

CUSTOMER RELEASE NOTES

**Vertical Horizon
VH-4802
Firmware Version 02.05.05
January 10, 2003**

INTRODUCTION:

The VH-4802 is a 48 port dual-speed manageable standalone switch. The switch provides 48 10Base-T/100Base-TX ports, plus two rear-panel slots for optional slide-in dual 100Base-FX, 1000Base-SX or 1000Base-LX modules.

Management access is provided in-band via Telnet or SNMP; or out of band via the serial console port interface (either directly or through an attached modem). An embedded 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-4802 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 an out of band connection or the BootP protocol. The management option provides SNMP, RMON (4 groups: 1, 2, 3 and 9), and Web management for system control and statistical monitoring.

It is recommended that one thoroughly reviews this release note prior to the installation or upgrade of this product.

FIRMWARE SPECIFICATION:

Status	Version No.	Type	Release Date
Current Version	2.05.05	Customer	1/10/03
Previous Version	2.05.00	Customer	2/8/02
Previous Version	2.04.07.03	Customer	5/2/01

HARDWARE COMPATIBILITY:

ALL

BOOTPROM COMPATIBILITY:

ALL

CUSTOMER RELEASE NOTES

NETWORK MANAGEMENT SOFTWARE SUPPORT:

ALL

SUPPORTED FUNCTIONALITY:

Features	Support
802.1P - Traffic Management	Yes
802.1Q - VLAN tagging and identification (256 VLANs supported)	Yes
Spanning Tree support	Yes
IGMP Snooping	Yes
Address Data Base Maintenance	Yes
Local Management via TELNET	Yes
RMON Groups 1,2,3,9	Yes
Runtime Address Discovery	Yes
BOOTP protocol support	Yes
TFTP download from a host support	Yes
Broadcast Storm Protection	Yes
Trunking	Yes
SNMP	Yes
Modem support	Yes
Imbedded Http Agent	Yes
Port Mirroring	Yes
Auto-Negotiation	Yes
RPU support	Yes
Configuration upload/download support	Yes
Port Security (MAC Locking)	Yes

INSTALLATION AND CONFIGURATION NOTES:

None.

CUSTOMER RELEASE NOTES

FIRMWARE CHANGES AND ENHANCEMENTS:

Current Release: 2.05.05

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

1. An SNMP trap attack filter was added to resolve the last known issue with SNMP vulnerability.
2. Local Management will no longer allow the user to toggle GVRP selection. It is set to disable by default. GVRP was not, and is not a supported feature.
3. Uploaded configuration files previously could not be ported from one VH switch to another switch. It has been noticed that the parameter "Broadcast Suppression" still sometimes fails to port. All other parameters port OK.
4. Detection was added for using IBM Type 1 configured cabling.
5. The condition resulting in a random loss of SNMP, PING, Telnet has been resolved
6. The issue where the VH-4802 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. To protect the management agent (loss of management issue) from excessive levels of broadcast traffic from all ports, the VH-4802 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 Arp) to each VLAN configured on the switch. This behavior is not detrimental to network operation and ensures that network management communication to the VH-4802 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.

KNOWN RESTRICTIONS AND LIMITATIONS:

1. When the speed of a Gigabit port is changed from a specific mode to auto-negotiate mode, the user must disconnect and reconnect the cable to cause auto-negotiation to occur. Gigabit ports should always be set to auto-negotiate mode to insure both ends of a link are aware of failure which might otherwise only affect traffic in a single direction. Where redundancy is configured this assures a link will failover to a redundant path.
2. When Gigabit interfaces are installed and configured in for Trunking, they must be alike, i.e., same type of Gigabit interface used at both ends of the Trunk.
3. When a port is in the Spanning Tree Blocking state, incoming packets will continue to be counted in its RMON counters.
4. When packets that originate at the CPU are transmitted out a mirror target port, they will have no CRC.
5. When Fast STA is disabled, the configuration count increases by one when a port transitions from a "NO LINK" state to a "BLOCKED" state.
6. Clients should not be attached to trunk ports.
7. Configuration parameters are not retained when downgrading to a lesser image from version 2.04.01

CUSTOMER RELEASE NOTES

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: 2.05.00

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|---|
| 1. This version of code corrects a condition that has been occasionally seen in the VH-4802 causing the units to randomly reset. |
| 2. This version of code corrects a condition that has been occasionally seen in the VH-4802 causing <u>all ports</u> to enter a non-forwarding state. All packets that are transmitted into any port(s) on the switch are counted as dropped. |
| 3. This version of code corrects a condition that could be seen in networks with high rates of varied types of broadcast traffic. This caused the units to enter a port lock up state. During this state, <u>some ports</u> would stop forwarding traffic and others would not. |
| 4. This version of code corrects a condition in which a User enters in two additional Local Management user names with passwords and then removes these entries; the User could still get into the LM with one of the user names with the password of the other user name. |
| 5. This version of code corrects a condition in which the "ifName" OID value was not equivalent to the "ifDescr" OID value. (i.e. VH Interface Description) |
| 6. This version of firmware supports a reduced boot up time when the system(s) is warm restarted. When restarting the system, select 'NO POST' from the console for faster system boot up. This enhancement enables the VH-4802 to bypass the internal diagnostics (POST) during a system restart. The boot time is reduced from approximately 210 seconds to 90 seconds. |
| 7. HTTP POST packets will no longer cause the switch to lock up and unwanted HTTP POST packets will be dropped. |
| 8. Auto-Negotiation on the VHIM1000-S1SX uplink module has been changed to address the link up issues that could occur when two Vertical Horizon switches containing interconnected VHIM1000-S1SX modules are powered up simultaneously. |
| 9. Support for the VHIM1000-S1TX 1000Base T uplink module has been added. |
| 10. Broadcast Storm Protection (previously Broadcast Strom Control) has been changed to reflect the following: The user selectable Threshold setting is now between 100 and 141,000 pps in increments of 100. The default is 200pps. The user selectable Average Intervals are 200ms, 500ms, 1sec, 5sec and 10sec. The default is 1sec. This new algorithm ensures that high rates of broadcast traffic will not hinder the operation on the system(s). |
| 11. A new UI for VLAN configuration has been added in this release of firmware. Please refer to the section titled New Local Management Console Menu Items in this release note. |
| 12. Ping response time has been enhanced. The VH-4802 operating system ensures higher priority tasks such as NVRAM Updates or Address Monitoring (i.e. Spanning Tree) take precedence over PING. This ensures the system(s) will remain operational. |
| 13. The following issue has been fixed in this release of firmware. When the transmission rate of Layer 3 packets increases, the rate at which reports are forwarded out the router port decreases. As the rate of Layer 3 packets increases, the forwarding of joins decreases. |
| 14. The following issues have been fixed in this version of firmware. Multicast addresses 01-80-C2-00-00-02 through 01-80-C2-00-00-15 were dropped when Spanning Tree was enabled. |

CUSTOMER RELEASE NOTES

Prior Firmware version: 2.04.07.06-10

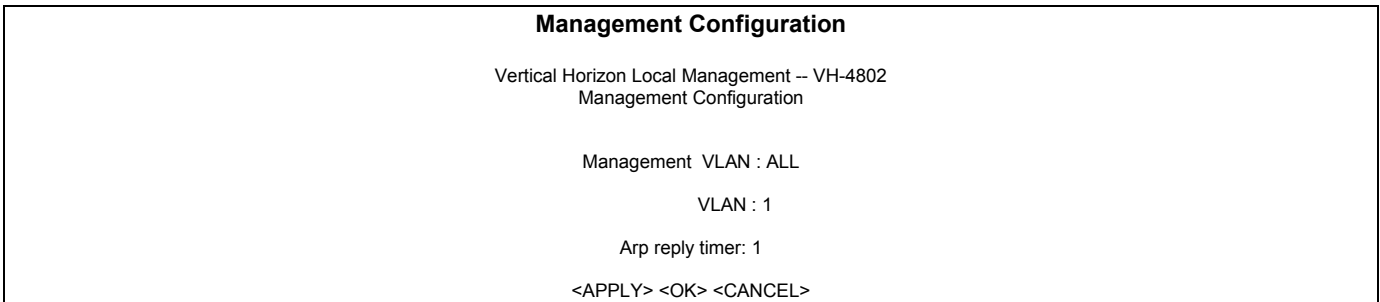
- | |
|--|
| 1. This version of code corrects a condition that has been occasionally seen in the VH-4802 causing the units to randomly reset. |
| 2. This version of code corrects a condition that has been occasionally seen in the VH-4802 causing the units to enter a port lock up state. |

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

NEW LOCAL MANAGEMENT CONSOLE MENU ITEMS:

Configuring Management Access

Use the Management Configuration menu to define, which VLAN(s) has management access to the switch. Parameters shown on this screen are indicated in the following figure and table.



Use <TAB> or arrow keys to move, <Space> to scroll options.

Parameter Description

Management VLAN Select ALL to give all VLANs access to switch management, or ONE to restrict access to a specified VLAN. If you select just one VLAN, you must specify its VLAN ID on the following line. VLAN Specifies the VLAN ID that has access to switch management. Arp Reply Timer configures the frequency, in seconds, at which Gratuitous Arps are sent out. A value of 99 used to stop sending the Gratuitous Arps completely. Otherwise use a range of 1 – 30 seconds.

COMPLIANCE SUPPORT:

Compliance Level	Compliant
Year 2000	YES*

Known Anomalies: None.

CUSTOMER RELEASE NOTES

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 802.3I	10Base-T (ISO/IEC 8802-3, clause 14)
IEEE 802.3u	100Base-TX (ISO/IEC 8802-3, clause 25)
IEEE 802.3u	100Base-FX (ISO/IEC 8802-3, clause 26)
IEEE 802.3x	Flow Control
IEEE 802.3z	1000Base-SX, 1000Base-LX

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
2863 (superseded 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	<p>Groups in the P-BRIDGE MIB</p> <p>-----</p> <p>dot1dExtBase OBJECT IDENTIFIER ::= { pBridgeMIBObjects 1 }</p> <p>dot1dPriority OBJECT IDENTIFIER ::= { pBridgeMIBObjects 2 }</p> <p>Groups in the Q-BRIDGE MIB</p> <p>-----</p> <p>dot1qBase OBJECT IDENTIFIER ::= { qBridgeMIBObjects 1 }</p> <p>dot1qTp OBJECT IDENTIFIER ::= { qBridgeMIBObjects 2 }</p> <p>dot1qStatic OBJECT IDENTIFIER ::= { qBridgeMIBObjects 3 }</p> <p>dot1qVlan OBJECT IDENTIFIER ::= { qBridgeMIBObjects 4 }</p>

CUSTOMER RELEASE NOTES

ENTERASYS PRIVATE ENTERPRISE MIB SUPPORT:

Title	Version
ELS100.MIB	01.00.00

Enterasys Private Enterprise MIBs are available in ASN.1 format from the Enterasys 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 linkUp_trap authenticationFailure_trap
RFC 1493	ENTERPRISE dot1dBridge NewRoot 1 topologyChange 2
2863 (superceded 1573)	SnmpTraps linkDown 3 LinkUp 4
RFC 1757	IETF RMON, ENTERPRISE rmon -- 1.3.6.1.2.1.16 risingAlarm 1 fallingAlarm 2

ENTERASYS 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.
35 Industrial Way
P.O. Box 5005
Rochester, NH 03866

For information regarding the latest firmware available, recent release note revisions, or if you require additional assistance, please visit the Enterasys Support web site.