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## CUSTOMER RELEASE NOTES

### **SmartSTACK Fast Ethernet Switches ELS100-24TX, ELS100-24TXG, and ELS100-24TXM Firmware Version 2.01.07 (Release Notes Revised February 7, 2000)**

#### INTRODUCTION:

The ELS100-24TX SmartSTACK Fast Ethernet Switch provides 24 10/100 Mbps RJ45 ports.

The ELS100-24TXG SmartSTACK Fast Ethernet Switch provides 24 10/100 Mbps RJ45 ports and 2 GPIM interface slots for Gigabit connectivity via Cabletron GPIM modules. The GPIMs add two additional ports, 25 and 26, for a total of 26 potentially active ports.

The ELS100-24TXM SmartSTACK Fast Ethernet Switch provides 24 10/100 Mbps RJ45 ports and 2 100BASE-FX multimode and/or singlemode fiber SC ports via a plug-in module (EPIM100-2F2/2F3/2F4). RJ45 ports 1 and 2 are disabled when the fiber ports are installed for a total of 24 potentially active ports.

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

#### FIRMWARE SPECIFICATION:

Status	Version No.	Version Displayed as *	Type	Release Date
Current Version	2.01.07	2.1.1.7	Customer	12/10/99
Previous Version	2.01.00	2.1.0.0	Customer	08/13/99
Previous Version	2.00.02	2.0.0.2	Customer	02/11/99
Previous Version	1.00.02	1.0.0.2	Customer	11/01/98
Previous Version	1.00.01	1.0.0.1	Customer	09/01/98
Previous Version	1.00.00	1.0.0.0	Customer	08/01/98

\* Note: This is the version displayed by local and remote management.

#### HARDWARE COMPATIBILITY:

ALL

#### BOOTPROM COMPATIBILITY:

Bootprom Version: 1.01 or greater

#### NETWORK MANAGEMENT SOFTWARE SUPPORT:

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NMS Platform	Version No.	Module No.
SPECTRUM	Post 5.0	Rev. 1 /CS2/MMS2 (SM-CSI1064)
SPMA (Spectrum Portable Management Application)	Post 3.2	Rev. 1
SPEL (Spectrum Element Manager)	Post 2.02.00	N/A

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/ Dynamic Multicast Filtering	YES
802.1Q – VLAN tagging and identification	YES
802.1D – Transparent Bridging	YES
Auto Negotiation	YES
Broadcast Suppression	YES
Local Management via TELNET	YES
Modem Support (external)	YES
Port Mirroring	YES
RMON	YES
SNMP	YES
Virtual Networking – VLANs	YES
Cabletron WebView	YES
Port Trunking (“Link Aggregation”)	YES

**INSTALLATION AND CONFIGURATION NOTES:**

In general, the **ELS100-24TXG or ELS100-24TXM** will not be shipped to you pre-configured with this version of firmware. If you would like to upgrade an existing **ELS100-24TX, ELS100-24TXG or ELS100-24TXM**, please follow the TFTP download instructions that are included with your firmware image upgrade kit. TFTP download instructions are also available on the Cabletron Support Web Site at: <http://www.cabletron.com/support/techtips/tk0208-9.html>.

**FIRMWARE CHANGES AND ENHANCEMENTS:**

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1. Support for the "Hunt Group" protocol (Smarttrunking) mode of port trunking was removed. Port trunking is still supported. All trunking protocol selections were removed from the Trunking Configuration Menu.
2. Changing port names via Cabletron WebView would not be saved to non-volatile memory. --This has been fixed.
3. When connecting with Telnet from Sun Solaris 2.6, 2.7 and Red Hat Linux 5.2 and 6.0 into the switch, extra asterisk (\*) characters were displayed and each password character was echoed back. This has been fixed.
4. Port mirroring options have been changed so that transmit and receive can now be set to yes/no independently. Both can now be enabled at the same time; this was not possible in previous firmware versions.
5. A new feature has been added to the Spanning Tree configuration screen in the user interface: menu item "h. Spanning Tree Standby Enable", which has allowable settings of YES or NO. The default setting is YES. With this setting there is a 30-second forwarding delay time. If set to NO, all ports will go into forwarding mode within approximately one second (Fast Port). This setting can be used to avoid timeouts (with resulting failure to connect) at workstations directly attached to the switch. Note that this setting affects all ports, and can not be set on an individual port basis.

The Spanning Tree Standby configuration option has also been added to the Web-Based Management, and can be found in the Switch Configuration, then Spanning Tree Configuration menus.

**Note:** A new MIB object has been added to the Cabletron Proprietary MIB, and is described here as a supplement to Table 5-2 in the Installation and User Guide:

Variable	Description
SwitchSpanningTreeStandby	Globally enable/disable Spanning Tree Standby on the switch.

6. A change has been made which will prevent a mis-configuration of Port Mirroring. Port mirroring mis-configuration causes the feature to be enabled in the hardware although the configuration screen indicates it is disabled. A mis-configuration occurs when the mirrored port and mirroring port are selected from two different clusters.
7. A verification prompt was added to eliminate the danger of accidentally enabling port mirroring. The prompt is displayed if the current state of port mirroring is disabled and the user presses the "F" key to enable port mirroring on the configuration menu.
8. Using Netscape Navigator for Web management had problems when the "reload" command was invoked. This has been fixed.
9. When configuring VLANs, the user could not assign specific VLAN IDs. This has been fixed.
10. The dot1qNextFreeLocalVlanIndex should return "0". This has been fixed.
11. A new feature has been added, whereby the switch will save all configuration information to non-volatile memory before a TFTP file transfer request is processed.
12. A change has been made whereby the default is for diagnostic testing to be OFF. Diagnostics can be enabled through the user interface: select System Configuration, then Power Up Diagnostics to toggle between YES (enabled) and No (disabled).
13. SNMP Interface Index values were incorrectly returning the wrong port numbers (it would return Port Number +1). -- This has been fixed.
14. Fixed Spanning Tree bug: According to 802.1d, right after a topology change, root should use shorter aging timeout (forward delay) instead of 5 minutes. It should use this timeout for (forward delay + max age).
15. A bug that allowed system MAC addresses to be improperly aged out, causing loss of TCP/IP connections, had previously existed. -- This has been fixed.

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16. When a 2-port fiber module was present in an ELS100-24TXM, the diagnostic tests on the fiber ports would sometimes fail. – This has been fixed.

**KNOWN RESTRICTIONS AND LIMITATIONS:**

1. **Upgrading 1.00.0X firmware to 2.00.02 or greater erases configuration information.**  
 When upgrading firmware from any 1.00.0X version to 2.00.02 or greater, the switch configuration information such as IP address, VLANs, etc. will be lost and must be reprogrammed. (Upgrades from version 2.00.02 to any higher version do not erase the configuration.)
  2. In order to use the embedded Web Management feature when upgrading from any 1.00.0X version to 2.00.02 or greater, two file downloads must be performed. First, the image file (**2xxxx.dnl**) must be downloaded to the switch and then a second file (**2xxxx.web**) must be downloaded for Web Management. (**Note:** This applies only to upgrades, as new units will be configured with the appropriate files at the time of manufacture.)
  3. Certain traffic patterns may occasionally place addresses into the forwarding table that have not been actually seen by the switch. The Source MAC address of error frames (64 bytes or greater in length) is improperly learned by the switch.
  4. Error and dropped packet statistics reported on the “Switch Summary and Individual Port Statistics” screen may not synchronize properly with each other; dependant on the traffic flow through the switch.
  5. Broadcast frames increment the SNMP “ifOutOctets” counter for ports that have no link.
  6. When new entries are made to the SNMP RMON log table, they are not done so sequentially.
  7. VLAN must be enabled to use Class of Service (priority queuing).
  8. ELS100-24TX: The maximum number of port based VLANs that can be configured on the switch is eight.  
 ELS100-24TXG/24TXM: The maximum number of port based VLANs that can be configured on switches manufactured in week 9908 and later (and running this version of firmware) is 128. Any VLAN ID within the range of 0-4095 is valid, but only 128 VLANs can be created on the switch at one time.  
**(Note:** Units manufactured prior to week 9908 will support only eight VLANs.)
  9. The broadcast performance on one group of 8 ports (1-8, 9-16, or 17-24) is less than that of the ports on the switch; dependent on which switch cluster broadcasts are being passed to the CPU.
  10. When VLAN operation on the switch is enabled, the overall throughput performance of the switch drops due to the fact that internally, each packet passing through the switch is appended with a four byte IEEE 802.1Q VLAN tag.
  11. When using the port mirroring feature, the mirroring and mirrored (source and destination) ports must be in the same switch cluster.(i.e. Group of 8 ports)
  12. When using port mirroring, traffic rates on the mirroring port may be less than those on the mirrored port; dependent on the traffic flow through the switch.
  13. Discard address filtering rules can be overwritten. If a packet is received by the switch with a source MAC address that is the same as a static address set to be discarded, the discard rule will be overwritten, allowing packets with the source address to be forwarded through the switch.
  14. When transmitting packets out of a port, the packet size statistics counters on the Port Statistics screen do not increment properly. The counters do properly increment for packets received on the port.
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15. Firmware upgrades to version 2.00.XX and later on switches running boot code version 1.02 or earlier can only be made in-band via TFTP, not out-of-band via XMODEM. The Boot code version must be upgraded to 1.05 or greater for download via XMODEM.
  16. The switch will execute a software reset after performing a TFTP download. The reset will occur whether or not the download was successful or failed.

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17. If Hewlett-Packard GBIC (Gigabit Ethernet Interface Converter) modules are inserted/removed on the ELS100-24TXG while power is applied to the switch, they may become damaged. The damage results in the presence and type identity of the GBIC not being recognized by software. Data will still be switched successfully through the port.
18. The following issues are present when using the Port Trunking feature in this release of firmware:
  - When configuring Port Trunking, the Spanning Tree path costs on ports can become misconfigured.
  - Ports in different VLANs can be placed into the same trunk, which should not be allowed.
  - Trying to add a port to a trunk that has been created in a different switch cluster (group of 8 ports) causes the ports in the trunk to be erroneously deleted.
  - When a trunk group is configured, and the first port of that trunk group becomes disabled, local management reports that the entire trunk status is disabled; this is a false signal. The status can be corrected by disabling and re-enabling that port.
  - This release does not provide compatibility with DEC Hunt Group proprietary protocol mode of operation; this functionality will be provided in a future release.

Please refer to the addendum to the ELS100-24TXG/TXM User Guides (Document # 9033194) for detailed information regarding port trunking configuration.
19. When a BootP server and DHCP server are both present in the network, in some cases only the IP address will be acquired; the firmware image will not be received. Both protocols work properly when only one server type is present. This condition also existed in earlier versions of firmware. Cabletron's recommendation is to remove the DHCP server and reboot the switch; this will cause the switch to send BootP requests and receive an image from the BootP server.
20. When Microsoft Internet Explorer is used to access Cabletron WebView management, the initial start-up time is excessive (approximately 20 minutes), after which it performs normally. To avoid this delay, the switch's IP address should be added to Internet Explorer's Proxies "Ignore" area.
21. When using Cabletron WebView, an ELS100-24TXM which does not have an uplink installed is incorrectly reported to be an ELS100-24TX. This condition also existed in earlier versions of firmware.
22. Older versions of ELS100-24TX may not support the Cabletron WebView image download, due to insufficient memory.
23. When configuring 802.1Q trunks, the VLAN that contains the ports configured as trunks must not have those ports on the egress list for that VLAN. This results in a mis-configuration.
24. When configuring Port Trunks as 802.1Q trunks, you must add the port trunks to the egress list as a pair. Adding them separately results in an error reporting a VLAN violation.
25. When performing a TFTP file download to the switch, it may be necessary to repeat the process to successfully receive the entire file. Also, if a file that has been received is corrupt, the switch may enter a state where it is expecting to receive a new image via XMODEM download. This can be verified and corrected by invoking a local management session to the console (serial) port; the switch will send the character "c" to the console station until an XMODEM transfer of a new firmware image file is sent. For additional information, please reference <http://www.cabletron.com/support/techtips/tk0564-9.html> for XMODEM instructions, and <http://www.cabletron.com/support/techtips/tk0490-9.html> for TFTP/BootP instructions.
26. Contrary to the user manuals, the READ/WRITE and READ-ONLY passwords are case-sensitive in this version of firmware. The passwords must be typed exactly as they were created.
27. (Added 2/7/2000): The READ ONLY password is not saved to non-volatile memory. It will become effective and active when created, but will not be saved when the device is reset. Resetting the device clears the READ ONLY password. Also, when the READ/WRITE password is modified and saved, this will clear the READ ONLY password, allowing READ access with just a carriage return at the Login: prompt. These problems will be resolved in the next firmware release.

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.

\* No "Real-Time Clock" is supported with the ELS100-24TX, ELS100-24TXG and ELS100-24TXM Firmware Version 2.01.07.

**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
IEEE 802.3x	Flow Control

**IETF STANDARDS MIB SUPPORT:**

RFC No.	Title	Groups Supported
1213	MIB-II	System, Interfaces, Address Translation, IP, ICMP, TCP, UDP, Transmission, and SNMP
1398	Ethernet MIB	Ethernet-specific statistics subgroup of the MIB-II Transmission Group
1493	Bridge MIB	Spanning Tree, Forwarding Table Information, and Configuration
1757	RMON MIB	Statistics, History, Alarm, and Event
2233	Interfaces MIB	Stack Table
NA	802.1p MIB	ExtBase, Priority
NA	802.1Q MIB	Base, Filtering Database, Static, VLAN

**CABLETRON PRIVATE ENTERPRISE MIB SUPPORT:**

Title	Description
ctELS100-NG-mib.txt, Revision: 1.03.00	Provides management information for the next generation of the ELS100 product line, part of the SmartStack product line.
ct-smarttrunk-mib.txt	Provides definitions for Cabletron's Enterprise-specific port-trunking MIB.



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

**SNMP TRAP SUPPORT:**

RFC No.	Title
RFC 1157	IETF SNMP
	coldStart generic 0
	linkDown 2
	linkUp 3
	authenticationFailure 4
	enterpriseSpecific 6
RFC 1493	IETF Bridge, ENTERPRISE dot1dBridge -- 1.3.6.1.2.1.17
	newRoot specific 1
	topologyChange 2
RFC 1757	IETF RMON, ENTERPRISE
	rmon -- 1.3.6.1.2.1.16
	risingAlarm 1
	fallingAlarm 2

**CABLETRON PRIVATE ENTERPRISE TRAP SUPPORT:**

Title
None. (Please reference "SNMP TRAP SUPPORT" Section above.)

**GLOBAL SUPPORT:**

By Phone: (603) 332-9400  
 By Email: support@cabletron.com  
 By Web: <http://www.cabletron.com/support>  
 By Fax: (603) 337-3075  
 By Mail: Cabletron Systems, Inc.  
 P.O. Box 5005  
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For information regarding the latest firmware available, recent release note revisions, or if you require additional assistance, please visit the Cabletron Support Web Site.

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