AT-AR415S
Secure Modular Router

**AT-AR415S**
- 1 x 10/100Base-T WAN port
- 4 x 10/100Base-T LAN ports
- 1 x asynchronous port
- 1 x PIC bay

Integrated Security Engine

The AT-AR415S is a secure modular router offering performance, flexibility and security for small to medium-sized business. Packaged in a compact one-rack unit chassis, this versatile router provides five 10/100 Fast Ethernet interfaces and supports a variety of Port Interface Cards (PICs).

For the WAN network, the AT-AR415S features one 10/100Mbps Ethernet Port. Also offered is an asynchronous port, and four Layer 2 switched LAN ports—any of which can also be reconfigured as a DMZ.

**Simple Plug-in flexibility**
A range of different PICs can be plugged into the PIC bay, including high speed E1/T1, V35/V24 sync and BRI/PRI ISDN, allowing a high degree of flexibility and a wide choice of WAN connectivity. The onboard management/async port can be used for local management or for connection to an external modem.

**Security**
The Stateful Inspection Firewall from Allied Telesis significantly enhances the overall security of business critical information. The AT-AR415S delivers up to 100 Mbps of firewall throughput, and on board hardware encryption offers DES, 3DES and AES (Advanced Encryption Standard) hardware encryption, that uses up to 256 bit key code.

The AT-AR415S also has integrated hardware Virtual Private Network (VPN) acceleration delivering up to 95 Mbps of 3DES VPN + NAT and firewall throughput and up to 80 Mbps of AES-256 VPN + NAT and firewall throughput.  

**AES-Encrypted VPN**
The AT-AR415S secure modular router supports the Advanced Encryption Standard (AES). AES is a Federal Information Processing Standard (FIPS 197) that specifies a cryptographic algorithm for use by U.S. Government organizations to protect sensitive, unclassified information.

**VPN IPsec**
IPsec (Internet Protocol Security) is a set of protocols for security at the network or packet processing layer. Early approaches to security were performed at the application layer of the communications model. IPsec is critical for secure virtual private networks and for remote user access through dial-up connections to private networks.

**802.1Q VLAN**
The AT-AR415S security router is 802.1Q compliant. This enables the user to configure up to 64 VLANs with VLAN Identifier numbers (VID) between one and 4,094.

The 802.1Q specification establishes a standard method for inserting VLAN membership information into Ethernet frames. VLANs can span many switches. VLANs between switches are achieved by inserting a tag with a VID between one and 4,094 into each frame. A VID must be assigned for each VLAN. By assigning the same VID to VLANs on many switches, one or more VLANs (broadcast domains) can be extended across a large network.

The AT-AR415S can firewall between VLANs thus providing protection within the network from internal attacks.

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1 Performance numbers subject to change.
2 Additional licensing required.
3 AES & 3DES disabled in AR4155-51

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Firewall
The Stateful Inspection Firewall provides a high level of security by supplying full application-layer awareness without breaking the client/server model.

The Stateful Inspection Firewall:
- Offers per packet dynamic access control (Stateful Inspection) for all traffic reaching the firewall
- Protects against a wide range of Denial of Service (DOS) attacks, including Ping of Death, Smurf attacks, port scans, fragment attacks and IP Spoofing
- Sends automatic email alerts to initiate appropriate action

Software Quality of Service
The AlliedWare® operating system provides advanced Quality of Service (QoS) and traffic shaping features. There are five key QoS features available on the AT-AR415S:
- Bandwidth Metering
- RED Curves
- Mixed Scheduling
- Virtual Bandwidth
- Dynamic Application Recognition (DAR)

Software QoS also supports eight queues per interface. DAR is used to snoop for session setup exchanges and dynamically create classifiers that match the voice and video packets in the session. For more information, see the Allied Telesis Advanced QoS White Paper available on our website.

Triggered Events and Scripts
A trigger sets off an ordered sequence of scripts and router commands to be executed when a certain event occurs. This is a powerful mechanism for automating the execution of router commands in response to specific events. Each trigger may reference multiple scripts and any script can be used by any trigger. Using this feature, the AT-AR415S can, for example, send an email alert to the network manager when trouble occurs, or can automatically shut down an interface to protect against suspected attacks.

The scripting facility enables sequences of commands to be stored in a script and replayed at any time, allowing the AT-AR415S to be easily configured or quickly re- configured. This is useful when developing a complex configuration, making the same configuration change to several different routers, Layer 3 switches or security appliances, or introducing a configuration change that must occur at a particular time. Scripts can be created on a PC and uploaded to the router; or they can be created using the router’s own integrated text editor. They can be activated either from the command line or from a trigger.

World Class Operating System
The AT-AR415S is shipped ‘ready to run’ with AlliedWare, a comprehensive software suite from Allied Telesis that includes all the features, management capabilities and performance that today’s networks demand.

The AlliedWare feature rich operating system (OS) is robust and reliable, offering a breadth of functionality for any application.

AlliedWare also delivers a high level of flexibility and investment protection. AlliedWare is a standards-based OS, so the AT-AR415S secure modular router is able to interoperate seamlessly with other Allied Telesis security appliances and Layer 3 switches. As a standards-based implementation, AlliedWare also assures full interoperability with all other major network equipment vendors.

Feature licenses give access to a set of progressive features:
- The Advanced Layer 3 Upgrade provides a set of cutting edge protocols such as IPv6,
- BGP-4 and Server Load Balancing,
- The Firewall Licensing Upgrade can increase the concurrent firewall sessions from 2000 to 4000 or 8000.
- VPN Licensing Upgrades allow for the base unit with a single VPN tunnel to be upgraded to 5, 10, 25 or 50 concurrent users.

Graphical User Interface
The Graphical User Interface (GUI) on the AT-AR415S allows for swift, pain free configuration and management.

The following major features are incorporated in the AT-AR415S GUI:
- Easy configuration for connection to the Internet
- PPP over Ethernet configuration and monitoring
- DHCP server configuration and monitoring
- Firewall configuration and monitoring, ability to view events, logs and device status
- IPSec configuration
- Site-to-site and Remote Access VPN wizards

Hardware Features
- 1 x 10/100Mbps Ethernet WAN port
- 4 x 10/100Mbps Ethernet LAN ports
- 1 x asynchronous port (RJ45)
- 1 x PIC bay
- 802.1q tagged VLANs, with support for up to any 64 VLAN IDs of a possible 4094 (LAN ports only)
- Automatic MDI/MDI-X crossover with user override via software commands (LAN ports only)
- 266MHz CPU
- 32MB DRAM
- 16MB of Flash memory enabling storage of 2 software releases
- On-board hardware security processor enabling the following advanced encryption function:
  - Complete processing of IPsec header and trailer
  - Support for 3DES, DES, DES-MAC, AES, SHA-1 and MD-5
  - PKI acceleration for Diffie-Hellman, RSA and DSA
  - D-H negotiation (with 1024-bit modulus, 180-bit exponent)
  - 1024-bit sign and verify RSA and DSA

Real Time Clock
The real time clock (RTC) keeps track of current date and time. During times when the system has been powered down, a backup battery supplies power to the RTC.

Port Interface Cards
| AT-AR20 | Single configurable E1/T1 interface that supports channelized/unchannelized Primary Rate ISDN/Frame Relay |
| AT-AR021S (V3) | Single Basic Rate ISDN (S/T) interface |
| AT-AR023 | Single Synchronous port up to 2Mbps to an external CSU/DSU (AT-V35-DTE-00 or AT-X21-DTE-00 cable required) |
| AT-AR024 | Four Asynchronous RS232 interfaces to 115kbps |
| AT-AR027 | Two VoIP FXS ports |

1 Available in AlliedWare 2.9.1
2 AT-AR021S (V3) requires AlliedWare Operating System version 2.9.1-13 or later
Software Features

- Secure VPN option
- IPsec (AES, 3DES, DES, DES-MAC, MDS, SHA-1)
- Stateful Inspection Firewall
- Network Address Translation (NAT)
- CLI, PAP and CHAP
- RADIUS, TACACS
- PKI for IKE/IPsec
- SSL
- SecureShell remote management
- UPnP v1.0
- Generic Routing Encapsulation
- Dynamic IP address assignment
- L2TP (Layer 2 Tunneling Protocol)
- DHCP
- PPPoE
- IP packet filtering
- IP multihoming
- Demand IP and IPX
- IP/SPX spoofing
- Spanning tree on Bridge Ports
- BAP/BACP (Bandwidth Allocation Protocol)
- PPP multilink
- Callback
- IP/IPX and bridge filtering
- Advanced routing protocols OSPF, BGP-4, RIP and RIPv2
- Multicast protocols DVMRP, PIM-SM, PIM-DM
- SNMP management v2c and SNMPv3
- GUI
- OSI
- Server Load Balancer
- IPv6
- IP, IPX routing
- RSVP
- VRRP
- IP Packet prioritization
- STAC data compression (s/w only)

Power Characteristics

100 to 240VAC, 50 to 60Hz

Physical Dimensions

1U rack mount (with included kit), Depth 190 mm, Width 305 mm (440 mm width with the included rack mount kit fitted), Weight 1.75 kg (3.75lbs)

Regulatory Approvals

EMC Emissions: EN55022 class A, FCC class A, VCCI class A, AS/NZS CISPR22 class A, Immunity: EN55024, Safety: UL60950, CAN/CSA-C22.2No. 60950-00, EN60950, Listing: UL, cUL, TUV

Environmental Specifications

Operating temperature range:
0°C to 40°C (32°F to 104°F)
Storage temperature range:
-25°C to 70°C (-13°F to 158°F)
Relative humidity range:
5 to 95% non-condensing

Standards and Protocols

AlliedWare Software Release 2.9.2

BGP-4
RFC 1771 Border Gateway Protocol 4
RFC 1966 BGP Route Reflection
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 Multicast Protocol 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

Encryption

RFC 1321 MDS
RFC 2104 HMAC
RFC 2451 The ESP CBC-Mode Cipher Algorithms
RFC 4306-3 DES
RFC 4306-3 3DES
RFC 4306-3 AES
RFC 4306-3 MD5
RFC 4306-3 SHA-1

Ethernet

RFC 894 Ethernet II Encapsulation
IEEE 802.1D MAC Bridges
IEEE 802.1G Remote MAC Bridging
IEEE 802.1Q Virtual LANs
IEEE 802.2 Logical Link Control
IEEE 802.3 Mac VLAN Tag
IEEE 802.3uPPPoe-F
IEEE 802.3a Full Duplex Operation

Frame Relay

RFC 1490, 2427 Multiprotocol Interconnect over Frame Relay
ANSI T151 Frame relay

General Routing

RFC 768 UDP
RFC 791 IP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 903 Reverse ARP
RFC 925 Mult-LAN ARP
RFC 950 Subnetting, ICMP
RFC 1027 Proxy ARP
RFC 1033 DNS
RFC 1055 SLIP
RFC 1122 Internet Host Requirements
RFC 1144 Van Jacobson’s Compression

RFC 1256 ICMP Router Discovery Moment
RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)
RFC 1334 PPP Authentication Protocols
RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)
RFC 1518 CIDR
RFC 1519 CIDR
RFC 1542 BootP
RFC 1552 The PPP Internetworking Packet Exchange Control Protocol (IPXCP)
RFC 1570 PPP LCP Extensions
RFC 1582 RIP on Demand Circuits
RFC 1598 PPP in X.25
RFC 1618 PPP over ISDN
RFC 1661 The Point-to-Point Protocol (PPP)
RFC 1662 PPP in HDLC-like Framing
RFC 1701 GRE
RFC 1702 GRE over IPv4
RFC 1812 Router Requirements
RFC 1877 PPP Internet Control Protocol Control Protocol Extensions for Name Server Addresses
RFC 1918 IP Addressing
RFC 1962 The PPP Compression Control Protocol (CEP)
RFC 1968 The PPP Encryption Control Protocol (CEP)
RFC 1974 PPP SccLZS Compression Protocol
RFC 1978 PPP Predictor Compression Protocol
RFC 1989 PPP Link Quality Monitoring
RFC 1990 The PPP Multilink Protocol (MP)
RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
RFC 2131 DHCP
RFC 2125 The PPP Bandwidth Allocation Protocol (BAP) / The PPP Bandwidth Allocation Control Protocol (BACP)
RFC 2390 Inverse Address Resolution Protocol
RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)
RFC 2661 L2TP
RFC 2828 Internet Message Format
RFC 2878 PPP Bridging Control Protocol (BCP)
RFC 3022 Traditional NAT
RFC 3046 DHCP Relay Agent Information Option
RFC 3212 Assigned Numbers
ISO 10589, ISO 10589 Technical Corrigendum 1, 2, 3, ISO Intermediate System-to-Intermediate System
ISO 8473, relevant parts of ISO 8348(X.213), ISO 8343/Add2, ISO 8648, ISO 8649, ISO TR 9577 Open System Interconnection
ISO 9542 End System to Intermediate System Protocol draft-ietf-ipsec-udp-encaps-08.txt Negotiation of NAT-Traversal in the IKE
draft-ietf-ipsec-udp-encaps-08.txt UDP Encapsulation of IPsec Packets
http://www.iana.org/assignments/bootp-dhcp-parameters BootP and DHCP parameters

IP Multicasting

RFC 1075 DVMRP
RFC 1112 Host Extensions

Allied Telesis www.alliedtelesis.com
AT-AR415S | Secure Modular Router
RFC 2236 I-GMPv2
RFC 2362 PIM-SM
RFC 2715 Interoperability Rules for Multicast Routing Protocols
RFC 3973 PM-DM
draftietf-idnr-dvmrp-v2-9-DVMRP

IPsec
RFC 1828 IP Authentication using Keyed MD5
RFC 1829 IPsec algorithm
RFC 2395 IPsec Compression - LZS
RFC 2401 Security Architecture for IP
RFC 2402 AH - IP Authentication Header
RFC 2403 IPsec Authentication - MDS
RFC 2404 IPsec Authentication - SHA-1
RFC 2405 IPsec Encryption - DES
RFC 2406 ESP - IPsec encryption
RFC 2407 IPsec DOI
RFC 2408 ISAKMP
RFC 2409 IKE
RFC 2410 IPsec encryption - NULL
RFC 2411 IP Security Domain Roadmap
RFC 2412 OAKLEY
RFC 3173 IPComp - IPsec compression

IPv6
RFC 1981 Path MTU Discovery for IPv6
RFC 2080 RSVP for IPv6
RFC 2365 Administratively Scoped IPv6 Multicast
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6
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 2465 Allocation Guidelines for IPv6 Multicast Addresses
Management Information Base for IPv6 Version 6: Textual Conventions and General Group
RFC 2466 Management Information Base for IPv6 Version 6: ICMPv6 Group
RFC 2472 IPv6 over PPP
RFC 2526 Reserved IPv6 Subnet Anycast Addresses
RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
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 DCHPv6
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
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6

ISDN
ANSI T1.231-1997 Digital Hierarchy - Layer 1 In-Service Digital Transmission Performance Monitoring Standardization
ANSI T1.403-1995 Telecommunications - Network-to-Customer Installation - DS1 Metallic Interface
ANSI T1.408-1990 ISDN Primary Rate - Customer Installation Metallic Interfaces, Layer 1 Specification
AT&T TR S4016-1989 Requirements for Interfacing Digital Terminal Equipment to Services Employing the Extended Superframe Format
Austel TS 013:1990 General Requirements for Customer Equipment Connected to ISDN Basic Rate Access - Vol 1: Customer Equipment Access Interface Specifications
Bellcore SR-3887 1997 National ISDN Primary Rate Interface
ETS 300 012:1992 Integrated Services Digital Network (ISDN); Basic user-network interface; Layer 1 specification and test principles
ETS 300 102-1:1990 Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control
ETS 300 102-2:1992 Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control; Specification Description Language (SDL) diagrams
ETS 300 125:1991 Integrated Services Digital Network (ISDN); User-network interface data link layer specification; Application of CCITT Recommendations Q.290/1.440 and Q.291/1.441
ETS 300 153:1992 Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access (Candidate NET 3 Part 1)
ETS 300 156:1992 Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN primary rate access (Candidate NET 5)
ETS 300 011:1992 Integrated Services Digital Network (ISDN); Primary rate user-network interface; Layer 1 specification and test principles
G.794 (1988) Characteristics of 24-channel transmultiplexing equipments
German Monopol (BAPT 221) Type Approval Specification for Radio Equipment for Tagging and Identification
I.120 (1988) Integrated services digital networks (ISDNs)
I.121 (1988) Broadband aspects of ISDN
I.141 (1988) ISDN user-network interface reference configurations
I.430 (1988) Basic user-network interface - Layer 1 specification
I.431 (1988) Primary rate user-network interface - Physical layer specification
ITU-T G.703 Physical/electrical characteristics of hierarchical digital interfaces
ITU-T G.704 Synchronous frame structures used at 1544, 6312, 2048, 4088 and 44736 kbit/s hierarchical levels
ITU-T G.706 Frame Alignment and CRC Procedures Relating to Basic Frame Structures Defined in G.704
ITU-T Q.922 ISDN data link layer specification for frame mode bearer services
ITU-T G.703 (1972) Physical/electrical characteristics of hierarchical digital interfaces
Japan NTT L.430-a Leased Line Basic Rate User-Network Interface Layer 1-Specification
New Zealand Telecom TNA 134 Telecom ISDN User-Network Interface; Layer 3; PART B Basic Call Control Procedures
Q.920 (1988) Digital subscriber Signalling System No.1 (DSS 1) - ISDN user-network interface data link layer - General aspects
Q.921 (1988) ISDN user-network interface - Data link layer specification
Q.930 (1988) Digital subscriber Signalling System No.1 (DSS 1) - ISDN user-network interface layer 3 - General aspects
Q.931 (1988) Digital subscriber Signalling System No.1 (DSS 1) - ISDN user-network interface layer 3 specification for basic call control
Rockwell B8370 Fully Integrated T1/E1 Framers and Line Interface data sheet
ACA TS 013.2:1990 General Requirements for Customer Equipment Connected to ISDN Basic Rate Access, Vol 2: Conformance Testing Specifications
ACA TS 014.1:1990 General Requirements for Customer Equipment Connected to ISDN Primary Rate Access, Vol 1: Customer Access Interface Specifications
ACA TS 014.2:1990 General Requirements for Customer Equipment Connected to ISDN Primary Rate Access, Vol 2: Conformance Testing Specifications

Management
RFC 1155 MIB
RFC 1157 SNMP
RFC 1212 Concise MIB definitions
RFC 1213 MIB-II
RFC 1493 Bridge MIB
RFC 1663 Ethernet MIB
RFC 1657 Definitions of Managed Objects for BGP-4 using SMv2
RFC 2011 SMv2-MIB for IP using SMv2
RFC 2012 SMv2-MIB for TCP using SMv2
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 (SMv2)
RFC 2579 Textual Conventions for SMv2
RFC 2580 Conformance Statements for SMv2
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 (groups 1,2,3 and 9)
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
CDP
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 the SNMP
RFC 3416 Version 2 of the Protocol Operations for SNMP
RFC 3417 Transport Mappings for the SNMP
RFC 3418 MIB for SNMP
RFC 3636 Definitions of Managed Objects for IEEE 802.3 MAUs
RFC 3768 VRRP
draft-ietf-bridge-8021x-00.txt Port Access Control MIB
IEEE 802.1AB LLDP
OSPF
RFC 1245 OSPF protocol analysis
RFC 1246 Experience with the OSPF protocol
RFC 1586 OSPF over Frame Relay
RFC 1793 Extending OSPF to Support Demand Circuits
RFC 2328 OSPFv2
RFC 3101 The OSPF Not-So-Stubby Area (NSSA) Option
Quality of Service (QoS)
RFC 2205 Reservation Protocol
RFC 2211 Controlled-Load
RFC 2474 DCSP 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)
IEEE 802.1p Priority Tagging
RIP
RFC 1058 RIPv1
RFC 2082 RIP-2 MD5 Authentication
RFC 2453 RIPv2
Security
RFC 959 FTP
RFC 1413 IOD
RFC 1492 TACACS
RFC 1779 X.500 String Representation of Distinguished Names.
RFC 1858 Telnet Echo Option
RFC 1859 Telnet Suppress Go Ahead Option
RFC 1945 HTTP/1.0
RFC 2049 MIME
RFC 2068 HTTP/1.1
RFC 2156 MIXER
RFC 2217 Telnet Com Port Control Option
RFC 2821 SMTP
SSL
RFC 2246 The TLS Protocol Version 1.0
draft-freier-ssl-version3-02.txt SSLv3
VoIP
RFC 2543 SIP
G.711 A/µ law Pulse code modulation (PCM) of voice frequencies
G.723.1 Dual rate speech coder for multimedia communications transmitting at 5.3 and 6.3 kbit/s
G.729 A/B (Optional) Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear-prediction (CS-ACELP)
H.323 v2 Packet-based multimedia communications systems
X.25
RFC 1356 Multiprotocol Interconnect on X.25 and ISDN in the Packet Mode
Ordering Information
AT-AR415S-xx
Where xx = 10 for U.S. power cord
20 for no power cord
30 for U.K. power cord
40 for Australia power cord
50 for Europe power cord
51 for no AES/3DES encryption enabled
The AT-AR415S ships with a rack mount kit. An optional wall mount kit is available.
Software upgrade options
AT-AR400 – ADVL3UPGRD
AR400 Series Advanced Layer 3 Upgrade
- IPv6
- BGP-4
- Server Load Balancing
AT-AES/3DES-00
AES/3DES encryption activation key
AT-FL-15
WAN Load Balancer (feature license)
Firewall licensing options
AT-FL-18B
4000 session firewall license
AT-FL-18C
8000 session firewall license
VPN licensing options
AT-FL-19B
5 concurrent VPN sessions
AT-FL-19C
10 concurrent VPN sessions
AT-FL-19D
25 concurrent VPN sessions
AT-FL-19E
50 concurrent VPN sessions
Hardware upgrade options
Port Interface Cards
AT-AR020
Single configurable E1/T1 interface that supports channelized/unchannelized Primary Rate ISDN/Frame Relay
AT-AR021S (V3)6
Single Basic Rate ISDN (S/T) interface
AT-AR023
Single Synchronous port up to 2Mbps to an external CSU/DSU (AT-V.35-DTE-00 or AT-X.21-DTE-00 cable required)
AT-AR024
Four Asynchronous RS232 interfaces to 115Kbps
AT-AR027
Two VoIP FXS ports

6 AR-2021S (V3) requires AlliedWare Operating System version 2.9.1-13 or later
About Allied Telesis
Allied Telesis is part of the Allied Telesis 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.

Service and Support
Allied Telesis provides value-added support services for its customers under its Net.Cover programs. For more information on Net.Cover support programs available in your area, contact your Allied Telesis sales representative or visit our website: www.alliedtelesis.com.

RoHS
Allied Telesis RoHS-compliant product conforms to the European Union Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic equipment. Allied Telesis ensures RoHS conformance by requiring supplier Declarations of Conformity, monitoring incoming materials, and maintaining manufacturing process controls.