

## CUSTOMER RELEASE NOTES

### **SmartStack Fast Ethernet Switch ELS100-S24TX2M Firmware Version 2.03.12 October 19, 2000**

#### **INTRODUCTION:**

The ELS100-S24TX2M is a 24 port dual-speed manageable standalone, stackable or rack-mountable switch. The switch provides 24 10Base-T/100Base-TX ports, plus two rear-panel slots for optional slide-in 100Base-FX, 1000Base-SX or 1000Base-LX modules. One of these slots can also be used for an optional stacking module that allows you to attach up to four switches to a 4 Gbps high-speed backplane. There is also another rear-panel slot that accepts an optional SNMP-based Management Module. This module supports both in-band and out-of-band access for managing the switch and the attached stack.

The ELS100-S24TX2M switches can be used in a standalone configuration, or can be stacked up to four high to form a single logical switch with up to 100 ports. One optional Management Module is required for configuring a standalone switch or an entire stack. The optional stacking Interconnect Module and Interconnect Cables are not included with the base unit and need to be ordered separately.

Management of the switch or stack is provided when an optional Management Module is installed. Management access is provided in-band via Telnet or TCP/IP or out of band via the serial console port interface either directly or through an attached modem. An 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 ELS100-S24TX2M 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 or stack 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: 1,2,3,9), and Web management for system control and statistical monitoring.

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

#### **FIRMWARE SPECIFICATION:**

Status	Version No.	Type	Release Date
Current Version	2.03.12	Customer	10/19/2000
Previous Version	2.02.02	Customer	8/14/2000
Previous Version	2.01.04.01	Customer	6/27/2000
Previous Version	2.00.07	Customer	1/13/2000

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### HARDWARE COMPATIBILITY:

The ELS100- S24TX2M Broadcom PHY chip is changing from Rev. 5208 to 5208R. If you are currently using hardware Rev. "0F" or greater, It is necessary to use firmware version 2.1.4.1 or greater on the ELS100- SMGMT module.

### BOOTPROM COMPATIBILITY:

ALL

### NETWORK MANAGEMENT SOFTWARE SUPPORT:

NMS Platform	Version No.	Module No.
TBD		

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 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
X-MODEM download via RS-232 Serial Port	Yes
Broadcast Suppression	Yes
Watchdog Timeout	Yes
Trunking	Yes
SNMP	Yes
Modem support	Yes
Imbedded Http Agent	Yes
Port Mirroring	Yes
Auto-Negotiation	Yes
Stacking	Yes
Option Redundancy	Yes
UPS support	Yes

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Configuration upload/download support	Yes
Port Security (MAC Locking)	Yes

### INSTALLATION AND CONFIGURATION NOTES:

In general, the **ELS100-MGMT** will be shipped to you pre-configured with this version of firmware. If you would like to upgrade an existing **ELS100-MGMT**, please follow the TFTP download instructions that are included with your firmware image upgrade kit. TFTP download instructions are also available on the Enterasys Support web site at: <http://www.enterasys.com/support/techtips/tk0020-9.html>.

### FIRMWARE CHANGES AND ENHANCEMENTS:

The following Known Issues have been fixed in this release of firmware.

1. The condition where the ELS100-MGMT management agent would not respond to 802.1Q tagged packets has been fixed.

### MODIFICATIONS:

1. Increased stack height from 4 to 7 units high.
2. The ELS100 Management agent (ELS100-MGMT) can be managed through all VLAN IDs, or restricted to a specific VLAN ID.
3. Added port security function (MAC Address locking).
4. Added configuration save and restore function.
5. Changed the model name and logo on Local management console and Web user interface. NOTE: The ELS100 product line will be changing to the new Vertical Horizon, VH-XXXX part numbering scheme by December 2000.

### 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. The switch employs SVL address learning. As a result, when there are duplicate addresses in different VLANs, VLAN leakage may occur. This will be addressed in a future firmware release
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 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.
6. When Fast STA is disabled, the configuration count increases by one when a port transitions from a "NO LINK" state to a "BLOCKED" state.
7. Designate, at the most, only one ELS100 to be the IGMP Querier in a network.
8. Do not trunk ports with IP Multicast clients. This will be supported in the next firmware release.

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

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### NEW LOCAL MANAGEMENT CONSOLE MENU ITEMS:

The new Port security feature is accessed via the Device Control Menu

#### Port Security Configuration

Use the Port Security Configuration screen to enable and configure port security for the switch. Port Security allows you to configure each port with a list of MAC addresses of devices that are authorized to access the network through that port.

```
Port Security Configuration
Vertical Horizon Local Management -- VH-2402S
Port Security Configuration
MAC Address MAC Address
-----
Unit : 1 Port : 1 MAC : 00-00-00-00-00-00
[Show] [More] [Add] [Delete]
Mode:DISABLE [Apply] [Clear]
<OK>
```

Use <TAB> or arrow keys to move. <Enter> to select

#### Parameter Description

MAC Address A list of the authorized MAC addresses that can access the network through the specified port.

Unit The stack unit ID.

Port The port number on the unit.

[Show] Displays authorized MAC addresses for the specified port.

[More] Displays more MAC addresses for the port.

Mode Port security can set to three states; Static, Disable, or Learning.

When set to Static, the switch will drop packets from the port if the source MAC address does not match one of the addresses in the MAC Address list. If set to Learning, the switch will use the last valid source address to filter packets from the port.

[Apply] Applies a change of Mode to the switch.

MAC A specific MAC address to be added or deleted from the list.

[Add] Adds a new MAC address to the current list.

[Delete] Removes a MAC address from the current list.

[Clear] Clears all the MAC addresses for the current port.

The Configuration save and restore function is accessed via the Management Setup Menu

### Saving the System Configuration

Use the Configuration Save & Restore menu to save the switch configuration settings to a file on a TFTP server. The file can be later downloaded to the switch to restore the switch's settings. The success of the operation depends on the accessibility of the TFTP server and the quality of the network connection. Parameters shown on this screen are indicated in the following figure and table.

```
Configuration Save & Restore
Vertical Horizon Local Management -- VH-2402S
Configuration Upload

Upload Server IP :
Upload Filename :
[Process TFTP Upload]
Upload status : Complete
Configuration Download
Download Server IP :
Download Filename :
[Process TFTP Download]
Download status : Complete
<APPLY> <OK> <CANCEL>
```

Use <TAB> or arrow keys to move, other keys to make changes.

### Parameter Description

#### Configuration Upload

Upload Server IP IP address of a TFTP server.

Upload Filename The name of the file to contain the switch configuration settings.

[Process TFTP

Upload]

Issues a request to upload the configuration settings to the specified file on the TFTP server.

Upload Status Indicates if an upload is "Complete" or "In Progress."

#### Configuration Download

Download Server IP IP address of a TFTP server.

Download Filename The name of the file that contains the switch configuration settings you wish to restore.

[Process TFTP

Download]

Issues a request to the TFTP server to download the specified file.

Download Status Indicates if a download is "Complete" or "In Progress."

Management access configuration is accessed via the Management setup menu

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### 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.

Management Configuration
Vertical Horizon Local Management -- VH-2402S Management Configuration
Management VLAN : ALL
VLAN : 1
<APPLY> <OK> <CANCEL>

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.

### 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 802.3I	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:

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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 }

### 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 warmStart_trap linkUp_trap authenticationFailure_trap egpNeighborLoss_trap
RFC 1493	ENTERPRISE dot1dBridge NewRoot 1 topologyChange 2
RFC 1573	SnmpTraps llinkDown 3 LinkUp 4

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RFC 1757	IETF RMON, ENTERPRISE rmon -- 1.3.6.1.2.1.16 risingAlarm 1 fallingAlarm 2
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### ENTERASYS PRIVATE ENTERPRISE TRAP SUPPORT:

NONE

### GLOBAL SUPPORT:

By Phone: (603) 332-9400  
By Email: [support@enterasys.com](mailto:support@enterasys.com)  
By Web: <http://www.Enterasys.com/support>  
By Fax: (603) 337-3075  
By Mail: Enterasys Networks  
P.O. Box 5005  
Rochester, NH 03867-5005

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