AT-WR2304N

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IEEE 802.11b/g/n small business wireless router with four Fast Ethernet switch hub ports

Overview

The AT-WR2304N is a broadband router delivering up to 6 x faster speeds and 3 x extended coverage than IEEE 802.11g devices. It supports network with superior throughput, performance and unparalleled wireless range.

The Fast Ethernet switch inter-connects your wired-devices; router function ties wireless and wired networks and lets your network share a high-speed cable or DSL Internet connection.

The AT-WR2304N is ideal for home networking and small offices. It is a wireless communications router for devices on your network; you not only can share your Internet connections, but also your printer and files among the networked PCs. It provides continuous, high-speed access between your wireless and Ethernet devices and offers a theoretical 300Mbps wireless throughput.

Secure and Inter-operable

With the AT-WR2304N your network is protected by 128-bit, 'shared key' WEP encryption, WPA and WPA2. The AT-WR2304N helps keep intruders out of your networked computers.

IEEE 802.11i support provides additional comfort of mind that your network will remain highly secured.

The AT-WR2304N is also Wi-Fi certified, which means you can use it with any wireless client devices from other Wi-Fi vendors.

WDS-Based Wireless Bridging and Repeating Support

With the WDS (Wireless Distribution System) support in the AT-WR2304N, you can cover network dead spots by adding the products in that area to gain signal strength.

Also, WDS allows the AT-WR2304N to wirelessly communicate with each other or other WDS-based wireless routers in order to extend the range of a wireless network.

Easy-to-use Configuration Software

Allied Telesis' user friendly configuration wizard takes you through configuring your network, step-by-step.

With the AT-WR2304N at the center of your network, you don't have to be an IT professional to set up your own network place with shared printers, files, and Internet connections.

Key Features

- Power saving (green technology)
- IEEE 802.11b/g/n compliant
- Theoretical 300Mbps wireless throughput
- WiFi certificated
- Three operation modes: gateway, bridge and wireless ISP
- Security
  - MAC access control for wireless interface
  - Inhibit SSID broadcast
  - 64, 128-bits WEP, static and dynamic mode, open/share authentication
  - WPA-EAP (TLS, PEAK, TTLS, EAP-SIM), WPA-PSK (TKIP), WPA-PSK (AES)
  - WPA2-EAP (TLS, PEAK, TTLS, EAP-SIM), WPA2-PSK (TKIP), WPA2-PSK (AES)
  - IEEE 802.1x authenticator
  - Wi-Fi Protected Setup (WPS)
- Wireless auto-channel selection
- Support TCP/UDP/ICMP/ARP protocol stack
- Wireless Distribution System (WDS)
- NAT/NAPT.VPN pass-through with multiple sessions (IPSEC, L2TP, PPTP)
- Firewall, DoS,IP/Port/MAC filtering
- WAN access mode
- PPPoE PPTP/L2TP support
- Fixed IP address support
- SNMPv2, v3 support
- HTTPS support
- WiFi multimedia and application based QoS

Product Specifications

Internet Access

Shared Internet Access

All users on the LAN or WLAN can access the Internet through the AT-WR2304N, using only a single external IP Address. The local (invalid) IP addresses are hidden from external sources. This process is called NAT (Network Address Translation).

DSL and Cable Modem Support

The AT-WR2304N has a 10/100TX Ethernet port for connecting a DSL or cable modem. All popular DSL and cable modems are supported.

PPPoE, and PPTP

The Internet (WAN port) connection supports PPPoE (PPP over Ethernet), PPTP (Peer-to-Peer Tunneling Protocol), as well as 'direct connection' type services.

Fixed or Dynamic IP Address

On the Internet (WAN port) connection, the AT-WR2304N supports both dynamic IP address (IP address is allocated on connection) and fixed IP address.

MAC Address Cloning

This feature allows you to hide your MAC address from hackers or to replace those devices whose MAC address is monitored by ISP.

Advanced Internet Functions

Access Control

Using the access control feature, you can assign LAN users to different groups, and determine which Internet services are available to each group.

Communication Applications

Support for Internet communication applications, such as interactive games, telephony, and conferencing applications, which are often difficult to use when behind a firewall, is included.

Special Internet Applications

Applications which use non-standard connections or port numbers are normally blocked by the Firewall. The ability to define and allow such applications is provided, to enable such applications to be used normally. Application Layer Gateway (ALG) feature supports RTP/RTSP, AOL, FTP, ICMP, WMP/MMS, NetMeeting and SIP.

DHCP Support

Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by network devices to get configuration information for operation in an Internet protocol network. Both client and server features are available.

DNS Support

DDNS (Dynamic DNS) allows Internet users to connect to virtual servers on your LAN using a domain name, even if your IP address is not fixed. DNS relay allows the system to appear as a DNS server to other IP stations while it simply forwards the requests to real DNS servers, and their responses are forwarded back to the original requesters.

Internet Access Log

See which Internet connections have been made.

Time Zone

Time synchronization is supported by Network Time Protocol (NTP) client.

VPN Pass-through Support

PCs with VPN (Virtual Private Networking) software using PPTP, L2TP and IPSec are transparently supported - no configuration is required.

Security

Password - Protected Configuration

Optional password protection is provided to prevent unauthorized users from modifying the configuration data and settings.

Wireless LAN Security

WEP (Wired Equivalent Privacy) is supported, as well as wireless access control to prevent unknown wireless stations from accessing your LAN.

NAT/NAPT Protection

An intrinsic side effect of NAT (Network Address Translation) technology is that by allowing all LAN users to share a single IP address, the location and even the existence of each PC is hidden. From the external viewpoint, there is no network, only a single device - the AT-WR2304N.

NAPT extends NAT translating the transport identifier too.

Denial of Service support

Denial of Service (DoS) attacks can flood your Internet connection with invalid packets and connection requests, using so much bandwidth and so many resources that Internet access becomes unavailable. AT-WR2304N offer block pinging, port scan, sync flood protections.

Firewall support

To prevent unauthorized access to the local network, the Firewall provides:

- De-militarized Zone (DMZ)
- ICMP blocking
- MAC/IP address filtering
- Policy-based parental controls (port range/service, Internet domain restriction, dynamic URL filter)
- Stateful Packet Inspection (SPI)

Quality of Service support

Quality of Service is guarantee by WiFi Multimedia (WMM) feature on IEEE 802.11 network, priority queuing and bandwidth allocation.

Configuration and Management

Administration

Administrator password is changeable; any login is supervised by idle time-out.

Easy Setup and Configuration

Use your Web browser from anywhere on the LAN or WLAN for configuration.

Save (download) the configuration data from AT-WR2304N to your PC, and restore (upload) a previously-saved configuration file to AT-WR2304N.

AT-WR2304N offer a single view of clustered APs.

Firmware Upgrade

AT-WR2304N may be upgraded via webpage; auto recovery makes robust the procedure against failure.

Network Diagnostics

You can use the AT-WR2304N to perform a ping or DNS lookup.

UPnP Support

Universal Plug and Play (UPnP) allows automatic discovery and configuration of the AT-WR2304N. UPnP forwarding is supported too.

Wireless Access

300 Mbps bandwidth

IEEE 802.11n maximum theoretical throughput of 300Mbps is supported.

Standards Compliant and backward compatibility

The AT-WR2304N complies with the IEEE 802.11b/g/n specifications for Wireless LANs.

IEEE 802.11b/g backward compatibility allows both IEEE 802.11b, IEEE 802.11g and IEEE 802.11n wireless stations to be used simultaneously.

Enhanced Features

- Dynamic channel planning
- Auto channel selection
- Transmit power control/limiting
- Virtual wireless network via multiple BSSIDs; up to four SSID

Security

Wireless security is enforced by:

- 64/128 bit WEP encryption
- WPA personal (WPA-PSK using TKIP or AES)
- WPA enterprise (WPA-EAP using TKIP)
- IEEE 802.1x authenticator
- Hide SSID in beacons
- Wi-Fi Protection Setup (WPS)
- ACL control

Support Wireless Distribution System (WDS)

AT-WR2304N provides AP as a bridge and/or a repeater operational mode in order to extend the coverage of your network.

Radio Characteristics

Frequency Band

2.400~2484 GHz

Radio Types

IEEE 802.11b (11Mbps)
IEEE 802.11g (54Mbps)
IEEE 802.11n (300Mbps)

Operating Channels

United States (FCC) 11 channels, Europe (ETSI) 13 channels, other countries per local regulations

Modulation Schemes

OFDM, BPSK, QPSK, 16-QAM, 64-QAM, DBPSK, DQPSK, CCK

Transmit Power

IEEE 802.11b	1, 11Mbps @ 19dBm
IEEE 802.11g	6~54Mbps @ 16dBm
IEEE 802.11n	MCS 0~15 @ > 16dBm

Receive Sensitivity (Typical)

IEEE 802.11b	1Mbps @ -93dBm
	11Mbps @ -91dBm
IEEE 802.11g	6Mbps @ -90dBm
	54Mbps @ -70dBm
IEEE 802.11n	MCS0/7: -82dBm/-64dBm @ 20MHz
	MCS0/7: -79dBm/-61dBm @ 40MHz
	MCS8/15: -79dBm/-61dBm @ 40MHz

Data Rates

IEEE 802.11b/g

54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, and 1Mbps data rates

IEEE 802.11n

MCS0~15, the maximum 300Mbps data rates

MCS Index	Guard Interval 800ns		Guard Interval 400ns	
	20MHz (Mbps)	40MHz (Mbps)	20MHz (Mbps)	40MHz (Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	157.5
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270
15	130	270	144.4	300

AT-WR2304N | Small Business Wireless Router

Technical Specifications

Antenna

2dBi dipole antenna (2.4GHz)

Network Protocols and Standard Compliancy

IEEE 802.3	CSMA/CD
IEEE 802.3u	100TX
IEEE 802.11b/g/n	
IEEE 802.11i	
IEEE 802.1x	
IEEE 802.11e	(WMM only)

Physical Interfaces

Wireless Interface

One IEEE 802.11b/g/n radio

Wired interface

LAN	A switching HUB with four Fast Ethernet 10/100TX; RJ-45 connectors
WAN	One Fast Ethernet 10/100TX; RJ-45 connector

LED Status Indicators

Power

Quantity	One
On status	System in service
Blinking status	Either testing or default resetting

LAN

Quantity	Four
On status	Linked
Blinking status	Network activity

WAN

Quantity	One
On status	Linked
Blinking status	Network activity

WLAN/WPS

Quantity	One
On status	Linked
Blinking status	Network activity
Quick blinking	WPS activity

Operating System Support

Microsoft Windows 2000
Microsoft Windows ME
Microsoft Windows XP
Microsoft Windows Vista
Microsoft Windows 7
Linux

Power Characteristics

Input voltage	12vDC external
DC power	12V, 1A switching DC power adapter

Environmental Specifications

Operating temp.	0°C to 45°C
Operating humidity	15% to 95% relative humidity, non-condensing
Storage temp.	-10°C to 70°C
Operating temp.	15% to 95% relative humidity, non-condensing

Physical Characteristics

Dimensions (W x D x H)	12.5cm x 9.8cm x 2.5cm (4.9in x 3.86in x 0.98in)
Weight	152g

Standards Compliance

Safety and Electromagnetic Emissions Certifications, EMI/RFI and Immunity

FCC marked, compliant with:
- FCC Part 15 Class B
- FCC Part 15B, 15C

CE marked, compliant with:
- EN 300 328
- EN 301 489-1/-17
- EN 60950

C-Tick marked, compliant with:
- C-Tick
- AS/NZS 4268

Wi-Fi

IEEE 802.11b/g/n
WPS

Ordering Information

AT-WR2304N-xx
IEEE 802.11 b/g/n, small business wireless router

Where xx =
- 10 for US
- 30 for UK
- 40 for Australian
- 50 for European

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 617-000346 Rev. C