



300Mbps Wireless PoE Hotspot Gateway

H/W Version: 2

The LevelOne WHG-1000 is a multi-function, all-in-one Wireless Hotspot Gateway for wireless Public Hotspot Applications. The WHG-1000 is designed for hotspot service providers to have an integrated solution for rapid deployment, and start a hotspot service quickly, easily and enhance service performance.

Ultimate Deployment Solution for Managing MultiService Zone Access

With a comprehensive network access control implementation, multiple authentication mechanisms, including on-demand, pre-generated ticket, local RADIUS, remote RADIUS, and remote LDAP can be supported simultaneously based on your network scenario. For instance, you may implement remote LDAP authentication for a service zone to which all employees require accessing resources located in a remote office through your LDAP server and provide customers located in another service zone with hotspot environment through on-demand authentication. Hence, allowing you to easily achieve effective access control and enhancing security by preventing intruders from gaining access to the restricted area.

Key Features

- Property management system integration for hotel applications
- Integrated Authentication, Authorization and Accounting (AAA) server
- Multiple authentication methods for pre-generated ticket, on-demand, local/remote RADIUS and LDAP
- Dual WAN interfaces with auto-failover function to ensure an always-on connectivity
- Compatible with IEEE 802.11b/g/n wireless standards
- Built-in 3,069 local accounts and 3,069 on-demand accounts
- Comprehensive access control and user management
- Supports for location-based hotspot services and customizable UAM web pages
- Simple generation of user accounts with built-in online payment such as credit card or PayPal
- Powerful network security capabilities for enterprise applications
- Simplified deployment and reliable Internet connection
- Supports IP Plug and Play (IP PnP) for instant network connectivity



WHG-1000

Feature-Rich for Hotspot operation

The WHG-1000 comes with a built-in 802.11 b/g/n 2.4GHz Access Point with MIMO technology, Web server and Web Pages for client to login, easy logo-loading for branding a hotspot store, simple user/visitor account management tool, payment plans, PayPal credit card gateway, traffic logs, IP sharing etc..

Billing Enablement

The WHG-1000 supports a billing print out function, with the optional LevelOne PTK-1000 Ticket Generator Kit (DSA-1000 Device Server and PRT-1000 Ticket Printer). The front desk can simply push the button on the Device Server which generates on-demand accounts by triggering pre-edited billing plans in the WHG-1000. This instructs the Ticket Printer to print out the information on the receipt, such as Login User Name, Password, SSID for end-users Internet Access.

Easy Installation and Operation

The WHG-1000 is the ideal solution for establishing Hotspot Internet service applications. Built-In billing function and receipt printing capabilities makes it suitable for providing Internet access of businesses and public areas applications, such as hotels, coffee shops, train stations, school libraries and airports.

Works Well With

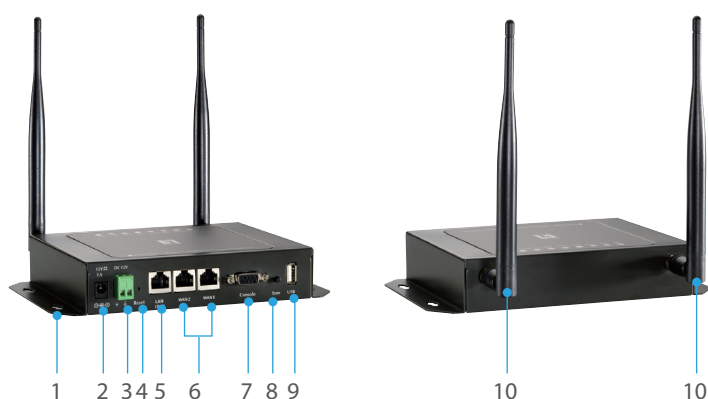


WAP-6102
300Mbps Wireless Ceiling PoE Access Point



FSW-1671
8 FE + 8 FE PoE Web smart Switch

Front & Rear View



1. Wall-Mountable
2. Power Port
3. Power Port
4. Reset Button
5. PoE LAN Port
6. PoE WAN Port
7. Console Port
8. Scan Button
9. USB Port
10. Detachable Antenna

Technical Specification

Hardware Specifications

CPU

400 MHz, AR7240+AR9283

Flash

16Mbytes

SDRAM

64 Mbytes

Interface

- Metal case compliant with IP50 Standard
- WAN Port: 2 x 10/100 Base-T PoE compliant with IEEE 802.3af
- LAN Port: 1 x 10/100 Base-T PoE compliant with IEEE 802.3af
- Console Port : 1 x D89
- USB Port : 1
- LED Indicators: 1 x Power, 2 x WAN, 1 x LAN, 1 x Status, 1 x Printer
- Antenna: 2 x 5dBi detachable (SMA Connector) field replaceable Antenna

Dual WAN

- Load Balancing
 - Outbound Fault Tolerance and loadbalance
 - Multiple Domain Support
 - By Traffic
- Bandwidth Management by individual and users group
- WAN Connection Detection

Power

100~240VAC, 50~60 Hz, DC 12V/1A

Dimensions (W x D x H mm)

204 x 134 x35 mm

Weight (g)

610g

Temperature (°C)

Operating: -20 ~ 50 °C

Storage: -20 ~ 60 °C

Humidity (Non-condensing)

Operation: 10%~80

Storage: 5%~90

Approval

CE, FCC, RoHS compliant

Software Specifications

Network

- Support NAT or Router Mode
- Support static IP , Dynamic IP(DHCP Client), PPPoE and PPTP on WAN connection
- DHCP Server Per VLAN; Multiple DHCP Networks

■ 802.3 Bridging

■ Proxy DNS/Dynamic DNS

■ NAT:

- IP/Port destination redirection
- DMZ server mapping
- Virtual server mapping
- H.323 pass-through

■ Built-in with DHCP server

■ Support Static Routing

■ NTP Client

■ Virtual DMZ

■ Virtual Server (IP /Port Forwarding)

■ Binding VLAN with Ethernet and Wireless interface

- The network is divided into maximum 8 group, each defined by a pair of VLAN tag and ESSID Each Domain has its own (1) login portal page (2) authentication options (3) LAN interface IP address range
- Each Domain allows access to the selected groups and assigns a network policy to each user group
- Support VLAN Tag over WDS

■ PPTP, IPSec Pass-through

■ Support MAC and IP Filter

■ Support Walled garden (free surfing zone)

■ Support MAC-address and IP -address pass through

■ Support configurable static routes

■ Support SIP pass-through NAT

■ Support IP Plug and Play (IP PnP)

Security

■ Layer 2 User and AP Isolation

■ Blocks client to client discovery within a specified VLAN

■ Setting for TKIP/CCMP/AES key's refreshing periodically

■ Hidden ESSID support

■ Setting for " Deny Any " connection request

■ MAC Address Filtering (MAC ACL)

■ Support Data Encryption : WEP(64/128-bit), WAP, WAP2

■ Support various authentication methods :

WPA-PSK, WPA-RADIUS, IEEE802.1X

■ Support VPN pass-thourghput

User Management

■ Suggest 100 simultaneous authentication users

■ Max 3069 Accounts

■ Support Pre-generated Users, On-Demand Users and Local Radius Accounts.

■ Users Session Management

■ Configurable user Black list (with Time-based control)

- Allows MAC address and user identity binding for local user authentication
- SSL protected login portal page
- Supports multiple login with one single account
- Session idle timer
- Login Session idle time out setting
- Session and account expiration control
- Notification email to provide a hyperlink to login portal page
- User Log and traffic statistic notification via automatically email service
- Login time frame control
- Session limit
- Real-Time Online Users Traffic Statistic Reporting
- Support local account roaming
- Seamless Mobility : User-centric networking manages wired and wireless users as they roam between ports or wireless AP Monitoring and Reporting

System Administration

- Intuitive Web Management Interface
- Three administrator accounts
- Provide customizable login and logout portal page
- CLI access (Remote Management) via Telnet and SSH
- Remote firmware upgrade (via Web)
- Utilities to backup and restore the system configuration
- Remote Link Test – Display connect statistics
- Full Statistics and Status Reporting
- Real time traffic monitor
- Ping Watchdog
- Even Syslog
- Remote Syslog reporting to external server
- SNMP v1, v2c,v3
- SNMP Traps to a list of IP Address
- Support MIB-II
- Support Static Routing
- Spanning Tree Protocol
- NTP Time Synchronization
- Administrative Access : HTTP / HTTPS

Accounting

- Provides billing plans for pre-setting accounts
- Provides billing plans for on-demand accounts
- Enables session expiration control for On-demand accounts by time(Hours) Detailed per-user traffic history based on time and data volume for both local and on-demand accounts
- Support local on-demand and external RADIUS server
- Contain 10 configurable billing plans for on-demand accounts
- Support credit card billing system by Authorize.net and Papal
- Provide session expiration control for on-demand accounts
- Support automatic email network traffic history

Wireless

- Transmission power control : 7 Levels
- Channel selection : Manual or Auto
- No. of associated clients per AP : 32
- Setting for max no associated clients : Yes
- No. of BSSID (Virtual AP) : 8
- No. of Max. WDS setting : 4
- Preamble setting : Short / Long
- Setting for 802.11b/g/n mix, 802.11b only or 802.11 b/g only or 802.11n only
- Setting for transmission speed
- IEEE802.11f IAPP (Inter Access Point Protocol), hand over users to another AP

- IEEE802.11i Preauth (PMSKA Cache)
- IEEE802.11d Multi country roaming
- Automatic channel assignment
- Coordinated Access ensures optimal performance of nearby AP on the same channel
- Secure wireless bridge connects access points without wire
- Monitoring and reporting
- IP-Based monitoring of network devices
- Uplink(WAN) connection failure alert
- Support Syslog for diagnosis and troubleshooting by email
- Traffic history report via email to administrator
- Users' session log can be sent by email or Syslog server

Authentication

- Authentication: single sign-on (SSO) client with authentication integrated into the local authentication environment through local/domain, LDAP, RADIUS, MAC authentication, and 802.1x
 - Customizable Login and Logout Portal Pages
 - Customizable Advertisement Links on Login Portal Page
- User authentication with UAM (Universal Access Method), 802.1x /EAPoLAN ,MAC address
- No. Of Registered RADIUS Servers : 2
- Support MAC control list (ACL)
- Support auto-expired guest accounts
- Users can be divided into user groups
- Each user group has its own network properties, including bandwidth, QoS, WMM traffic
- Each group (role) get different network policies in different service domain
- Max simulanous user session (TCP/UDP) limit
- Configurable user black list
- Export/Import local users list to/from a text file
- Web-based Captive Portal for SSL bowered-based authentication
- Authentication Type
 - IEEE802.1X(EAP,LEAP,EAP-TLS,EAP-TTLS,EAP-GTC,EAP-MD5)
 - RFC2865 RADIUS Authentication
 - RFC3579 RADIUS Support for EAP
 - RFC3748 Extensible Authentication Protocol
 - MAC Address authentication
- Web-based captive portal authentication

Authorization

- Authorization : access control to network resource such as protected network with intranet, internet, bandwidth, VPN, and full stateful packet firewall rule sets

QoS Enforcement

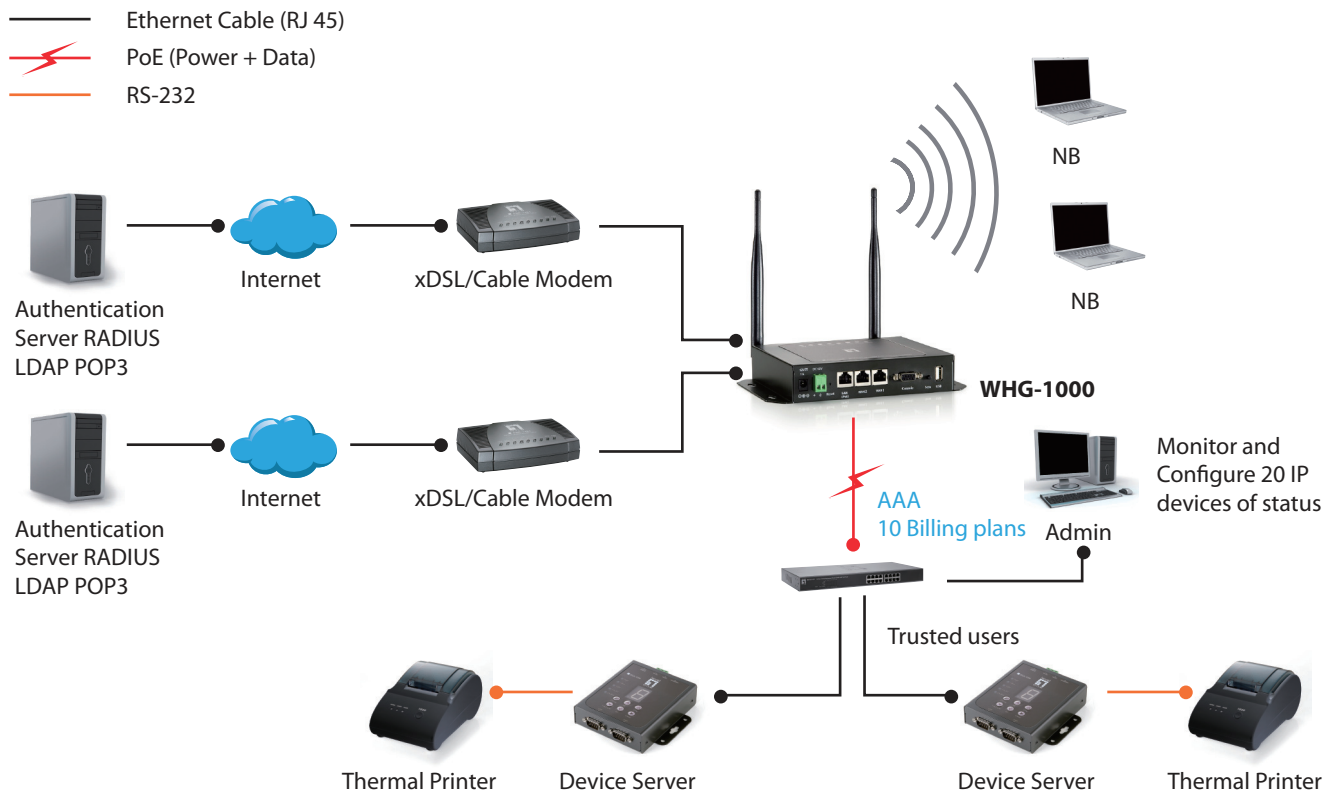
- Packet classification via DSCP (Differentiated Services code Point)
- Traffic Analysis and Statistics
- Diff/TOS
- IEEE 802.1Q Tag VLAN priority control
- IEEE 802.11e WMM
- Automatic mapping of WMM priorities to 802.1p and IP DSCP
- U-APSD(Unscheduled Automatic Power Save Delivery)
- IGMP Snooping for efficient multicast delivery
- Upload and Download Traffic Management
- Support WMM Multiple Priority Level
- Scheduled Policies

Firewall

- Built-in DoS attack protection
 - Inspection Full statefull packet filter
 - Access Control List
 - Multiple Domain Support
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Product Diagram



Order Information

WHG-1000: 300Mbps Wireless PoE Hotspot Gateway

Package Content

CD- User Manual, Quick Installation Guide, Power Adapter, Antenna x2, Console Cable, Ethernet Cable, Ground Cable, Mounting Kit

Optional Accessories



DSA-1000



PRT-1000

PTK-1000
Ticket Generator Kit (DSA-1000 Device Server and PRT-1000 Ticket Printer)