

CUSTOMER RELEASE NOTES

***Vertical Horizon
Gigabit Ethernet Switch
VH-8G
Firmware Version 2.05.08
March 24, 2003***

INTRODUCTION:

The VH-8G is an 8-port Gigabit manageable, standalone switch. The switch provides 8 fixed, 1000Base-SX ports via SC style connectors. Management is built into the switch and is accessible via both in-band and out-of-band management.

Management access is provided in-band via a web interface, Telnet or SNMP, or out of band via the serial console port interface directly or through an attached modem. The imbedded Web agent also provides management capability to any computer on the network via common Http browsers such as Netscape Navigator or Microsoft's Internet Explorer (both browsers should be Version 4.0 or above).

Local Console Management (LCM) allows the user to monitor and configure the VH-8G from a VT-type terminal. LCM can be used to configure features such as SNMP community names and access rights, Port Enable/Disable, firmware downloads, and Device IP address as well as most other parameters. LCM can also provide statistical and diagnostic information about the entire device or an individual port.

Management of the switch is password protected; the same password is used for LCM and for the Web browser interface. Prior to accessing the Management Module via a network connection, a valid IP address, subnet mask, and in some cases a default gateway must be configured using the console interface or the BootP protocol.

The management options provide SNMP, RMON (4 groups: 1, 2, 3, 9), and Web management for system control and statistical monitoring.

The VH-8G switch cannot be used in a stackable configuration; it is a standalone only switch.

It is recommended that one thoroughly review these release notes prior to the installation or upgrade of this product.

FIRMWARE SPECIFICATION:

Status	Version No.	Type	Release Date
Current Version	2.05.08	Customer	03/24/2003
Prior Version	2.04.07	Customer	4/23/2001
Prior Version	2.04.01	Customer	11/13/2000

HARDWARE COMPATIBILITY:

ALL

BOOTPROM COMPATIBILITY:

ALL

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NETWORK MANAGEMENT SOFTWARE SUPPORT:

NMS Platform	Version No.
NetSight Atlas Console	1.0
NetSight Element Manager	3.0 and above

If you install this image, you may not have control of all of the latest features of this product until the next version(s) of the network management software. Please review the software release notes for your specific network management platform for details.

SUPPORTED FUNCTIONALITY:

Features	Support
802.1P - Traffic Management	Yes
802.1Q - VLAN tagging and identification	Yes
Spanning Tree support	Yes
IGMP Snooping	Yes
Address Data Base Maintenance	Yes
Local Management via TELNET (four sessions)	Yes
RMON Groups 1, 2, 3, 9	Yes
Runtime Address Discovery	Yes
Online BOOTP/TFTP	Yes
TFTP download from a host	Yes
Broadcast Storm Control	Yes
Trunking (link aggregation)	Yes
SNMP	Yes
Modem support	Yes
Imbedded Http Agent	Yes
Port Mirroring	Yes
Auto-Negotiation	Yes
Redundant Power option	Yes
Configuration Upload/Download	Yes
MAC to Port Locking	Yes

INSTALLATION AND CONFIGURATION NOTES:

In general, the **VH-8G** will be shipped to you pre-configured with this version of firmware. If you would like to upgrade an existing **VH-8G**, please follow the TFTP download instructions that are included with your firmware image upgrade kit. TFTP download instructions are also available on the Enterasys Networks Support web site at:

<http://www.enterasys.com/support/techtips/tk0020-9.html>.

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FIRMWARE CHANGES AND ENHANCEMENTS:

Current Release: 2.05.08

The following enhancements have been added in this release of firmware.

1. The settable parameter configurations for the Vertical Horizon products (VH-8G) may be uploaded (TFTP) from the device and stored for management purposes. The file may be copied (downloaded via TFTP) to the device to restore the saved settings. IP address information will not be overwritten as the file is installed on a device so no loss of management will occur. New, with this firmware revision, is the ability to load the configuration file to other VH-8G devices, with the restrictions below:

- Configuration files can always be saved from, and restored to, the same system.
- On the exact same device, configuration files can be restored to the next higher or next lower firmware revision. This allows configurations to be saved prior to performing code upgrades to products.
- Configurations files can be copied to other systems providing it is running the exact same firmware revision, and it is version 2.05.08 or higher.
- This capability is implemented using TFTP.

Other important notes:

- The management interface IP address parameter information will be maintained on the original system even though a new configuration file is loaded. The IP address information is never overwritten.
- Password information is stored in the saved configuration file. The password information IS written from the saved file into any new device the file is loaded onto. Network managers should change the password information BEFORE uploading and saving the configuration file from a system if this poses any security concern. Configurations copied from one system to another will overwrite the existing password with the one contained in the configuration file. The binary configuration files may not be edited to remove this data as it will corrupt the file checksums.

The following *known issues* have been fixed in this release of firmware.

1. All known SNMP vulnerability issues have been resolved in this release of firmware. An SNMP trap attack filter was added and padding bytes on all management packets are cleared to prevent eavesdropping on stale buffer data.

Note: During an SNMP attack on this device, using packets directed at the IP address of the switch for prolong periods of time, ICMP and SNMP requests to this device, may be delayed or stopped for 5-15 seconds. Management is restored after the attack ceases.

2. A number of minor inconsistencies in the display views have been corrected in this release of firmware as outlined below:

- The Web View GUI properly displays Model name, i.e. VH-8G
- The Web View IGMP Entry is now listed properly in the member port table
- The Web View Port Information screen now correctly reflects the Flow Control Status
- A definition of "ARP Reply Timer" field has been added to Web View help
- The Web View Port Trunk Status is properly displayed

3. The "IfLastChange" MIB has been corrected to properly reflect a port state change.

4. The "ifSpeed" parameter now displays the correct value for the gigabit trunk ports.

5. The issue where HP-Openview incorrectly queried the MIB variable "ipNetToMediaPhysAddress" has been corrected.

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6. The issue where the VH-8G gets into a state where it generates illegal BPDU's (i.e. where the root bridge MAC address is all zeros) has been fixed.
7. The condition where IGMP Snooping enabled on the Switch was preventing EIGRP, RIPv2, and VRRP protocols from being transmitted has been fixed.
8. TFTP downloads (code upgrades) will now only reset the VH- 8G device **if** the load file is received completely and without errors. The reset occurs after the image is loaded into flash memory. Load re-tries, because of network errors, can now be made without waiting for the device reset to occur.
9. To protect the management agent from excessive levels of broadcast traffic from all ports, the VH-8G management agent, when overwhelmed, will drop all broadcast traffic directed to it for periods of time. Under these certain conditions, the switch agent will send unsolicited ARPs (Gratuitous ARPs) to each VLAN configured on the switch. This behavior is not detrimental to network operation and ensures that network management communication to the VH-8G management agent will not be lost for new connections to the agent. The mechanism runs independently of any broadcast control capability on the switch.

Tuning parameters have been added and are stored in NVRAM. If Gratuitous ARP functionality is enabled, refer to the sample configuration screen in these release notes for set up information.

Refer to the Enterasys Support knowledge base: <http://knowledgebase.enterasys.com/support>, document ent12303 for more information regarding Gratuitous ARP configuration and use.
10. This version of firmware fixes a condition where slow response or intermittent loss of communication with the management agent has been seen (cause listed above).
11. The loss of manageability condition (ping, SNMP, telnet requests) when a VRRP master router fails-over to another backup router has been corrected

PRIOR FIRMWARE CHANGES AND ENHANCEMENTS:

The following known issues or enhancements made in prior releases of firmware are outlined below. Please refer to the specific release notes of the firmware release for additional information.

Prior Firmware version: 2.04.07

1. The VH-8G now supports any standards-based console management cable. Version 1.05 microcode must be present in the VH-8G along with firmware version 2.04.07 or higher support all cables.

KNOWN RESTRICTIONS AND LIMITATIONS:

1. When the speed of a Gigabit port is changed from a specific speed to auto-negotiate mode, the user must disconnect and reconnect the cable to cause auto-negotiation to occur.
2. Gigabit ports used for trunks, or as part of any redundant paths in the network, should always be set to auto-negotiate. If a failure occurs in only one path of the link (i.e. the receive path), the failure to pass the auto-negotiation at both ends of the link will ensure the entire link (both directions) is down, and allow the alternate path to assume the traffic rather than leaving the network with a path only having one way connectivity.
3. The switch defaults to Shared VLAN (SVL) MAC address learning. As a result, when there are duplicate addresses in different VLANs, packets with these addresses will be forwarded between those VLANs. The user may select IVL mode, to prevent inter-VLAN forwarding of those duplicate addresses.
4. When a port is in the Spanning Tree Blocking state, incoming packets will continue to be counted in its RMON counters.

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5. When packets originated from the VH management agent are transmitted out a mirror port, they will not have a CRC attached.
6. When a combination of high and low priority traffic is transmitted from a high speed port to a lower speed port, some high priority packets may be dropped.
7. When Fast STA is disabled, the configuration count increases by one when a port transitions from a "NO LINK" state to a "BLOCKED" state.
8. Do not put clients trunk (link aggregation) ports, partial connectivity may result for these clients.
9. Due to a chip limitation, the VH-8G does not support "Admit Only VLAN-tagged frames."
10. The Root Port Cost on a Trunk will change back to the Default Port Cost (i.e. 4) after a respan or a reboot of the VH-8G.
11. If a Static Router port is configured on a multi-port trunk (link aggregation group), it may not be saved following a reboot of the VH-8G. Note: Static Router ports on other ports are not lost after a reboot.
12. Under high broadcast loads, the VH-8G implements internal mechanisms to limit broadcast and multicast traffic to the Management Agent. This filtering of traffic to the CPU may cause the CPU not to see the IGMP streams for a group for which no "join" messages have been received. The outcome of this event is flooding of the multicast stream until either a "Join" (or "Leave") message is received or until the broadcast and multicast traffic is reduced to a small enough level that the Management Agent can process all of them.
13. Upon Enabling and Disabling Fast Forwarding and then selecting Apply within WebView, the following incorrect "Pop-Up" Message will be displayed: "Path Cost is out of Range" Note: The user will have to acknowledge the "Pop-Up" Message 1-3 times. Even though the message is displayed, Fast Forwarding is "Enabled" and "Disabled" correctly.
14. In the Local Console within the SNMP Configuration View - IP trap manager settings menu, a blank menu selection will perform a delete function, i.e. the delete option field is shown blank.
15. Local Console "Reset Counters" Option fails to clear RMON MIB OIDs and WebView RMON Port Statistics. Note: The user will have to "Reset" the VH-8G in order to clear RMON MIB OIDs and WebView RMON Port Statistics.
16. A HyperTerminal Session will not open on the VH-8G if it receives 5 positive volts on pin 3 on the console port while the device is booting. Note: VH-8G will boot properly with no HyperTerminal session open on the console port but attempts to open a HyperTerminal Session upon completion of switch initialization will fail. If VH-8G HyperTerminal Session already open prior & during the VH-8G boot process, access to the HyperTerminal Session operates as expected.
17. Loading previous versions of code (back-revving) from V 02.05.08 to any previous VH-8G firmware image will change the following configuration settings: A. Aging Time set to 17104898 from 300. B. Default Ingress User Priority for Ports 5-8 set to 1 from 0.

Any other problems than those listed above should be reported to our Technical Support Staff.

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COMPLIANCE SUPPORT:

Compliance Level	Compliant
Year 2000	YES

Known Anomalies: None.

IEEE STANDARDS SUPPORT:

Standard	Title
IEEE 802.1D	Transparent Bridging Specifications (ISO/IEC 10038)
IEEE 802.1P	Traffic Class Expediting and Dynamic Multicast Filtering
IEEE 802.1Q	Virtual Bridged Local Area Networks
IEEE 802.2	Local Area Networks, Logical Link Control (LLC)
IEEE 802.3	CSMA/CD 9 (ISO/IEC 8802-3)
IEEE 802.3x	Flow Control
IEEE 802.3z	1000Base-SX

IETF STANDARDS MIB SUPPORT:

RFC No.	Title	Groups Supported
1157	Simple Network Management Protocol(SNMP)	
1213	MIB-II	System, Interfaces, IP, ICMP, UDP, Transmission (dot3), and SNMP
1493	Bridge MIB	Spanning Tree and various managed objects for bridges
1573	Interfaces Evolution MIB	MIB-II Interfaces Group extensions
1643	Ethernet-like	Various Ethernet specific aspects
1757	RMON MIB	Statistics, History, Alarm, and Event
2674	Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions	Groups in the P-BRIDGE MIB ----- dot1dExtBase OBJECT IDENTIFIER ::= { pBridgeMIBObjects 1 } dot1dPriority OBJECT IDENTIFIER ::= { pBridgeMIBObjects 2 } Groups in the Q-BRIDGE MIB ----- dot1qBase OBJECT IDENTIFIER ::= { qBridgeMIBObjects 1 } dot1qTp OBJECT IDENTIFIER ::= { qBridgeMIBObjects 2 } dot1qStatic OBJECT IDENTIFIER ::= { qBridgeMIBObjects 3 } dot1qVlan OBJECT IDENTIFIER ::= { qBridgeMIBObjects 4 }

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ENTERASYS NETWORKS PRIVATE ENTERPRISE MIB SUPPORT:

Title	Version
NA	NA

Enterasys Networks Private Enterprise MIBs are available in ASN.1 format from the Enterasys Networks Web site at: <http://www.enterasys.com/support/mibs/>. Indexed MIB documentation is also available.

SNMP TRAP SUPPORT:

RFC No.	Title
RFC 1215	coldStart_trap warmStart_trap linkUp_trap authenticationFailure_trap egpNeighborLoss_trap
RFC 1493	ENTERPRISE dot1dBridge NewRoot 1 topologyChange 2
RFC 1573	SnmpTraps llinkDown 3 LinkUp 4
RFC 1757	IETF RMON, ENTERPRISE rmon -- 1.3.6.1.2.1.16 risingAlarm 1 fallingAlarm 2

ENTERASYS NETWORKS PRIVATE ENTERPRISE TRAP SUPPORT:

NONE

GLOBAL SUPPORT:

By Phone: (603) 332-9400
By Email: support@enterasys.com
By Web: <http://www.enterasys.com/support>
By Fax: (603) 337-3075
By Mail: Enterasys Networks, Inc.
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For information regarding the latest firmware available, recent release note revisions, or if you require additional assistance, please visit the Enterasys Networks Support web site.