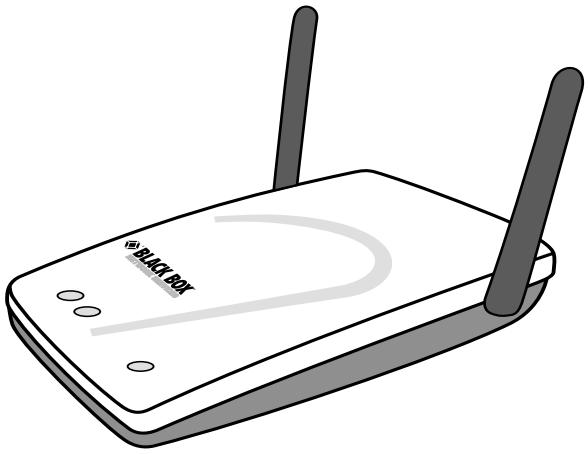
BLACK BOX®
NETWORK SERVICES

WIRELESS

Wireless Access Point



Key Features

- IEEE 802.11b Direct Sequence high rate compatible.
- High-Speed wireless connection, up to 11Mbps
- Advanced Power Management for power saving mode for workstations
- Auto fallback data rate for the long distance communication or under noisy

Environment

- WEP Encryption function
- External two fixed dipole antennas for diversity function
- Plug-and-play Installation.
- Provides roaming, best access point selection

The Access Point LWS200AE-AP-R2 is fully compatible with the IEEE 802.11b wireless standard used the Direct Sequence Spread Spectrum which supports IEEE 802.3 10Base-T and 100 Base-TX port for easy interfacing to Ethernet backbone and contains direct console port for local configuration, together with HTML for Web management function. It provides excellent levels of security, robustness and roaming features required for your business with a date rate up to 11Mbps. The software supports most of OS for operation, like WinXX, WinNT, WinCE and Linux. It is a key component of wireless network and an important device that connects the wired stations to the distribution system in a network.

Specifications

RADIO

Frequency Band — ISM band;
2400 - 2483.5MHz (for US, Canada);
2400 - 2483 MHz (for Europe)
Operating Channel — IEEE 802.11b, direct Sequence Spread Spectrum;
11 Channels (US, Canada);
13 Channels (Europe)
Baseband Processor — HFA 3861Bor HFA3863
Modulation Type — QPSK, BPSK, CCK
Data Rate — Up to 11 Mbits
Antenna — Internal with Diversity functions
Antenna Gain — 2 dBi max.
Radiation Power — 13 - 20 dBm at max. radiation direction
Power Consumption — 3.3V or eV, 359mA TX, 230mA RX
Receiver Sensitivity — Min. -76dBm for 11Mpbs@BER 10E-5;
Min. -80dBm for 5.5/2/1 Mpbs@BER 10E-5
Compliant — FCC Part 15, Sec. 15.247, Sec. 15.107 and 15.109 (USA);
ETSI 300 328, ETSI 300 826, EN 55022 Class B, EN 60950;
CE (Europe);
MPT RCR STD 33A (Japan, customized)

MEDIA ACCESS CONTROL

Chip — ATMEL AT76C510
Media Access Protocol — CSMA/CA (Collision Avoidance) with ACK

CONFIGURATION

USB — DFU Utility thru USB Port
SNMP — SNMP Manager Utility thru Ethernet

FUNCTIONAL CRITERIA

Maximum Clients — 15 - 20 (Suggested)
Cell Separation — 250 m meter access points (for Roaming, in free space)

TYPICAL OPERATING RANGE

Indoor — 50m @ 11Mbps
80m @ 5.5Mbps
120m @ 2Mbps
150m @ 1Mbps
Outdoor — 250m @ 11Mbps
350m @ 5.5Mbps
400m @ 2Mbps
500m @ 1Mbps

PHYSICAL REQUIREMENTS

Physical Dimension — H4 x B11.5 x T14.1 cm
Weight — 300g
LED Indicators — Power in red, Ethernet (Wired - Link/Activity) in yellow; Radio (Wireless - Link/Activity) in green

Ordering information

ITEM	CODE
IEEE 802.11b Wireless LAN Access Point	LWS200AE-AP-R2

Wireless PC Card

Key Features

- IEEE 802.11b Direct Sequence high rate compatible.
- High-Speed wireless connection, up to 11Mbps
- Advanced Power Management for power saving mode for battery device
- Auto fallback data rate under noisy environment.
- 128-Bit WEP Encryption function
- Build-in PCB patch diversity antenna support.
- Plug-and-play Installation.

The LWS200AE-PCMCIA-R2 wireless PC Card, a Ethernet adapter for PCMCIA-compliant (Type II) notebook PCs, is fully compatible with the IEEE 802.11b standard and supports high data rate to 11Mbps, 5.5Mbps, 2Mbps and 1Mbps over the Ethernet speed. Using Direct Sequence Spread Spectrum technology for immunity to interference, it will automatically fallback to lower data rate under noisy environment. The software supports most of OS for operation, like Win95/98, WinNT, WinCE and Linux. This plug-and-play PC card for your notebook is a solid design with an integrated diversity antennas which increase the receiving and transmitting sensitivity.

Specifications

RADIO

Frequency Band — ISM band;
2400 - 2483.5MHz (for US, Canada);
2400 - 2483 MHz (for Europe)
Operatin Channel — IEEE 802.11b, direct Sequence Spread Spectrum;
11 Channels (US, Canada);
13 Channels (Europe)
Baseband Processor — HFA 3861Bor HFA3863
Modulation Type — QPSK, BPSK, CCK
Data Rate — Up to 11 Mbits
Antenna — Internal with Diversity functions
Antenna Gain — 2 dBi max.
Radiation Power — 13 - 20 dBm at max. radiation direction
Power Consumption — 3.3V or eV, 359mA TX, 230mA RX
Receiver Sensitivity — Min. -76dBm for 11Mpbs@BER 10E-5;
Min. -80dBm for 5.5/2/1 Mpbs@BER 10E-5
Compliant — FCC Part 15, Sec. 15.247, Sec. 15.107 and 15.109 (USA);
ETSI 300 328, ETSI 300 826, EN 55022 Class B, EN 60950;
CE (Europe);
MPT RCR STD 33A (Japan, customized)

MEDIA ACCESS CONTROL

Chip — Intersil HFA3841 / HFA3842
Media Access Protocol — CSMA/CA (Collision Avoidance) with ACK

PCMCIA INTERFACE

Host Interface — Supports Full 16-Bit implementation of PC Card 99;
Provides Dual Buffer Access Paths
Operation System — NDIS 4.0 for Windows95 (OSR2) / 98 / 2000 / ME / NT4.0 / WinCE (customized) / LINUX (Red Hat)

TYPICAL OPERATING RANGE

Indoor — 50m @ 11Mbps
80m @ 5.5Mbps
120m @ 2Mbps
150m @ 1Mbps
Outdoor — 250m @ 11Mbps
350m @ 5.5Mbps
400m @ 2Mbps
500m @ 1Mbps

PHYSICAL REQUIREMENTS

Physical Dimension — H0.96 x B5.4 x T12.8 cm for LWS200AE-PCMCIA-R2 (non-detachable)
Weight — 50 g
LED Indicators — Power in red, RX/TX in green

Ordering information

ITEM	CODE
Ethernet adapter for PCMCIA-compliant notebook PCs	LWS200AE-PCMCIA-R2

Wireless USB-Adapter

Key Features

- IEEE 802.11b Direct Sequence high data rate compatible
- Glueless connection to Intersil PRISMII Direct Sequence Spread Spectrum (DSSS) radio chip set. Able to communicate also with other DSSS radios
- Supports 11 Mbps rates with automatic fallback to 5.5, 2 and 1 Mbps
- Advanced Power Management for power saving mode
- External Dipole antenna to increase the transmission power and receiving sensitivity
- Plug-and-Play installation
- WEP encryption/decryption is accomplished on the fly. 64/128 bit
- Glueless SRAM, Flash interface for data buffering and program storage, supporting up to 16 MB of memory

The LWS200AE-USB-R2 (11 Mbps WLAN USB ADAPTER) is a long-range, high performance LAN product, which provides the connectivity with the access point to a 2,4 GHz RF network and bridges to an Ethernet backbone. The LWS200AE-USB-R2 Wireless USB ADAPTER supports an outside-the-box LAN connection for USB-enabled PCs with excellent levels of security, robustness and roaming features required for you business with a data rate up to 11Mbps.

In compatibility with USB specification 1.1, this USB adapter device also provides
energy-saving suspend mode and resume operations. It is a real plug-and-play, Hot-swapping and simple test installation device with the support of full Microsoft network security.

Specifications

Applications —
The Serial of LAN products offer a fast, reliable, cost-effective solution, allowing clients to wirelessly access the network in applications such as following:

1. *Remote access to corporate network information:* E-Mail, file transfer and terminal emulation
2. *Difficult-to-wire environments*: Historical or old buildings, asbestos installations, and open area where wiring is difficult to employ

Ad-Hoc Mode —
An Ad-Hoc wireless LAN is a group of computers, each equipped with one LAN adapter, connected as an independent wireless LAN.
Computers in a specific Ad-Hoc wireless LAN must be configured at the same radio channel and ESSID. Ad-Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO operation.

Infrastructure —
Access Point provides access to a wired LAN for wireless workstations. An integrated wireless and wired LAN is called an Infrastructure configuration. A group of LAN PC users and an Access Point construct a Basic Service Set (BSS). Each LAN PC in the BSS can talk to any computer in the wired LAN infrastructure via the Access Point.
Infrastructure configuration not only extends the accessibility of a LAN PC to the wired LAN, but also doubles the effective wireless transmission range for 2 LAN PCs. Since the Access Point is able to forward data within its BSS, the effective transmission range in an infrastructure LAN is *doubled*.
BSS ID is, in essence, the ID of each independent Access Point. All LAN PCs configured without roaming options in the independent BSS must be configured with the BSS ID of the Access Point. Infrastructure is applicable in an enterprise scale for wireless access to central databases, or wireless access for mobile workers.

Roaming —
Roaming in an Extended Service Set (ESS). An Infrastructure configuration also supports roaming capability for mobile workers. More than one BSS can be configured to be an Extended Service Set (ESS). On account of a continuous connection to the network, users within an ESS can roam freely. All LAN PCs and Access Points within one ESS must be configured

Ordering information

ITEM	CODE
11Mbps WLAN USB Adapter	LWS200AE-USB-R2

Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

On the Phone — no charge, answer calls in less than 20 secounds, find the right product with our technical experts.

On-site — superior design and engineering, Certified installations, end-to-end service.

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