

# **VMG8924-B30A**

## **Standard Version**

### **Firmware Release Note**

V1.00(AAPQ.1)C0

Date: Aug. 14, 2014  
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## TABLE OF CONTENTS

REVISION HISTORY .....	3
SUPPORTED PLATFORMS: .....	4
VERSIONS: .....	4
NOTES: .....	5
FEATURES LIST: .....	6
MODIFICATIONS IN V1.00(AAPQ.1)C0 .....	13
MODIFICATIONS IN V1.00(AAPQ.1)B2 .....	13
MODIFICATIONS IN V1.00(AAPQ.1)B1 .....	13
MODIFICATIONS IN V1.00(AAPQ.0)C0 .....	13
MODIFICATIONS IN V1.00(AAPQ.0)B5 .....	13
MODIFICATIONS IN V1.00(AAPQ.0)B4 .....	13
MODIFICATIONS IN V1.00(AAPQ.0)B3 .....	14
MODIFICATIONS IN V1.00(AAPQ.0)B2 .....	14
MODIFICATIONS IN V1.00(AAPQ.0)B1 .....	14
DEFAULT SETTINGS IN V1.00(AAPQ.1)C0 .....	14
PUBLIC DOMAIN SOFTWARE ANNOUNCEMENTS .....	15

## Revision History

Date	Release	Author	Description
2013/11/07	1.0	Cj_Lai	FW release for V1.00(AAPQ.0)b1
2013/11/26	1.1	Cj_Lai	FW release for V1.00(AAPQ.0)b2
2014/02/18	1.2	Cj_Lai	FW release for V1.00(AAPQ.0)b3
2014/04/10	1.3	Cj_Lai	FW release for V1.00(AAPQ.0)b4
2014/04/21	1.4	Cj_Lai	FW release for V1.00(AAPQ.0)b5
2014/04/23	1.5	Cj_Lai	FW release for V1.00(AAPQ.0)C0
2014/07/21	2.1	Wood Huang	FW release for V1.00(AAPQ.1)b1
2014/08/05	2.2	Wood Huang	FW release for V1.00(AAPQ.1)b2
2014/08/14	3.0	Wood Huang	FW release for V1.00(AAPQ.0)C0



# **ZyXEL VMG8924-B30A V1.00(AAPQ.1)C0 Release Note**

Date: Aug. 14, 2014

## **Supported Platforms:**

ZyXEL VMG8924-B30A

## **Versions:**

Bootbase version: V1.65 | 06/24/2014 16:23:59

Firmware version: V1.00(AAPQ.1)

Kernel version: 2.6.30

DSL mode code version: B2pv6F039i

DSL driver version: d24e

WLAN code version: 6.30 RC163.23

Voice code version: 4.12L.06 May 11 2012 11:58:17 IPTK 8.2.2

3G dongle WWAN package version: V1.05

**Notes:**

1. QoS Monitor will show only if QoS software Queue is used.  
Qos software queue is created if rate limit or WFQ is configured.
2. 802.11ac is supported with 4360 WLAN adaptor (VMG8924-B30A model).
3. WPS lock down: 10 failures in 300 seconds.

## Features list:

Feature	Additional Information
<b>VDSL</b>	<ul style="list-style-type: none"> <li>• G.993.1 VDSL Annex B</li> <li>• G.993.2 VDSL2 Annex B, band plan 997, 998</li> <li>• Support VDSL profiles: 8a/b/c/d, 12a/b and 17a</li> <li>• Maximum data rate (DS/US): 100Mbps/60Mbps</li> <li>• G.994.1 (G.hs) Handshake</li> <li>• Rate adaption</li> <li>• SRA (Seamless Rate Adaption)</li> <li>• UPBO (Upstream power back-off )</li> <li>• VDSL OAM communication channels</li> <li>• INP: Up to 16 symbols</li> <li>• PTM mode</li> <li>• Dying Gasp</li> <li>• G.Vector support</li> <li>• G.INP Support</li> </ul>
<b>ADSL</b>	<ul style="list-style-type: none"> <li>• G.992.1(G.dmt) Annex B compliant</li> <li>• G.992.2(G.lite), Annex B compliant</li> <li>• ANSI T1.413 compliant</li> <li>• G.992.3(ADSL2), Annex B compliant</li> <li>• G.992.5(ADSL2+) Annex B compliant</li> <li>• I.432 ATM physical layer compliant</li> <li>• Reach-Extended ADSL (RE ADSL),</li> <li>• SRA (Seamless Rate Adaptation)</li> <li>• ADSL physical connection ATM AAL5 (ATM Adaptation Layer type 5)</li> <li>• Support multi-protocol over AAL5 (RFC2684/1483)</li> <li>• PPP over ATM AAL5 (RFC2364)</li> <li>• Support VC-based and LLC-based multiplexing</li> <li>• ATM traffic shaping (CBR, VBR-rt/nrt, UBR )</li> <li>• I.610 F4/F5 OAM</li> <li>• Auto-detect VDSL2 or ADSL2/2+</li> <li>• Support ADSL PTM mode</li> <li>• G.INP Support</li> </ul>
<b>Bridge/Router</b>	<ul style="list-style-type: none"> <li>• IEEE 802.1D transparent bridge &amp; basic spanning tree</li> <li>• Dynamic learning for up to 2014 MAC address</li> <li>• PPPoE (RFC 2516)</li> <li>• PPPoA (RFC 2364)</li> <li>• DHCP client/server/relay with DHCP option 60/61/125</li> <li>• DNS Proxy</li> <li>• Dynamic DNS (DynDNS, Freedns, zoneedit, noip and GnuDIP)</li> <li>• RIP I/ RIP II supported</li> <li>• UPnP - IGD (Universal Plug and Play for the Internet Gateway)</li> </ul>

	Device) <ul style="list-style-type: none"> <li>• Interface Grouping</li> <li>• Static/Policy Route</li> <li>• Additional Subnet: IP Alias/Public LAN</li> <li>• STB Vendor ID</li> <li>• 5th Ethernet Port</li> <li>• LAN VLAN</li> <li>• Adjustable MTU size (max 1518 byte)</li> <li>• MAC Encapsulation Routing / IPoE</li> <li>• Qos classification route</li> <li>• DHCP Conditional Serving</li> <li>• DNS Route</li> <li>• Wake on LAN</li> <li>• Auto reserve LAN client IPv4 address</li> <li>• VLAN Auto Hunt</li> <li>• Option 125 enhancement on DHCP server for TR111 part 1</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>• USB 1.1/2.0</li> <li>• FTP File sharing</li> <li>• Support USB disk/USB flash</li> <li>• Supported File system :FAT16, FAT32, EXT2/EXT3. (Phase2: NTFS)</li> <li>• Support 3G dongle</li> <li>• Support DLNA</li> <li>• Support Print Server</li> <li>• Support SAMBA</li> <li>• Support 3G budget control</li> </ul>
<b>NAT</b>	<ul style="list-style-type: none"> <li>• NAT</li> <li>• Full cone NAT</li> <li>• At least 4096 NAT sessions supported</li> <li>• Virtual Server (port forwarding)</li> <li>• Port Triggering</li> <li>• NAT ALGs             <ul style="list-style-type: none"> <li>- FTP</li> <li>- TFTP</li> <li>- RTSP</li> <li>- SIP</li> <li>- H.323</li> <li>- PTP</li> </ul> </li> <li>• IPsec VPN Pass Through</li> <li>• DMZ</li> <li>• Multi-to-Multi NAT (phase2)</li> <li>• PPPoE Pass Through</li> <li>• NAT loopback</li> <li>• Limit session per host</li> </ul>

<b>Firewall &amp; Security</b>	<ul style="list-style-type: none"> <li>● 802.1x Authentication (EAP-TLS)</li> <li>● PAP/CHAP</li> <li>● MS-CHAP v1 and v2</li> <li>● Stateful Packet Inspection</li> <li>● Parental control: Protocol Packet Filter/URL keyword blocking , Scheduled filtering policy based on time of day.</li> <li>● ACL Rule support: (32 ACL rules) <ul style="list-style-type: none"> <li>- Selected Source/Destination Device</li> <li>- Source/Destination IP</li> <li>- Source/Destination Port (Any/Single/Range)</li> <li>- Type (TCP/UDP/ICMP/Others)</li> <li>- Protocol number (only for Others Type)</li> <li>- Selected Predefined Service</li> <li>- TCP Flag/Mask</li> <li>- Policy (Accept/Drop/Reject)</li> <li>- Rate Limit</li> <li>- Schedule Rule</li> <li>- Four directions: WAN to Router, LAN to Router, WAN to LAN, LAN to WAN</li> </ul> </li> <li>● DoS Protection <ul style="list-style-type: none"> <li>- Port Scan</li> <li>- ICMP Flooding</li> <li>- TCP Syn Flooding</li> <li>- IP Snoofing</li> <li>- Ping of Death</li> <li>- Land Attack</li> <li>- ICMP Redirect Attack</li> <li>- Smurf Attack</li> <li>- Zero Length IP</li> <li>- UDP Flooding</li> <li>- ICMP Redirect Attack</li> </ul> </li> <li>● Report and logs via SysLog, GUI, email daemon.</li> <li>● Service control: trust domain or IP addresses list for service control.</li> </ul>
<b>Wireless LAN</b>	<ul style="list-style-type: none"> <li>● IEEE 802.11 2.0n Compliance, backward compatible with 11b/g</li> <li>● Auto Channel Selection</li> <li>● WMM</li> <li>● WPS</li> <li>● WDS</li> <li>● Multi SSID: Up to 4</li> <li>● WEP Data Encryption 64/128bit</li> <li>● WPA/WPA-PSK with TKIP &amp; AES security type</li> <li>● WPA2/WPA2-PSK with TKIP &amp; AES security type</li> <li>● IEEE 802.1x (EAP-MD5, TLS and TTLS)</li> <li>● 32 MAC Filter</li> </ul>



	<ul style="list-style-type: none"> <li>• Client connection : A minimum of 32 clients simultaneously connect to the AP</li> <li>• Adjustable WLAN output power(via CLI , xml)</li> <li>• Hidden SSID support</li> <li>• Generate default unique ESSID by serial number (show on CPE back label)</li> <li>• Generate default unique wireless KEY by MAC (show on CPE back label)</li> <li>• Separate QoS configuration for each SSID</li> <li>• Channel Scan (Channel Status)</li> <li>• Wireless Scheduling for power off/on</li> <li>• WPS 2.0 certificate</li> <li>• Isolation (Guest WLAN)</li> <li>• WPS AP PIN attack prevent mechanism (WPS lock down)</li> </ul>
<b>Voice Features</b>	<ul style="list-style-type: none"> <li>• SIP (Session Initiating Protocol, RFC 3261) version 2</li> <li>• Codec: G711 a/μ (64K) (Fullrate feature), G.726 G.722</li> <li>• G.168 echo cancellation (8ms ~ 16ms)</li> <li>• Fax/modem detection and pass-through</li> <li>• Voice Active Detector (VAD)</li> <li>• Silence Suppression</li> <li>• Comfort Noise Generation (CNG)</li> <li>• Dynamic Jitter Buffer.</li> <li>• DTMF Detection and Generation</li> <li>• DTMF relay by In-Band and Out-of-Band (RFC 2833, SIP INFO)</li> <li>• SIP account (URL type included)</li> <li>• On hook, off hook and flash detection.</li> <li>• Dialing Type: Tone</li> <li>• Ring cadence frequency can be tuned by firmware by country.</li> <li>• Tip/ring polarity reversal</li> <li>• Ringing Voltage: min 45V RMS at 5 REN (FXS)</li> <li>• Caller ID (FSK.DTMF)</li> <li>• Country Code(default support: USA, BELGIUM, DENMARK, FINLAND, NETHERLAND, NORWAY, PORTUGAL, SPAIN, SWEDEN, SWITZERLAND, GERMANY, Australia, Ireland)</li> <li>• Call Forwarding (No condition, Busy, No answer)</li> <li>• Call Transferring (Blind, ConsultOnHold, Attendant)</li> <li>• Call Hold / Call Retrieve</li> <li>• Three Way Conference</li> <li>• Abbreviated Dialing (Speed Dial)</li> <li>• Phone Book</li> <li>• Internal Call</li> <li>• Early Media</li> <li>• Anonymous Call</li> <li>• Call Waiting</li> <li>• Call Accept</li> <li>• Conference-DSP local mixer</li> <li>• Second Call</li> <li>• IVR (Interactive Voice Response)</li> <li>• Flash Hook Timer</li> </ul>

	<ul style="list-style-type: none"> <li>• Message Waiting Indicator (RFC 3842)</li> <li>• T.38 Fax Relay</li> <li>• Transparent Fax rely over G.711</li> <li>• Polarity Reverse</li> <li>• Last Number Redial</li> <li>• Flexible dial plan (RFC3525 section 7.1.14)</li> <li>• Call return</li> <li>• Immediate Dial</li> <li>• SRTP</li> <li>• Music On Hold</li> </ul>
<b>QoS</b>	<ul style="list-style-type: none"> <li>• Support flexible Packet Classification by: <ul style="list-style-type: none"> <li>- From Interface</li> <li>- TCP / UDP Port Range</li> <li>- ETH TYPE (IP/ARP/PPPoE/802.1Q)</li> <li>- Source MAC Address</li> <li>- Source MAC Mask</li> <li>- Destination MAC Address</li> <li>- Destination MAC Mask</li> <li>- Source IP Address/ Mask</li> <li>- Destination IP Address/ Mask</li> <li>- Predefine Service</li> <li>- IP Protocol (TCP, UDP, ICMP, IGMP, User Defined)</li> <li>- DHCP option 60/77</li> <li>- Packet Length</li> <li>- 6-bit DiffServ Code Point (DSCP, RFC 2474)</li> <li>- 802.1P 3-bit Class of Service (CoS)</li> <li>- 802.1Q 12-bit VLAN ID</li> <li>- TCP ACK</li> <li>- DHCP option 61/125</li> </ul> </li> <li>• Packet Modification <ul style="list-style-type: none"> <li>- Support SAME and MARK DSCP field</li> <li>- Support SAME, MARK, REMOVE, and tag-in-tag(ADD) to 802.1Q VLAN Tag</li> <li>- Support tag auto translation(AUTO) between DSCP and 802.1P Class of Service</li> </ul> </li> <li>• Default Queue(phase II)</li> <li>• Service default priority (ACK, LCP, IGMP, DNS, RIP,ARP ...etc)</li> <li>• Traffic Shaping: <ul style="list-style-type: none"> <li>- Rate Limitation for specify remote node.</li> </ul> </li> <li>• Auto Priority Mapping(the tag can be automatically translated between DSCP and 802.1P Class of Service)</li> </ul>

	<ul style="list-style-type: none"> <li>• Queue Management <ul style="list-style-type: none"> <li>- Drop Tail</li> <li>- Rate Limit</li> <li>- Queueing and Scheduling <ul style="list-style-type: none"> <li>• Strict Priority Queueing</li> <li>• Weighted Fair Queueing</li> </ul> </li> </ul> </li> <li>• Counters and statistics for QoS and traffic</li> <li>• Default L2/L3 tagging and queueing setting of each outgoing interface</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• Web/HTTP: 3 level log-in <ul style="list-style-type: none"> <li>- Administrator: Access to all pages</li> <li>- Support: Allow ISP for maintenance and diagnostics</li> <li>- User: View settings/statistics and update FW.</li> </ul> </li> <li>• Login Privilege</li> <li>• CLI (Command Line Interpreter) via SSH or Telnet</li> <li>• Firmware upgrade via Web/TFTP/FTP/TR069 RPC method</li> <li>• Text based configuration (XML based)</li> <li>• Configuration backup/update/restore default via Web</li> <li>• Configurable access control for remote management (Interface and / port number)</li> <li>• Trust Domain (support trust domain list)</li> <li>• NTP (Internet Time automatically synchronize)</li> <li>• DSL Forum TR-069, TR-098</li> <li>• DSL Forum TR-064</li> <li>• DSL Forum TR-111</li> <li>• SNMP v1, v2</li> <li>• Rom-D support(put xml config file via ftp to device flash as factory default config)</li> <li>• TR069 SerialNumber parameter MUST be device serial number in back label.</li> <li>• GUI: Brick type</li> <li>• Configurable connection request port for TR069.</li> <li>• Support multi-language</li> <li>• UPnP port forwarding rules on page</li> <li>• TR098 captive portal</li> <li>• Configuration filter by login privileges</li> <li>• Customized startup-script</li> </ul>
<b>Bootloader</b>	<ul style="list-style-type: none"> <li>• NAND boot</li> <li>• Model ID check mechanism</li> <li>• Skip check when Multiboot or Expressboot upgrade</li> <li>• Engineer Debug Flag control for bootloader and MRD change</li> <li>• Firmware checksum</li> <li>• Romfile checksum</li> </ul>

	<ul style="list-style-type: none"> <li>• MultiBoot</li> <li>• AT Command</li> </ul>
<b>Diagnostic Capabilities</b>	<ul style="list-style-type: none"> <li>• 802.1ag CFM</li> <li>• Log</li> <li>• xDSL Statistics</li> <li>• Ping/TraceRoute/NSlookup</li> <li>• OAM Ping</li> <li>• Remote packet trace function</li> </ul>
<b>IGMP</b>	<ul style="list-style-type: none"> <li>• IGMP v1, v2, v3</li> <li>• IGMP Proxy</li> <li>• IGMP Snooping</li> <li>• Support fast leave</li> </ul>
<b>Triple Play</b>	<ul style="list-style-type: none"> <li>• Support dynamic configurations to create Multiple WAN interfaces.</li> <li>• Single WAN with NO tag for ADSL/Ether/VDSL WAN.</li> <li>• Multiple PVC support for ADSL WAN</li> <li>• Multiple VLAN support for Ethernet/VDSL WAN</li> </ul>
<b>Power Management</b>	<ul style="list-style-type: none"> <li>• CPU clock divider when Idle</li> <li>• Wait instruction when Idle</li> <li>• DRAM Self Refresh</li> <li>• Ethernet/DSL/WLAN/LED Auto Power Down</li> <li>• Support CoC4.0</li> </ul>
<b>IPv6</b>	<ul style="list-style-type: none"> <li>• IPv6 multicast (MLDv1, MLDv2)</li> <li>• IPv6 syslog</li> <li>• IPv6 diagnostic: ping6/traceroute6</li> <li>• RFC 6204 conformance test: pass "MUST" items</li> <li>• IPv6 LAN Auto PD selection</li> <li>• IPv6 LAN address selection(SLAAC/DHCPv6/Both)</li> <li>• DNS(RA/DHCPv6/Both)</li> <li>• Support IPv6 DNS &amp; DNS option <ul style="list-style-type: none"> <li>- DNS scenario when get both IPv4/IPv6 DNS server from ISP</li> <li>- DNS cache must handle A-record and AAAA-record independently</li> <li>- DNS query can send by following scenario <ul style="list-style-type: none"> <li>IPv4 DNS Server First</li> <li>IPv6 DNS Server First</li> <li>IPv4 DNS Server Only</li> <li>IPv6 DNS Server Only</li> </ul> </li> </ul> </li> <li>• Multiple Wan can all support IPv6/IPv4</li> <li>• Support IPv6 internet LED display</li> <li>• Web GUI enhancement <ul style="list-style-type: none"> <li>Connection status page WAN/LAN IPv6 address</li> </ul> </li> <li>• HW accelerator support IPv6 (IPv6 multicast)</li> <li>• DualStack/6RD/DS-Lite</li> <li>• Configurable IA_NA/IA_PD. Default both enable but can accept response contain IA_NA/IA_PD only</li> </ul>

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|  | <ul style="list-style-type: none"><li>• RFC2827 (IP Source Address Spoofing) (IPv4/v6)</li></ul> |
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## **Modifications in V1.00(AAPQ.1)C0**

1. Base on **1.00(AAPQ.1)b2** to release V1.00(AAPQ.1)C0.

## **Modifications in V1.00(AAPQ.1)b2**

1. Base on **1.00(AAPQ.1)b1** to release V1.00(AAPQ.1)b2.
2. [ITS # 140701230][Remote Management] If user have use trust domain and upgrade firmware to use new style remote management then trust domain will be disable.

## **Modifications in V1.00(AAPQ.1)b1**

1. Base on **1.00(AAKL.5)** to release V1.00(AAPQ.1)b1.
2. Change modem code to ANNEX B.

## **Modifications in V1.00(AAPQ.0)C0**

1. Base on **1.00(AAPQ.0)b5** to release V1.00(AAPQ.0)C0.

## **Modifications in V1.00(AAPQ.0)b5**

- First release.
- Base on **1.00(AAPQ.0)b4** to release V1.00(AAPQ.0)b5.
- Change model name to VMG8924-B30A

## **Modifications in V1.00(AAPQ.0)b4**

- First release.
- Base on **1.00(AAKL.4)b3** to release V1.00(AAPQ.0)b4.
- Change modem code to ANNEX B

## **Modifications in V1.00(AAPQ.0)b3**

- First release.
- Base on **1.00(AAKL.3)b3** to release V1.00(AAPQ.0)b3.
- Change modem code to ANNEX B

## **Modifications in V1.00(AAPQ.0)b2**

- First release.
- Base on **1.00(AAKL.2)C0** to release V1.00(AAPQ.0)b2.

## **Modifications in V1.00(AAPQ.0)b1**

- First release.
- Base on **1.00(AAKL.0)C0** to release V1.00(AAPQ.0)b1.

## **Default Settings in V1.00(AAPQ.1)C0**

Refer to the XML format file “\*.rom” in FW release package.

1. Username and password:
  - (1) admin/1234
  - (2) zyuser/1234
2. GUI configuration: http://192.168.1.1/
3. How to enter sh mode: enter sh in main menu.

## Public Domain Software Announcements

The following public domain software are used in this firmware release:

- MIPS Linux kernel, version 2.6.30  
<http://www.linux-mips.org> or <http://kernel.org>
- Bridge-Utils  
<http://bridge.sourceforge.net>
- BusyBox 1.0.0 toolset  
<http://www.busybox.net/>
- Dproxy: dproxy-nexgen  
<http://dproxy.sourceforge.net>
- ebtables 2.0.6  
<http://ebtables.sourceforge.net>
- bftpd 1.0.24  
<http://www.bftpd.org/>
- iproute2 iproute2-2.4.7-now-ss020116-try.tar.gz  
<http://www.linuxgrill.com/anonymous/iproute2>
- iptables-1.3.8  
<http://www.netfilter.org>
- udhcp 0.9.6  
<http://udhcp.busybox.net/>
- zebra 0.93a  
<http://www.zebra.org/>
- ppp 2.4.1  
<http://www.roaringpenguin.com/pppoe>
- Ssh server: dropbear v0.46  
<http://matt.ucc.asn.au/dropbear/dropbear.html>
- openssl: openSSL library v0.9.7f  
<http://www.openssl.org>
- Dnsmasq: 2.48  
<http://www.thekelleys.org.uk/dnsmasq/>
- Ssmtp : 2.62 GPLv2  
<http://packages.debian.org/lenny/ssmtp>
- Dhcpv6  
<http://sourceforge.net/projects/wide-dhcpv6/>