN-408-A	AT-TN-401-C	AT-TN-407-A
CHASSIS COMPATIBLE	MiniMAP 9100	■		
	iMAP 9400 series		■	■
	iMAP 9700 series		■	■
PERFORMANCE	Switching fabric	12Gbps	24Gbps	56Gbps
	EPSR	■	■	■
	VLANs per port	4095	4095	4095
	Per VLAN rate limiting	■	■	■
UPLINKS	SFP (1000Mbps)	4		
	10/100/1000T	2		
SECURITY	Upstream forwarding only	■	■	■
	ACL support	■	■	■
QoS	Priority queues	8	8	8
	Priority scheduling	■	■	■

As the world's communications systems move to an all IP and Ethernet access network with IP/MPLS core, Allied Telesis' iMAP integrated Multiservice Access Platform represents the first and only true IP access platform designed for this purpose. Its unique carrier-grade IP/Ethernet capabilities are suitable for any provider building an IP access network now. Founded on the premise that IP/Ethernet solutions are the basis of any viable next generation service network, it provides industry leading capabilities that position the iMAP as the access network for alternative and emerging carriers, Independent Operating Companies (IOCs), PTTs, ILECs, ISPs, public utilities and private organizations such as hospitals, hotels and Multi-Tenant/ Multi-Dwelling Units (MTU/MTD).

One Access Platform, Any Service

The iMAP product family was designed from the outset to support IP Triple Play and IP video services using Ethernet technology. With redundant Gigabit Ethernet connections to each line card from the control modules, there is ample bandwidth and throughput for all current and future services and access technologies. A common control and fabric enables 10GbE backplane connectivity, ensuring future capacity and performance needs are addressed without ever requiring a forklift upgrade.

Multiple Services, Diversified and Increased Revenues

The flexible design architecture allows you to deliver multiple services. In addition to the traditional and enhanced ADSL/ADSL2+ and VDSL2, the iMAP empowers operators with the capability to offer revenue-generating residential and business services such as FTTx, E1/T1, G.SHDSL and POTS – all from the same platform. With features like Ethernet Protection Switched Rings (EPSR), the iMAPs can be networked together using ring topology with full redundancy and sub-50ms switchover times, ensuring carrier-grade five nines (99.999%) availability and maximum service uptime whilst reducing the need for additional transport expenses.

Notes

iMAP BLADES

SUBCATEGORY	FEATURE	FE10	POTS24	ADSL24A	PAC24	PAC24EU	ADSL24SA	ADSL48A
PART NUMBER		AT-TN-102-A	AT-TN-113-A	AT-TN-121-A	AT-TN-123-B	AT-TN-136-A	AT-TN-129-A	AT-TN-131-A
COPPER	10/100TX	10						
	POTS		24					
	POTS (including splitters)				24	24	24	
	ADSL (Annex A)			24	24	24	24	48
	ADSL (Annex B)							
	G.SHDSL							
	VDSL2 (Annex A)							
	VDSL2 (Annex B)							
	T1/E1 (circuit emulation)							
	T1/E1 (data transport)							
FIBER	100Mbps (2 fiber), SMF							
	100Mbps BiDi, SMF							
	SFP (1000Mbps)							
	GEPON							
PHYSICAL	Single / double width blade	Single	Single	Single	Double	Double	Double	Double
SALES TERRITORY			US only		US only	EU only	US only	

iMAP BLADES

SUBCATEGORY	FEATURE	ADSL24B	ADSL48B	SHDSL24	VDSL24A	VDSL24B	CES8	NTE8	FX10LX	FX10BX	FX20BX	GE8	GEPON
PART NUMBER		AT-TN-124-B	AT-TN-132-A	AT-TN-127-A	AT-TN-130-A	AT-TN-128-A	AT-TN-119-A	AT-TN-125-A	AT-TN-107-A	AT-TN-109-A	AT-TN-139-A	AT-TN-117-A	AT-TN-118-A
COPPER	10/100TX												
	POTS												
	POTS (including splitters)												
	ADSL (Annex A)												
	ADSL (Annex B)	24	48										
	G.SHDSL			24									
	VDSL2 (Annex A)				24								
	VDSL2 (Annex B)					24							
	T1/E1 (circuit emulation)						8						
	T1/E1 (data transport)							8					
FIBER	100Mbps (2 fiber), SMF								10				
	100Mbps BiDi, SMF									10	20		
	SFP (1000Mbps)											8	
	GEPON												2
PHYSICAL	Single / double width blade	Single	Double	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
SALES TERRITORY													

Video-optimized

The iMAP has been optimized for video deployments with several video specific features, such as fast joins and leaves for IGMP multicasting.

Carrier-grade Design

Hot swappable modules, redundancy throughout the system elements (power, network uplinks, control modules, backplane connectivity), and hitless software upgrades ensure maximized system and network uptime. NEBS compliant.

FTTx: Supporting Latest Fiber Technologies

The iMAP platform supports the migration from copper towards fiber in the access network where fiber is deployed to the most economical point in the access network. The iMAP family supports active point-to-point Ethernet and passive Gigabit EPON technologies providing operators and service providers with full flexibility for deploying the most appropriate technology for their requirements and needs.

Notes

iMG

Product groups: columns *iMG624 Series – iMG664W Series* and *AT-iMG606BD – AT-iMG646MOD* = **INTELLIGENT MULTISERVICE GATEWAYS**; columns *AT-iBG910 – AT-iBG915FX* = **INTELLIGENT BUSINESS GATEWAYS**

SUBCATEGORY	FEATURE	iMG624 Series	iMG634 Series	iMG634W Series	iMG664 Series	iMG664W Series	AT-iMG606BD	iMG616 Series	AT-iMG646BD	iMG616RF Series	iMG646-ON Series	AT-iMG626MOD	AT-iMG646MOD	AT-iBG910	AT-iBG915FX
ENVIRONMENTAL	Indoor usage						■	■	■	■				■	■
	Outdoor usage										■	■	■		
UPLINK	ADSL2+ Annex A	AT-iMG624A	AT-iMG634A	AT-iMG634WA	AT-iMG664A	AT-iMG664WA								AT-iBG910A	
	ADSL2+ Annex B	AT-iMG624B	AT-iMG634B	AT-iMG634WB	AT-iMG664B	AT-iMG664WB								AT-iBG910B	
	Ethernet 100Mbps copper		■												
	Ethernet 100Mbps fiber (MMF)							AT-iMG616SH							
	Ethernet 100Mbps fiber (SMF)							AT-iMG616LH							
	Ethernet 100Mbps fiber (BiDi)						■	AT-iMG616BD		■	AT-iMG646BD-ON	PKG1, PKG2, PKG5	PKG1, PKG2, PKG5		
	Ethernet 100Mbps fiber SFP module														■
	GEPON											PKG3, PKG4, PKG5, PKG6	PKG3, PKG4, PKG5, PKG6		
LAN INTERFACE	10/100TX	4	4	4	4	4	6	6	6	6	6	6	6	8	5
	Wireless IEEE 802.11b/g			■		■									
	HPNA											PKG2, PKG4	PKG2, PKG4		
	T1/E1 CES											PKG5, PKG6	PKG5, PKG6		
WAN PORT	Copper / fiber	Copper	Copper	Copper	Copper	Copper	Fiber	Fiber	Fiber	Fiber	Fiber	Fiber	Fiber	Copper	Fiber
CATV RF OVERLAY	Low output power									AT-iMG616RF					
	High output power									AT-iMG616SRF+					
PHONE INTERFACES	FXS		2	2	2	2			2	4	2	4	2		8
	BRI				1	1									2
	PSTN lifeline		■	■	■	■									
VoIP PROTOCOLS	SIP / MGCP / H.323	■					■	■	■	■	■	■	■	■	
CONSOLE INTERFACE	RS232 DB9 connector						■	■	■	■	■	■	■	■	■
	RS232 RJ-45 connector														
QoS	IEEE 802.1p priority queues	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	IEEE 802.1Q VLANs management	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MANAGEMENT	AlliedView NMS	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	TR-069 (from release 3-8)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	SNMPv1, v2 and v3	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Telnet, Web, GUI, CLI	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Remote software upgrade	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ACCESSORY AVAILABLE	Fiber outlet kit AT-iMG001						■	■							
	Battery backup AT-iMG006G	■	■	■	■	■	■	■							
	Outdoor case AT-EN646MOD											■	■		

The Allied Telesis iMG (iMG600 series) and iBG (iBG900 series) gateway families provide a wide range of CPE (Customer Premise Equipment) covering different uplink technology, LAN configuration and environmental conditions. The iMG and iBG families provide multiple IP-based broadband services over a high-speed, always-on broadband connection. The combined delivery of IP Triple Play services - voice, video and data - benefits both service providers and their customers.

iMG (intelligent Multiservice Gateway)

The iMG family provide multiple IP-based broadband services to the home over either a twisted pair or fiber, always-on broadband connection. The wide range of WAN interface options provided by this family allows service providers to easily migrate and adapt their existing cabling infrastructure to supply customers with the latest IP-based services.

iBG (intelligent Business Gateway)

The iBG family is targeted at small to medium enterprise applications requiring more ports than on the iMG family, extending the application to customers requiring up to eight LAN and eight telephone connections.

Outdoor Gateways

In some installations, it is not possible or practical to install an iMG inside a building. The Allied Telesis range of outdoor gateways allows the service provider to externally mount their equipment on the outside of the building, providing them with 24 hour access to their equipment should they require to perform adds/moves or changes to the local wiring.

Notes

Network Management & Software

AlliedView-EMS™ v3.10
Network Device Management Software

The AlliedView-EMS (Enterprise Management System) is a Java-based network device management solution. Whether managing a large network distributed across multiple sites, or small networks with only a handful of nodes, AlliedView-EMS provides the tools needed to effectively monitor and proactively manage Allied Telesis' intelligent networking products.

Ease of Use
With AlliedView-EMS, you can view details of all the managed Allied Telesis products on your network from a user-friendly, window-based interface. You can display the physical view of a device and see color-coded port and module configurations, click on a port to list its communication statistics or change device settings to improve data flow. All in a matter of minutes, all in an intuitive graphical environment.

Automated Response
With RMON support for Statistics, History, Alarm and Event, it has never been easier to proactively monitor your network. Chart line traffic usage, packet size class, error packet classifications and more to analyze your network's health in real-time and optimize its performance.

Remote Management
To truly manage your network, device monitoring is only half the battle. With AlliedView-EMS, you can configure any supported SNMP Management Information Base (MIB) variable such as full/duplex settings, IP routing, and more.

Flexibility
Java-based AlliedView-EMS has been designed to run in both Unix and Windows environments, either as an add-on to network management solutions for large networks, or as a standalone application for smaller ones.

Features
- *Intuitive graphical interface*
- *Drill-down functionality*
- *MIB browser*
- *MIB compiler*
- *GUI snapshot utility*

- *RMON 4 group support*
- *Supports NMS alarms*
- *Supports SNMP v1, v2c and v3*
- *VLAN management*
- *QoS management*

- *Multi-platform*
- *HP OpenView, Tivoli NetView, Ipswitch WhatsUp and SNMPc interoperability*
- *Supports Allied Telesis managed devices*

Castlerock SNMPc

SNMPc is a secure distributed network management system which delivers proactive real-time monitoring for your entire network infrastructure. Advanced product features and legendary ease-of-use have led to over 120,000 network managers trusting SNMPc to monitor their mission critical networks. SNMPc is developed by Castlerock, who work closely with Allied Telesis to embed our products into their management system.

Two versions of SNMPc are available:

SNMPc Enterprise Edition employs a distributed polling agent architecture to provide a high performance solution capable of monitoring networks from several hundred devices to tens of thousands. Remote software and Web-based consoles provide network information to everyone who needs it.

SNMPc Workgroup Edition is an affordable version of SNMPc suitable for a single user and small to medium sized networks.

Features
- *Monitors SNMP devices, WAN links, servers and applications*
- *Supports SNMP v1, v2c and secure SNMP v3*
- *Scalable, distributed architecture*
- *E-mail/pager event notification*
- *Automatic baseline alarms*

- *Vendor independent - manages any SNMP device from any vendor*
- *Key network metrics (e.g. utilization)*
- *Automatic Web and printed trend reports*
- *Live/standby servers with automatic failover*

- *Runs as Windows service*
- *Remote console and JAVA access*
- *Real-time MIB displays*
- *Automated network discovery*
- *Programming and scripting interfaces*

AlliedView NMS™ Release 10
Network Management Software
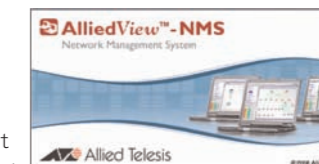
The AlliedView NMS is a comprehensive network management platform designed to offer network service providers and larger enterprise customers powerful tools for the management of their Allied Telesis products and provisioning of multiple services in the IP and Ethernet based access network. With a full suite of provisioning and monitoring tools, the AlliedView NMS maximizes the operational efficiency by providing proactive diagnostics, minimizing service deployment times, reducing operational expense and hence shortening the path to profitable revenue.

Flexible Management Tools
With extensive management capabilities, the AlliedView NMS allows the user to manage thousands of Allied Telesis network elements from a remote operations center - thus reducing the need for a truck roll to perform diagnostics or make provisioning changes. Via a user-friendly graphical user interface, the NMS will substantially decrease the time required for deploying and provisioning large networks. Among the key strengths of the NMS is network monitoring and network wide service provisioning.

Scaleable Architecture
The three essential constituents of AlliedView NMS architecture are Back-End (BE) server, Front-End (FE) server and the user client.

The Back-End server (BE) performs core, server-side network facing tasks, such as the discovery, alarm notifications, data collection, report generation, status polling and northbound interface.

The Front-End server (FE) provides scalability in terms of the number of clients that can be supported. High availability of the client can be achieved by increasing the number of FEs connected to BE. AlliedView NMS is designed to run in mission critical environments which require continuous and uninterrupted access to the NMS. If a failure occurs of the primary BE server an automatic switch takes place to a redundant or warm standby server. In the switch over process all the functions being performed by the primary server are automatically assumed by the redundant server ensuring an uninterrupted access to NMS functions. Failover makes the NMS systems fault-tolerant. The process of switching over has been designed to be smooth and automatic so that the end user does not notice the failure of the primary server or the subsequent switch to the standby. Failover support is provided for both BE and FE servers.

Network Inventory
The AlliedView NMS provides automatic topology and device discovery of networks, regardless of size. The NMS allows for multiple network and device views where the user can observe the entire network or focus in on an individual network device. In addition, the NMS contains inventory of different device types and enables views of VLANs, network interfaces, ports, and physical links.

Zero Touch Service Provisioning
The AlliedView NMS allows for the rapid deployment of multiple services (e.g. Internet access, IPTV video and VoIP telephony) via the provisioning of VLANs and QoS policies across multiple devices using a Graphical User Interface (GUI). Provisioning and rollout of new services and devices are significantly accelerated via the use of profiles for the most common types of services in the network. By defining a common set of profiles NMS enables multiple services to a subscriber to be provisioned via a single screen.

Network Upgrades
The AlliedView NMS can perform scheduled or unscheduled network wide firmware and software upgrades to many of the Allied Telesis device types. The NMS maintains control of software releases to ensure all nodes in the network always maintain consistent software loads.

Northbound Interface
AlliedView NMS can interoperate with existing Operation Support Systems (OSS) and Business Support Systems (BSS) through northbound protocols, such as SNMP and XML/SOAP. The current northbound interface is read only and supports Apache/AXIS with an XML-based API.

Features
- *Intuitive graphical interface*
- *Drill-down functionality*
- *MIB browser*
- *MIB compiler*
- *GUI snapshot utility*

- *RMON 4 group support*
- *Supports NMS alarms*
- *Supports SNMP v1, v2c and v3*
- *VLAN management*
- *QoS management*

- *Multi-platform*
- *HP OpenView, Tivoli NetView, Ipswitch WhatsUp and SNMPc interoperability*
- *Supports Allied Telesis managed devices*

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Product A-Z

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