Nokia A032 Wireless LAN Access Point – High-speed access to LANs and the Internet

Increasing numbers of users are demanding high-speed easy access to data with the freedom of mobility. Organisations and their users can achieve this with the Nokia A032 Wireless LAN Access Point. The A032 can also be utilised as part of Nokia's complete Wireless LAN solution for mobile operators.

The Nokia A032 Wireless LAN Access Point is a compact base station to create an indoor Wireless LAN (Local Area Network). The A032 acts as a wireless Ethernet bridge to the LAN. It also offers dial-up access to an Internet Service Provider via an external modem.

Portable devices such as laptops equipped with IEEE802.11-compatible Wireless LAN cards can communicate with the wired LAN or with each other through the A032.

Reliable high-speed access
Supplied with the 11 Mbit/s Nokia C111 direct sequence radio module,

the Nokia A032 Wireless LAN Access Point is fully equipped for broadband-speed wireless LAN access. It also supports portable devices fitted with the 11 Mbit/s Nokia C110/C111 Wireless LAN Cards.

Providing multilevel access reliability, the A032 supports full WEP (Wired Equivalent Privacy) encryption with 40 to 128 bit high-level security. WEP is used to ensure that only the wireless terminals possessing the proper security key can access the network. WEP encryption also prevents unauthorised eavesdropping of transmitted and received data.

In addition to WEP, access security is supported through a naming scheme. When activated, the system manager is able to identify the explicit portable devices that are allowed to access the network. All other devices

will be blocked. When connected to the Internet, the local network is protected from intruders by a NAT (Network Address Translation) firewall.

The Nokia A032 Wireless LAN Access Point is Wi-Fi® (Wireless Fidelity) -certified, meaning that it is interoperable with other vendor products with the Wi-Fi® brand.

The solution for mobile operators
Access zones in locations such as corporate offices, airports, hotels, business parks and conference centres are ideal locations for reaching the mobile professionals. For the Internet access in these areas, Nokia can provide a one-stop shopping solution that includes access control, SIM-based authentication and integration into the mobile operator's network for roaming and billing.

The Nokia A032 Access Point is an ideal element when building access zones. A typical wireless access zone at an airport or in a hotel requires 10–20 access points to ensure full

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coverage. The Nokia A032 Access Points are connected to the Nokia P022 Access Controller, which handles the access control of the users in the access zone.

Using a pair of A032's as a bridge makes it possible to connect several individual LANs together wirelessly so that once bridged they act as a single LAN. The bridge only allows data that needs to be sent over the wireless link to be transmitted, so LAN data will not be sent to the connected LAN. This reduces congestion and still allows the LANs to operate at a higher data rate than supported by the radio link.

Nokia also provides tools for planning the radio network. The Nokia radio planning software offers an easy way to make site surveys and to find the best locations for access points.

Main benefits
- Automatic dial-up Internet connection
- Internet sharing for multiple users (11 Mbit/s LAN access)
- NAT function provides Internet firewall
- WEP encryption
- DHCP function for automatic configuration of stations on both wireless and wired networks
- Full Web browser-based management configuration
- Flash memory storage of firmware for field upgrade

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- User-installable radio card allows future upgrading of radio technology
- DHCP Client – Dynamic configuration of the access point prior to integration in to an existing network.

Physical specifications

Type: Stand-alone unit
Dimensions: 215 mm x 175 mm x 35 mm (8.5" x 6" x 1.5")
Weight: 950 g (<2 lb.)
Standards: IEEE802.11b (Wireless LAN), IEEE802.3 (Ethernet)
Antenna: Omni-directional external antenna with captive 2 m flexible coax to connector on radio card

Electrical specifications
Power source: DC 12 V, 1 A
Operating power consumption: 5.1 W typical

Environmental specifications
EMC emissions: FCC Class B* EN55022 Class B*
EMC immunity: EN55024
Storage temperature: 0 – +60 degrees Celsius
Operating temperature: 0 – +40 degrees Celsius with supplied mains adapter

*Requires the use of shielded 10baseT and serial cables. The unit is FCC/EN55022 Class A compliant with unshielded 10baseT cables.

Interfaces
Ethernet connection: IEEE802.3: 10baseT (RJ-45)
Serial connection: DB9 male connector supporting DCE interface
Power: DC power plug, 2.5 mm inner, 5.5 mm external diameter
PCMCIA connector: Single type II PCMCIA dedicated for radio card use

Radio specifications

Channels: 13 Channels (depending on local regulations)
Data rate: 11 Mbit/s
Modulation technique: Direct sequence spread spectrum
Output power: Max. 35 mW (with the internal antenna)
Receiver sensitivity: Min. –84 dBm
Frequency range: 2.4 GHz

Coverage Area
Outdoors: Max. 400 m (radius)
Office environment: Max. 100 m (radius), depending on building

Functional specifications

Access security: WEP 40 to 128 bit encryption plus the option to name allowed portable devices individually
Multi-AP roaming: Supports roaming with Nokia inter-access point protocol
Power save support: Supports IEEE802.11 power save poll operation
Front Panel LEDs: Power, number of users, utilisation, radio and Ethernet status
Modem interface: 9600 – 57600 b/s via Hayes® AT command interface, and ISDN
Internet Connection: Via PPP negotiation, optional script-based logon
Max. addresses in DHCP pool: 64
Management options (TCP/IP): Web browser-based management, Telnet interface, SNMP
Management options (other): Serial terminal interface
Upload information via TFTP: Access list, bridge list, configuration settings
Download information via TFTP: Configuration settings, restart log
Upgrade via TFTP: Firmware in Nokia A032 and firmware in the radio card (Nokia C111)
Point co-ordination function (PCF): Supports priority traffic through PCF
Encryption keys: Storage for up to 200 WEP keys
Upgrade via serial port: Firmware in Nokia A032, BIOS in Nokia A032
Test functions: Broadcast mode, TCP streaming mode
Other functions: Wizard set-up mode, Bridge/Repeater mode

Supplied software

Serial download utility for upgrade of unit via serial port
TFTP client for TFTP and upgrade operation via network
Backup: Copy of current Access Point firmware

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