

## Operational description

Wireless to powerline local area network (LAN) solutions, based on Corinex *Wireless to Powerline Access Point* (AP) products, connect a wireless device to the electrical wires in premises. The electrical wires build the "backbone" for other "wired" or "wireless" devices on the network, which are connected to this backbone by Corinex Powerline adapters or another wireless to powerline access point. Any high-performance *Corinex Wireless to Powerline AP* extends the coverage of your network of electrical wires and provides access to the Internet and corporate or personal information for all mobile devices without expensive additional cabling infrastructure. The *Corinex Wireless to Powerline Access Point* is a Powerline to wireless LAN Bridge for mixed wireless 802.11b and Powerline network environment. With the built-in 802.11b capability, you can connect your legacy wireless device to the home network by plugging the *Corinex Wireless to Powerline Access Point* into your power plug.

The AP's power jack is a connecting medium to the 14 Mbps digital powerline communication network based on the HomePlug 1.0.1 standard. Plug the *Corinex Wireless to Powerline AP* into an existing powerline network and instantly add full 802.11b-compliant wireless connectivity at up to 11 Mbps. This allows the easiest deployment of wireless HotSpot areas where every power outlet can be used as a powerline network interface to the access point. With *Corinex Wireless to Powerline AP* you have already got the network you need to give the wireless access an entirely new dimension.

## Product features

- Wireless to Powerline Networking Solution
- Built-in ARM7 CPU for better performance. It will help for better third-party review comment and benefit the sell-through
- Acts as the bridge between Powerline LAN and 802.11b WLAN
- Easy to use Web Browser-Based configuration

## Product specifications

### **Main chipset**

CPU + 802.11b MAC: Admtek Adm8628  
BB/RF Transceiver: RFMD RF3002 / RF2958 / RF5189  
Intellon SIMPLE INT51M0

### **LED Definition:**

#### **System**

**Power:** Green

On: Power On

Off: Power Off

**Test:** Yellow

On: The system is initializing

Off: The system is ready and running

#### **Powerline**

**Link:** Green

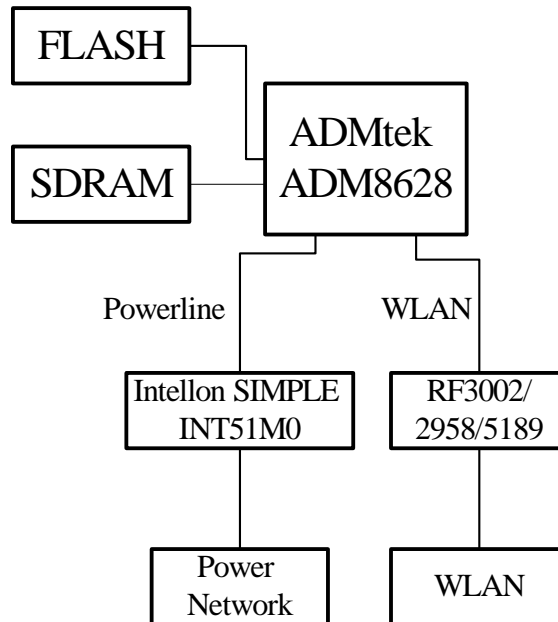
On: Good Link to the powerline network

Off: No Link  
Act: Yellow  
Off: No data transmit to powerline  
Blinking: receiving/transmitting data

### Wireless

Link / ACT: Green  
On: Indicating the wireless port is initialization  
Blinking: receiving/transmitting data via WLAN

### Block Diagram



### Introduction of 802.11b

Based around the 802.11 standard, wireless networks provide fast network access between points that are up to 100 feet distant and they are already beginning to gain widespread market acceptance. The technology is developing fast and the latest release of the IEEE standard 802.11 b is already delivering fast 11 Mbps throughput.

### 802.11 the industry standard

The most commonly used standard for wireless networking technology at the present time is IEEE 802.11b. Also known as Wi Fi, this runs at 11 Mbps using a 2.4GHz frequency. Not only is this fast for a network with no cables, it is also extremely flexible. Support is also growing for the 802.11a standard which promises to deliver double the bandwidth and higher speeds.

### Operating Frequency Band

802.11b operates in the 2.4-GHz ISM (Industrial, Scientific, and Medical) band.

### Data Rates

802.11b supports data rates of 1, 2, 5.5, and 11 Mbps.

## Single vs. Multicarrier Techniques

802.11b uses DSSS (Direct Sequence Spread Spectrum) with a single carrier per channel.

## Technical Specifications

Standard support	IEEE 802.11b HomePlug Powerline Alliance Specification 1.0, 1.0.1
Interface	Wireless IEEE 802.11b One DC power pin for both Powerline networking and power supply
Modulation	Powerline: OFDM / DQPSK / DBPSK Wireless: DBPSK, DQPSK, CCK
MAC protocol	Powerline: CSMA/CA Wireless: CSMA/CA
Max. Bandwidth	Powerline Up to 14Mbps Wireless 11, 5.5, 2 and 1 Mbps, Auto Fall-Back
Powerline Frequency Range	4.5MHz to 21MHz (HomePlug 1.0.1)
DHCP	<ul style="list-style-type: none"> <li>- WiFi: DHCP Client</li> <li>- Powerline: DHCP Server. Assign IP by range (1~254)</li> <li>- Adjustable DHCP IP range</li> <li>- IP Address Reservation</li> <li>- Display DHCP Table (Computer Name, IP Address, MAC Address)</li> </ul> Manual Refresh
Wireless Port Properties	Data Rate 1, 2, 5.5, 11 Mbps Signal Frequency DBPSK, DQPSK, CCK Encryption 64bit and 128bit WEP data encryption 802.1x and WPA data encryption Channel America/FCC 2.412~2.462 GHz (11 channels) Europe CE/ETSI 2.412~2.472 GHz (13 channels) Japan 2.412~2.484 GHz (14 channels) France 2.457~2.472 GHz(4 channels) Spain: 2.457~2.462 GHz (2 channels) RF Power Output: 20 dBm (typical) Receiver Sensitivity: -82dBm @11Mbps, PER<8*10-2
Software / Firmware	<ul style="list-style-type: none"> <li>- AP and Client mode support</li> <li>- DHCP Client</li> <li>- Channel Selection</li> <li>- Supports WEP (authentication and encryption)</li> <li>- Web-based configuration via popular browser (MS IE, Netscape...)</li> <li>- Firmware downloads and upgrades via web server</li> <li>- Reset to default by web server or hardware button</li> </ul>
Security	Powerline: 56-bit DES using cipher block chaining Wireless: Hardware-based 40/64-bit & 128-bit WEP encryption, 802.1x and WPA encryption type
Forwarding Mode	Store and Forward
Antenna	Detachable SMA type antenna, 2dB
Cable	One DC power connector for both powerline networking and power supply
Power	External Power Supply 6.3VDC, 1A