



# AT-9924Ts

## Enhanced Gigabit Layer 3+ Expandable Switch

### AT-9924Ts

2 x 20 Gigabit expansion bays  
24 x 10/100/1000BASE-T (RJ-45)  
copper ports

### Unmatched Flexibility

The AT-9924Ts switches have two high-speed 20 Gbps expansion bays providing a high level of port flexibility and application versatility unmatched by any other IRU Gigabit Ethernet switch on the market. Expansion modules can be used in a variety of configurations to provide a tailored solution to meet wide-ranging physical networking requirements. Start with an AT-9924Ts base, add expansion modules to suit your network needs, and change configurations as your network evolves and extends. The following examples illustrate this:

Add one 10 GbE expansion module and hot-swappable XFP to provide a single high-speed, high-capacity fiber uplink. Add a second 10 GbE module as bandwidth needs increase. This is ideal for wiring closet aggregation of gigabit to the desktop links. It's also ideal for aggregating gigabit uplinks from other network switches, with the option of either 10 Gbps or 20 Gbps uplink capacity to the network core. Resiliency can be achieved by using two 10 GbE modules and MSTP (802.1s) for fast failover on link failure.

Ethernet Protected Switched Rings (EPSR) and 10GbE modules allow several AT-9924Ts switches to form a protected ring with sub 50ms failover. This feature is perfect for high performance at the core of enterprise or provider access networks.

Add one or two 12 port 10/100/1000BASE-T (RJ-45) copper expansion modules to provide maximum Gigabit Ethernet port density in a compact IRU chassis for gigabit to the desktop or gigabit aggregation applications. Add one or two 12 x 1000BASE-X (SFP) expansion modules to provide flexible port options for aggregating mixed copper and fiber links from servers in server farm and data center

### Key Features

#### Performance

- Layer 2 and 3 IPv4 switching and routing all at wire-speed
- Built from a 150 Gbps switch fabric yielding 71.4 Million packets per second performance
- Provides up to 256K Layer 3 address table entries
- Supports full 4096 VLANs with VLAN double tagging
- Supports 4096 Layer 3 interfaces
- Private VLANs, providing security and port isolation of multiple customers using the same VLAN
- Supports 9KByte Jumbo frame size<sup>1</sup> for data center and server aggregation applications
- Gigabit SFP ports will support any combination of 10/100/1000BASE-T, 1000BASE-SX, 1000BASE-LX, 1000BASE-ZX or 1000BASE-ZX CWDM SFPs
- Extensive wire-speed traffic classification for ACLs and QoS
- Advanced routing protocols OSPF, BGP4, RIP and RIPv2, DVMRP, PIM-SM, PIM-DM
- Wire-speed multicasting

#### Availability

- Two 20 Gbps expansion bays supporting a choice of modules including 1x 10 GbE, 12 x 1GbE (SFP) and 12 x 1GbE (RJ-45) for port flexibility and application versatility
- IRU form factor, high port density and front-to-back cooling, ideal for high-density rack and wiring closet installations
- Internal dual hot-swappable AC or DC load-sharing power supplies remove the need for an expensive and rack space wasting redundant power supply (RPS)
- Full environmental monitoring of PSUs, fans, temperature and internal voltages, with SNMP traps to alert network managers in case of any failure
- Bad cable detection - reports total cable length and distance to fault (fixed copper ports only)

### Quality of Service (QoS)

- Policy based QoS features
- Min / max bandwidth control with bandwidth slice resolution down to 1Kbps for QoS traffic classes
- Buffered max bandwidth control at egress on all ports, and on each of 8 egress queues per port
- Two-rate three-color (green, yellow, red) bandwidth metering, with burst sizes for improved TCP-IP bandwidth limiting performance
- Low switching latency essential for Voice over IP (VoIP) and real-time streaming media applications

### Resiliency

- STP, RSTP, MSTP (802.1s)
- Port trunking (802.3ad LACP)
- VRRP
- EPSR

### Management

- Web Management/ GUI
- Out of band 10/100/1000 Ethernet management port and asynchronous management port, both on the front panel for ease of access
- An SD memory card socket on the front panel, which allows software release files, configurations and other files to be stored for backup and distribution to other switches. Check with ATI representative for availability
- Port mirroring
- SSH, SSL, SFTP and SNMPv3 for secure management
- 802.1x support
- TACACS+, RADIUS

<sup>1</sup> When Jumbo frame support is enabled, the MRU is 9714 bytes for ports operating at 10/100Mbps, and 10,240 bytes (10KBytes) at 1Gbps (but maximum supported Layer 3 frame size is 9KB)

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applications, while at the same time providing long-haul fiber links.

With this degree of flexibility, your investment is future-proofed against changes in network infrastructure, topologies, and physical link requirements.

## Reliability

Dual hot-swappable AC or 48VDC load-sharing power supplies, packaged in the 1RU standard rack mount chassis, provide the ultimate space saving reliability and resiliency. Combined with front-to-back cooling, it is perfect for the high-density rack environment where space is at a premium.

## Policy-based Quality of Service

Comprehensive, low latency QoS features operating at wire-speed provide flow-based traffic management with full classification, prioritization, traffic shaping and min/max bandwidth profiles. The AT-9924Ts QoS features are ideal for service providers wanting to ensure maximum availability of premium voice, video and data services, and at the same time manage customer service level agreements (SLAs). For enterprise customers, the AT-9924Ts QoS features protect productivity by guaranteeing performance of business-critical applications including VoIP services, and help restore and maintain responsiveness of enterprise applications in the networked workplace.

## Performance

The AT-9924Ts is a powerful Layer 3+ switch, with a 150 Gbps switching fabric, achieving wire-speed IPv4 switching and routing performance with a forwarding rate of 71.4 Mpps. It can support up to two wire-speed 10 Gigabit Ethernet ports for high performance, high capacity network applications.

## Performance

Switching Capacity: 150Gbps  
Forwarding Rate: 71.4Mpps<sup>2</sup>

Up to 256K IPv4 routes  
Up to 16K MAC addresses  
Up to 4K Layer 2 multicast groups  
Up to 1K Layer 3 multicast groups  
4K VLANs  
512MB CPU SDRAM  
128MB Packet buffer memory  
32MB Flash memory

## Reliability

MTBF  
9924Ts with 1 PSU and 1 fan module:  
93,700 hours  
9924Ts with 2 PSUs:  
249,400 hours  
(calculated using Telcordia SR-332 (Issue 1, May 2001) at 25 degrees Celsius ambient operating temperature)

## Power Characteristics

AC Voltage: 100-240V AC ( $\pm 10\%$  auto ranging)  
Frequency: 47-63Hz  
DC Voltage: 36-72V DC

## Power Consumption

9924Ts with one PSU, one fan module:  
110 Watts / 375 BTU  
9924Ts with two PSUs, two AT-A60 modules:  
191 Watts / 652 BTU

## Environmental Specifications

Operating Temperature Range:  
0°C – 40°C (32°F – 104°F)  
Storage Temperature Range:  
-25°C – 70°C (-13°F – 158°F)  
Operating Relative Humidity Range:  
5% – 80% non-condensing  
Storage Relative Humidity Range:  
5% to 95% non-condensing  
Altitude:  
3,050 Meters maximum (10,000ft)

## Physical Dimensions

Height: 44.5mm (1.75")  
Width: 440mm (16.7")  
Depth: 440mm (16.7")<sup>3</sup>  
Mounting: 19" rack mountable, 1 RU form-factor

## Weights

AT-9924Ts with one PSU, one fan module:  
7.3 kg / 16.1 lbs, and 8.8 kg  
/ 19.4 lbs packaged  
AT-9924Ts with two PSUs, two AT-A60 modules:  
9.3 kg / 20.5 lbs, and  
10.8 kg / 23.8 lbs packaged  
AT-PWR01 (AC or DC):  
1.0kg, and packaged  
1.8 kg / 3.9 lbs (AC) or  
1.5 kg / 3.3 lbs (DC)  
AT-FAN01:  
0.6 kg / 1.3 lbs, and  
1.4 kg / 3.1 lbs packaged

## Electrical Approvals and Compliances

EMC  
EN55022 class A, FCC class A, VCCI class A,  
AS/NZS CISPR22 class A  
Immunity:  
EN55024, EN61000-3-2/3, CNS 13438 Class A.

## Safety

Standards:  
UL60950-1, CAN/CSA-C22.2 No. 60950-1-03,  
EN60950-1, EN60825-1, AS/NZS 60950  
Certification: UL, cUL, TUV

## Restrictions on Hazardous Substances (RoHS) Compliance

EU RoHS Compliant

## Country of Origin

Singapore

<sup>2</sup> With two 12 x 1GbE expansion modules (SFP or RJ45) installed.

<sup>3</sup> This depth measurement excludes the PSU handles.

## Standards and Protocols Software Release 3.2.1

### Authentication

IEEE 802.1x Port Based Network Access Control  
RFC 1510 Network Authentication Service (Kerberos V5)  
RFC 2082 RIP-2 MD5 Authentication

### BGP-4

RFC 1771 Border Gateway Protocol 4  
RFC 1966 BGP Route Reflection - An Alternative to Full Mesh IBGP  
RFC 1997 BGP Communities Attribute  
RFC 1998 Multi-home Routing  
RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option  
RFC 2439 BGP Route Flap Damping  
RFC 2858 Multiprotocol Extensions for BGP-4  
RFC 2918 Route Refresh Capability for BGP-4  
RFC 3065 Autonomous System Confederations for BGP  
RFC 3392 Capabilities Advertisement with BGP-4

### Discovery Protocols

CDP over WAN Forward Cisco Discovery Protocol packets over a WAN connection

### Encryption

Diffie-HellmanA key-exchange algorithm  
FIPS 180 Secure Hash Signature Standard. This Standard specifies four secure hash algorithms - SHA-1, SHA-256, SHA-384, and SHA-512  
FIPS 186 Digital Signature Standard. (RSA)  
FIPS 46-3 Data Encryption Standard (DES & 3DES)  
RFC 1321 The MD5 Message-Digest Algorithm  
RFC 2104 HMAC - Keyed-Hashing for Message Authentication

### Ethernet

GARP Generic Attribute Registration Protocol  
GVRP Generic VLAN Registration Protocol  
IEEE 802.2 Logical Link Control  
IEEE 802.3 Ethernet CSMA/CD  
IEEE 802.3ab 1000BASE-T  
IEEE 802.3ad Link Aggregation Control Protocol (LACP)  
IEEE 802.3ad Link Aggregation (Port Trunking)  
IEEE 802.3ae 10 Gigabit Ethernet  
IEEE 802.3u 100BASE-T  
IEEE 802.3x Flow Control - Full Duplex Operation  
IEEE 802.3z Gigabit Ethernet

### General Routing

ECMP Equal Cost Multi Path routing  
RFC 768 User Datagram Protocol (UDP)  
RFC 791 Internet Protocol (IP)  
RFC 792 Internet Control Message Protocol (ICMP)  
RFC 793 Transmission Control Protocol (TCP)  
RFC 826 Address Resolution Protocol (ARP)  
RFC 894 Standard for the transmission of IP datagrams over Ethernet networks  
RFC 903 Reverse ARP  
RFC 919 Broadcasting Internet Datagrams  
RFC 922 Broadcasting Internet datagrams in the presence of subnets  
RFC 925 Multi-LAN ARP  
RFC 950 Internet Standard Subnetting Procedure  
RFC 1027 Proxy ARP  
RFC 1035 DNS Client  
RFC 1042 Standard for the transmission of IP datagrams

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over IEEE 802 networks

RFC 1071 Computing the Internet checksum  
RFC 1122 Internet Host Requirements  
RFC 1191 Path MTU discovery  
RFC 1256 ICMP Router Discovery Messages  
RFC 1288 Finger  
RFC 1518 An Architecture for IP Address Allocation with CIDR  
RFC 1519 Classless Inter-Domain Routing CIDR  
RFC 1541 DHCPv4 Client & Server  
RFC 1542 BootP  
RFC 1700 Assigned Numbers  
RFC 1812 Requirements for IP Version 4 Routers  
RFC 1918 IP Addressing  
RFC 2131 DHCP  
RFC 2132 DHCP Options and BOOTP Vendor Extensions.  
RFC 2390 Inverse Address Resolution Protocol  
RFC 2581 TCP Congestion Control  
RFC 2822 Internet Message Format  
RFC 3046 DHCP Relay Agent Information Option  
RFC 3232 Assigned Numbers  
RFC 3993 Subscriber-ID Suboption for DHCP Relay Agent Option

## IPv6 Features

draft-arkko-manual-icmpv6-sas-01 Manual SA Configuration for IPv6 Link Local Messages  
draft-ietf-ngtrans-hometun-01 IPv6 over IPv4 tunnels for home to Internet access  
draft-ietf-ngtrans-introduction-to-ipv6-transition-06 Overview to the introduction of IPv6 in the internet  
RFC 1886 DNS Extensions to support IP version 6  
RFC 1981 Path MTU Discovery for IPv6  
RFC 2365 Administratively Scoped IP Multicast  
RFC 2375 IPv6 Multicast Address Assignments  
RFC 2460 IPv6 specification  
RFC 2461 Neighbour Discovery for IPv6  
RFC 2462 IPv6 Stateless Address Autoconfiguration  
RFC 2463 ICMPv6  
RFC 2464 Transmission of IPv6 Packets over Ethernet Networks  
RFC 2472 IPv6 over PPP  
RFC 2526 Reserved IPv6 Subnet Anycast Addresses  
RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels  
RFC 2711 IPv6 Router Alert Option  
RFC 2851 Textual Conventions for Internet Network Addresses  
RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers  
RFC 3056 Connection of IPv6 Domains via IPv4 Clouds  
RFC 3307 Allocation Guidelines for IPv6 Multicast Addresses  
RFC 3315 DHCPv6  
RFC 3484 Default Address Selection for IPv6  
RFC 3513 IPv6 Addressing Architecture  
RFC 3587 IPv6 Global Unicast Address Format  
RFC 3596 DNS Extensions to support IPv6

## Management

RFC 1155 Structure and Identification of Management Information for TCP/IP-based Internets  
RFC 1157 A Simple Network Management Protocol (SNMP)  
RFC 1212 Concise MIB definitions  
RFC 1213 Management Information Base for Network Management of TCP/IP-based internets: MIB-II  
RFC 1215 Convention for defining traps for use with the SNMP  
RFC 1239 Standard MIB  
RFC 1493 Bridge MIB  
RFC 1643 Ethernet MIB  
RFC 1657 Definitions of Managed Objects for BGP-4 using SMIv2  
RFC 2011 SNMPv2 MIB for IP using SMIv2  
RFC 2012 SNMPv2 MIB for TCP using SMIv2  
RFC 2096 IP Forwarding Table MIB  
RFC 2576 Coexistence between V1, V2, and V3 of the

Internet-standard Network Management Framework

RFC 2578 Structure of Management Information Version 2 (SMIv2)  
RFC 2579 Textual Conventions for SMIv2  
RFC 2580 Conformance Statements for SMIv2  
RFC 2665 Definitions of Managed Objects for the Ethernet-like Interface Types  
RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions (VLAN)  
RFC 2790 Host MIB  
RFC 2819 RMON MIB  
RFC 2856 Textual Conventions for Additional High Capacity Data Types  
RFC 2863 The Interfaces Group MIB  
RFC 3164 Syslog Protocol  
RFC 3289 Management Information Base for the Differentiated Services Architecture  
RFC 3410 Introduction and Applicability Statements for Internet-Standard Management Framework  
RFC 3411 An Architecture for Describing SNMP Management Frameworks  
RFC 3412 Message Processing and Dispatching for the SNMP  
RFC 3413 SNMP Applications  
RFC 3414 User-based Security Model (USM) for SNMPv3  
RFC 3415 View-based Access Control Model (VACM) for SNMP  
RFC 3416 Version 2 of the Protocol Operations for SNMP  
RFC 3417 Transport Mappings for the SNMP  
RFC 3418 MIB for SNMP  
RFC 3635 Definitions of Managed Objects for the Ethernet-like Interface Types  
RFC 3636 Definitions of Managed Objects for IEEE 802.3 Medium Attachments Units (MAUs)  
RFC 4188 Definitions of Managed Objects for Bridges  
RFC 4273 Definitions of Managed Objects for BGP-4  
draft-ietf-bridge-802.1x-00.txt IEEE 802.1x Port Access Control MIB

## Multicast Support

RFC 1075 DVMRP  
RFC 1112 Host extensions for IP multicasting  
RFC 2236 Internet Group Management Protocol (IGMP), Version 2  
RFC 2363 Protocol Independent Multicast Sparse-Mode (PIM-SM)  
RFC 2710 Multicast Listener Discovery (MLDv2) for IPv6  
RFC 2715 Interoperability Rules for Multicast Routing Protocols  
RFC 2973 PIM-DM  
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6  
draft-ietf-idmr-dvmrp-v3-10 DVMRPv3  
draft-ietf-magma-snoop-02 IGMP and MLD snooping switches  
draft-ietf-pim-sm-v2-new-12.txt Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised)  
draft-vida-ml-d-v2 Multicast Listener Discovery (MLDv2) for IPv6  
IGMP Proxy draft-ietf-magma-igmp-proxy-05  
IGMP Snooping Internet Group Management Protocol Snooping

## OSPF

RFC 1245 OSPF protocol analysis  
RFC 1246 Experience with the OSPF protocol  
RFC 2328 OSPFv2  
RFC 3101 The OSPF Not-So-Stubby Area (NSSA) Option

## PKI Support

RFC 1779 X.500 String Representation of Distinguished Names.  
RFC 2510 PKI X.509 Certificate Management Protocols  
RFC 2511 X.509 Certificate Request Message Format  
RFC 2527 Internet X.509 Public Key Infrastructure

Certificate Policy and Certification Practices Framework

RFC 2559 PKI X.509 LDAPv2  
RFC 2585 PKI X.509 Operational Protocols  
RFC 2587 PKI X.509 LDAPv2 Schema  
RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile.  
RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile.  
Draft-IETF-PKIX-CMP-Transport-Protocols-01 Transport Protocols for CMP  
PKCS #10 Certification Request Syntax Standard

## Quality of Service

RFC 2205 Reservation Protocol (RSVP)  
RFC 2211 Specification of the Controlled-Load Network Element Service  
RFC 2474 Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers  
RFC 2475 An Architecture for Differentiated Services  
RFC 2597 Assured Forwarding PHB Group  
RFC 2697 A Single Rate Three Color Marker  
RFC 2698 A Two Rate Three Color Marker  
RFC 3246 An Expedited Forwarding PHB (Per-Hop Behavior) Combined strict priority & WRR queuing Combined strict priority queuing and weighted round robin queuing  
Diffserv Differentiated Services  
IEEE 802.1p Priority Tagging

## Redundancy

EPSR Ethernet Protection Switched Rings  
RFC 3768 VRRP  
IEEE 802.1D STP - Spanning Tree Protocol (MAC Bridges)  
IEEE 802.1s MSTP - Multiple overlapping spanning trees  
IEEE 802.1t - 2001 802.1D maintenance  
IEEE 802.1w - 2001 RSTP

## Routing Protocols

RFC 1058 Routing Information Protocol (RIP)  
RFC 2080 RIPng for IPv6  
RFC 2081 RIPng Protocol Applicability Statement  
RFC 2453 RIP Version 2

## Security Features

RFC 1492 TACACS  
RFC 1858 Fragmentation  
RFC 2246 The TLS Protocol Version 1.0  
RFC 2865 RADIUS  
RFC 2866 RADIUS Accounting  
RFC 2868 RADIUS Attributes for Tunnel Protocol Support  
RFC 4251 The Secure Shell (SSH) Protocol Architecture  
SSHv1.5 Secure Shell server v1.5  
SSLv2 [http://wp.netscape.com/eng/security/ssl\\_2.html](http://wp.netscape.com/eng/security/ssl_2.html)  
SSLv3 <http://wp.netscape.com/eng/ssl3/draft302.txt>  
draft-freier-ssl-version3-02.txt SSLv3  
draft-grant-tacacs-02.txt TACACS+  
draft-ylonen-ssh-protocol-00.txt SSH Remote Login Protocol

## Services

RFC 854 Telnet Protocol Specification  
RFC 855 Telnet Option Specifications  
RFC 857 Telnet Echo Option  
RFC 858 Telnet Suppress Go Ahead Option  
RFC 932 Subnetwork addressing scheme  
RFC 1091 Telnet terminal-type option  
RFC 1305 Network Time Protocol (NTPv3)  
RFC 1350 Trivial File Transfer Protocol (TFTP)  
RFC 1413 IDP  
RFC 1945 HTTP/1.0  
RFC 1985 SMTP Service Extension  
RFC 2049 MIME  
RFC 2068 HTTP/1.1  
RFC 2217 Telnet Com Port Control Option

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RFC 2616 Hypertext Transfer Protocol - HTTP/1.1  
RFC 2821 SMTP  
RFC 2822 Internet Message Format SCP Secure Copy

## VLAN Support

IEEE 802.1ad VLAN double tagging  
IEEE 802.1Q Virtual LANS  
IEEE 802.1v VLAN classification by protocol & port  
IEEE 802.3ac VLAN tagging

## Ordering Information

AT-9924Ts-xx

Layer 3+ Expandable Switch Platform—2 x 20Gbps  
Expansion bays + 24 x 10/100/1000BASE-T (RJ-45)  
ports

Order number: 990-001245-xx

Where xx = 10 for U.S. power cord  
20 for no power cord  
30 of U.K. power cord  
40 for Asia/Pacific power cord  
50 for European power cord  
80 for 48V DC power supply

## Expansion Modules

AT-A60 1 x 10GbE (XFP)  
Order number: 990-001128-00

AT-A61 12 x 1000BASE-X SFP ports  
Order number: 990-001228-00

AT-A62 12 x 10/100/1000BASE-T RJ-45 ports  
Order number: 990-001229-00

## SFP modules<sup>4</sup>

AT-SPTX  
10/100/1000T 100m Copper  
Order number: 990-000262-00

AT-SPSX  
GbE multi-mode 850nm fiber  
Order number: 990-00028-00

AT-SPLX10  
GbE single-mode 1310nm fiber up to 10km  
Order number: 990-00029-00

AT-SPLX40  
GbE single-mode 1310nm fiber up to 40km  
Order number: 990-00161-00

AT-SPLX40/1550  
GbE single-mode 1550nm fiber up to 40km  
Order number: 990-00160-00AT-SPZX80  
GbE single-mode 1550nm fiber up to 80km  
Order number: 990-001203-00

## 10GbE XFP modules\* (for use with AT-A60)

AT-XPSR — 10GBASE-SR  
(850nm Short-haul, 300m with MMF)  
Order number: 990-000387-00

AT-XPLR — 10GBASE-LR  
(1310nm Medium-haul, 10km with SMF)  
Order number: 990-00086-00

AT-XPER40 — 10GBASE-ER  
(1550nm Long-haul, 40km with SMF)  
Order number: 990-000584-00

## Power Supply and Fan module

AT-PVWR01

Spare hot-swappable load-sharing power supply module  
Order number: 990-001084-xx

Where xx = 10 for U.S. power cord  
20 for no power cord  
30 of U.K. power cord  
40 for Asia/Pacific power cord  
50 for European power cord  
80 for 48V DC power supply

AT-FAN01-00 Spare fan only module  
Order number: 990-001085-00

## Feature licences

AT-AR-9900FL3UPGRD

AT-9900 Full Layer 3 upgrade:

- RSVP
- DVMRP
- VRRP
- PIM SM
- PIM DM

Order number: 980-000001-yyy

AT-9900ADVL3UPGRD

AT-9900 Advanced Layer 3 upgrade:

- IPv6
- BGP-4

Order number: 980-000009-yyy

AT-AR-VLANDTAG

AT-9900 VLAN double tagging (Q-in-Q / Nested VLANs)  
upgrade:

Order number: 980-10041-yyy

AT-AR-3DES

AT-9900 3DES upgrade:

Order number: 980-10000-yyy

Where yyy = 00 for 1 shot  
01 for 1 licence  
05 for 5 licences  
10 for 10 licences  
25 for 25 licences  
50 for 50 licences  
100 for 100 licences  
250 for 250 licences

## About Allied Telesis

AlliedTelesis is part of the AlliedTelesis Group. Founded in 1987, the company is a global provider of secure Ethernet/IP access solutions and an industry leader in the deployment of IP Triple Play networks over copper and fiber access infrastructure. Our POTS-to-10G iMAP integrated Multiservice Access Platform and iMG intelligent Multiservice Gateways, in conjunction with advanced switching routing and WDM-based transport solutions, enable public and private network operators and service providers of all sizes to deploy scalable, carrier-grade networks for the cost-effective delivery of packet-based voice, video and data services.

Visit us online at [www.alliedtelesis.com](http://www.alliedtelesis.com).

## Service & Support

Allied Telesis provides value-added support services for its customers under its Net.Cover<sup>SM</sup> programs. For more information on Net.Cover<sup>SM</sup> support programs available in your area, contact your Allied Telesis sales representative or visit our website. [www.alliedtelesis.com](http://www.alliedtelesis.com)

<sup>4</sup> Please check with your sales representative, for RoHS compliance on SFP modules.

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