



## Firmware Revision History – Managed Switches

This document applies to these model managed switches:

- SL and SLX series
- EK/EF series
- ET MIL-rated switches
- ET OEM (board-level) switches
- Legacy ET DIN-rail series

### Current feature versus model exceptions that exist:

Feature	Models NOT supported in
Assign IP per Port	ET-9MG
MAC Port Security	ET/SLX-5MS and 5MS-MDM
VLIN ID	ET/SLX-5MS and 5MS-MDM, ET/SLX-8/9MS
Q in Q	ET/SLX-5MS and 5MS-MDM, ET/SLX-8/9MS
100M SFP	ET-9MG
MAC Address Table	EK/EF and ET/SLX-16MS and 18MG

### Latest Version:

**Version 5.0.138 (Release Date: July-2010) – For SLX-#MS, EK/EF, ET-8Mx-MIL, ET-#MS-OEM**

Major new features:

- New dual firmware loading with improved firmware management
- Web based firmware loading
- IPv6 management
- Modbus TCP/IP monitoring of port and ring status
- Default changes:
  - Active IGMP with multicast suppression
  - RSTP enabled
  - Rate limiting disabled
  - Default IP is now 192.168.0.1 (was 10.2.0.1 previously)

Bug fixes:

- Many improvements

## **Previous Versions:**

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**Note: Versions 4.8 and 4.9 were skipped.**

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### **Version 4.7.1000 (Release Date: October-09) – For SLX-#MS, EK/EF, ET-8Mx-MIL, ET-#MS-OEM**

Major new features:

- New Linux kernel with improved booting and firmware loading
- Support for 100Mbps SFPs on EF switches
- Added "chkpt sum" command to CLI to support verification of configuration checkpoints
- Made port-based VLAN behavior more consistent with tag-based VLANs.

Bug fixes:

- Minor improvements
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### **Version 4.7 (Release Date: April-09) – For SLX-#MS, EK/EF, ET-8Mx-MIL, ET-#MS-OEM**

Major new features:

- Support for SL-10MG/16MS/18MG switches
- Support for 8MS-OEM switches
- Support for 8MG-MIL switches
- Multiple Spanning Tree Protocol
- Faster recovery time in RSTP and MSTP networks
- Port status added to CLI info command
- Many web UI refinements and improvements

Bug fixes:

- Minor improvements
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**Note: Version 4.5 and 4.6 were skipped.**

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### **Version 4.4.1000 (Release Date: March-09) – For All Models**

Major new features:

- None – maintenance release

#### **Important Note:**

**This firmware is the last supported version for the ET Series DIN-rail switches.**

Bug fixes:

- CLI defaults FDB number to 0 when configuring independent VLAN learning
- LED colors made more consistent on EK26 and EK32
- Speed auto-negotiation improved for EK26 ports 9-10 and EK32 ports 17-18
- Fixed reset button issue on EK switches

**Version 4.4 (Release Date: January-09) – For All Models**

## Major new features:

- Supports rack switches (EK26, EK32, EF26, and EF32)
- Sixnet Real-time Ring protocol integration
- Link loss alarms and flexible alarm configuration
- RSTP-aware IGMP for faster multicast failover
- Port status added to CLI info command
- Many web UI refinements and improvements

## Bug fixes:

- Minor improvements
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**Version 4.3.1003 (Release Date: 18-September-2008) - For All Models**

## Major new features:

- None - maintenance release

## Bug fixes and improvements:

- Improved CPU performance for Gigabit switches under heavy unidirectional load
  - Allowed non-management VLANs to be given VLAN ID 1
  - Text UI may list Secure Mode twice for VLAN mode configuration
  - Under some circumstances switch may fail to get an address via DHCP
  - CLI doesn't allow setting management VLAN ports
  - Gigabit switches may default to having gigabit speeds disabled
  - Port-based VLANs and management VLAN interaction issue
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**Version 4.3.1000 (Release Date: 4-June-2008) - For All Models**

## Major new features:

- None - maintenance release

## Bug fixes:

- Improved handling of older checkpoint files
  - Restoring factory defaults may be slow
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**Version 4.3 (Release Date: 17-April-2008) - For All Models**

## Major new features:

- Full support for the SL-8MG-x switches.
- MAC table monitoring is now available in the web user interface.
- Improved VLAN configuration and validation in the web user interface.
- Independent VLAN learning is now available.

## Bug fixes:

- Issue with applying changes under some circumstances in models with the ARM9 CPU.

- Some filenames were not accepted when uploading configuration checkpoints over http.
  - On -MDM models only, the modem may not answer when DO is configured for CD.
  - For some models, on the IGMP monitoring page, the IP addresses of other IGMP devices may be displayed in reverse order
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**Note: Version 4.2 was skipped.**

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### **Version 4.1 (Release Date: October-2007) - For All Models**

#### Major new features:

- Support for USB as a serial device. Some new managed switches now have a USB console port in addition to the RS232.
- Supports new hardware including SL-8MS-8/9, SL-5MS-MDM, SL-5MS/8MS with ARM9 CPU, and 32MB CPUs.
- Modem switches no longer support independent setting of receive and transmit data compression; compression is ON or OFF.
- Longer guard time around +++ when trying to put modems in command state. Makes for more reliable dial out messaging.

#### Bug fixes:

- Port mirroring may fail in some 8MS switches.
  - NAND memory can become corrupted on PPC-based switches under some circumstances.
  - Passwords can't have \$ in certain positions.
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### **Version 4.0 (Release Date: July-2007) - For All Models**

#### Major new features:

- Support for ET-9MS based on ARM9 CPU.
- Ability to have 100Mbps fiber on the SFP gigabit ports of 10MG and 18MG (contact SIXNET for support availability in the 9MG)
- Q in Q (double tagging) (gigabit models only at this time)
- Allow management VLAN ID and ports to be changed (gigabit models only at this time)
- Special IGMP feature – Ports can now be excluded from IGMP processing.

#### Bug fixes:

- Changed port path cost default to be consistent with IEEE standard requirement (all managed switches).
- Managed switch may not interoperate with MST switch in RSTP mode.
- Managed switch could fault at boot up if configured NTP server is not available.
- VLANS were being incorrectly deleted in managed switch web UI.
- Corrected sysObjectID for all managed switches.
- Non-default SNMP community strings may not work.
- Problem configuring managed switch host name in text UI.
- Port Security text UI page may cause a segmentation fault when trying to add MAC addresses.
- Web server log files could use up all space in the /tmp directory.
- Set IP Per Port configuration screens should not be displayed for MG switches.
- CLI expects the wrong range for IEEE VLAN tags.
- Memory alignment fixups should be enabled for unaligned memory accesses.

**Note: Version 3.8 and 3.9 were skipped.**

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### **Version 3.7.1001 (Release Date: February-2007) - For All Models**

Major new features:

- Add support for the ET-5MS-OEM-2-1 model

Bug fixes:

- If an NTP server is configured but unavailable when the switch is restarted, the switch may respond slowly.
  - Problem deleting high-numbered VLANs in the table
  - An @ in the switch contact information may interfere with saving and setting the network address or subnet mask.
  - Port security shows up in the 5MS models (text UI only) when it is not supported by the 5MS.
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### **Version 3.7.1000 (Release Date: December-2006) - For All Models**

Major new features:

- None - maintenance release

Bug fixes:

- Set IP per Port Feature may assign an incorrect Subnet Mask to the DHCP client
  - (Note: This feature is not currently supported by MG models.)
  - Port security shows up in 5MS switches when it is not supported by 5MS switches
  - Problem with PPP in 5MS-MDM switches
  - Port LEDs may not act properly on a SL-5MS
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### **Version 3.7 (Release Date: November-2006) - For All Models**

Major new features:

- Full support for the ET-10MG, ET-16MS and ET-18MG switches
- Faster boot time and web server operation
- Gigabit fiber ports can now be configured for auto-negotiate or fixed modes
- Network statistics page has a “change” column to indicate the change in the counter from the previous refresh of the screen
- VLAN interfaces are now consistently presented as “vlanid/port#”
- All options now configurable in CLI (Command Line Interface)
- NTP server, TFTP server, and Gateway can now be fully qualified domain names (FQDN) like “0.pool.ntp.org” (rather than an explicit IP address) if DNS is configured
- When changing the switch’s IP address via the web UI, you will now be redirected to the new address and not lose connectivity to the configuration session
- Redundancy status page now includes topology change counter
- MAC-based port security – ability to define what MAC addresses are allowed per port
- (Note: Not supported by 5MS models.)

Bug fixes: None

**Note: Version 3.6 was skipped.**

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### **Version 3.5 (Release Date: October-2006) - For All Models**

Major new features:

- Full support for the new ET-5MS-MDM Ethernet Modem
- New configuration status page
- Added some additional OEM support
- Support for upcoming new "SL" switches (to be announced)

Bug fixes:

- MAC address assignment in 5-port managed switches may have been incorrect
  - IP-Per-Port feature was not working properly under some circumstances
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**Note: Version 3.4 was skipped.**

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### **Version 3.3.1001 (Release Date: 20-June-2006) - For All Models**

Major new features:

- None - maintenance release - phase 3

Bug fixes:

- Web and text user interfaces may not respond when there is high broadcast traffic
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### **Version 3.3.1000 (Release Date: 6-June-2006) - For All Models**

Major new features:

- None - maintenance release - phase 2

Bug fixes:

- 5MS: ATU could clog with unused multicast group entries, then flood multicast data
  - Could lose connectivity with RSTP enabled and moderate broadcast traffic
  - May have rejected maximum length packets that are tagged
  - Disabled ports may not have been fully disabled
  - The web UI required cookies enabled for use with Internet Explorer
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### **Version 3.3 (Release Date: 24-May-2006) - For All Models**

Major new features:

- None - maintenance release - phase 1

Bug fixes:

- 9MG only: Data may have been dropped after a long run at high bandwidth usage

- 9MG only: firmware updates may not have loaded properly
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**Version 3.2.1000 (Release Date: 28-March-2006) - For ET-9MG and ET-9MS Models**

## Major new features:

- None - maintenance release

## Bug fixes:

- Ports 8 and 9 on ET-9MG models only may have problems defining root switch for RSTP.
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**Version 3.2 (Release Date: 17-March-2006) - For All ET-9MG, ET-9MS & ET-5MS Models**

## Major new features:

- Full support for the new ET-5MS (5-port) managed switches.
- The RSTP was further improved and now offers typical recovery times of 30 mS per hop.
- Support for NTP (Network Time Protocol) as a client plus SNMP Etherstats have been synced to real time clock.
- Set Device IP gives you the ability to fix the IP address that is given to directly connected Ethernet devices on a port by port basis. Now you can easily swap or replace devices and the IP address will remain fixed.
- An inactivity timer will automatically close your management connections to secure your switch from unauthorized access.
- A new IGMP capability allows you to filter all multicast messages if there are no IGMP groups joined. The default is to flood all multicast messages if no groups are detected.
- For additional security, IP access can be disabled by setting the IP address to 0.0.0.0.
- Checkpoint files saved with older firmware can now be restored in the latest firmware.
- You can now fully configure QoS in the terminal interface in addition to the web interface.

## Bug fixes:

- Auto-negotiated 1G ports must have a non-gigabit speed selected (MG only).
  - Tag mapping configuration wasn't working in text UI (web UI was okay).
  - SNMPWALK may report error after Qbridge MIB.
  - Link up/down trap enable wasn't being restored from checkpoint.
  - Problem in NET-SNMP prevented the disabling of authorization failure traps. The switches now have the newer NET-SNMP v5.2.2 which has this fixed.
  - The RMON MIB was missing a couple parameters.
  - Problem with updating firmware via web gui in 9MG only.
  - ARM-based switch (only 5MS at this time) may have mishandled root path cost.
  - Problem with saving and restoring some checkpoint configuration.
  - The permissions on net-snmp were misconfigured which allowed you to set improper SNMP community strings in the text UI.
  - Loading files from the Update Firmware screen of the web interface may have had problems with long filenames with spaces.
  - Problem with when trying to delete the last SNMP manager IP address In hyper terminal.
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**Version 3.1 (Release Date: 08-March-2006) - For All ET-9MG and ET-9MS Models**

## Major new features:

- Support for a new type of Flash memory found in newer IPm-based Ethernet switches. This release is also 100% compatible with all existing switches.

## Bug fixes:

- None
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**Note: Version 3.0 was skipped.**

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**Version 2.9 (Release Date: 5-October-05) - For All ET-9MG and ET-9MS Models**

## Major new features:

- Combined support for all managed switch models ET-9MS and ET-9MG

## Bug fixes:

- With v2.8 only, fixed speed ports such as fiber ports (100 Mbps only; gigabit fiber ports not affected) may not link properly
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**Version 2.8 (Release Date: 30-September-05) - For ET-9MG Models Only**

Use this version with ET-9MG (Gigabit models) only!

## Major new features:

- Full support for Gigabit managed switches models ET-9MG-xx
- Advanced OEM capabilities now available

## Bug fixes:

- RSTP may be affected when sending SNMP notifications
  - Segmentation fault errors may be seen in text user interface after DHCP is enabled
  - Web user interface may stop responding effectively after DHCP is enabled
  - Port-based VLANs may not initialize properly under certain conditions
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**Note: Version 2.7 was skipped.**

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**Version 2.6A (Release Date: 09-August-05) - For ET-9MS Models Only**

## Major new features:

- DHCP support improved

## Bug fixes:

- DHCP may cause segmentation fault
  - Port-based VLANs may not initialize correctly
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**Version 2.6 (Release Date: 06-June-05) - For ET-9MS Models Only**

## Major new features:



- RSTP update (IEEE 802.1D-2004) which includes additional choices for the Edge parameter and larger network diameter (40 switches vs. 8 in previous release)
- The default for scheduling in QoS has been changed from Fair to Strict to be compliant with Section 7.7.4 of IEEE 802.1D-2004
- A date is now displayed for when the checkpoint was last saved
- The web UI remembers the last page the user viewed with a browser cookie and resumes there the next time the switch is accessed

**Bug fixes:**

- Issue with installing large patch files
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**Version 2.5 (Release Date: 27-Apr-05) - For ET-9MS Models Only****Major new features:**

- Port and tag-based VLANs based on IEEE 802.1Q
- SSH (Secure Shell) for secure and encrypted management

**Bug fixes:**

- None
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**Version 2.4 (Release Date: 30-Mar-05) - For ET-9MS Models Only****Major new features:**

- None

**Bug fixes:**

- When IGMP is disabled, multicast messages may not be flooded to all ports
  - Dynamic disable of IGMP doesn't flush ATU
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**Note: Version 2.3 was skipped.**

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**Version 2.2 (Release Date: 25-Jan-05) - For ET-9MS Models Only****Major new features:**

- Multicast filtering (IGMP Snooping and Querying) (v1 and v2)
- Download and Upload of configuration or firmware files
- Changed Flow Control default to disabled

**Bug fixes:**

- SNMPwalk causes segmentation fault in RSTP
  - Issue with leaving SNMP password blank
  - Some SNMP responses are slow
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**Version 2.1 (Release Date: 01-Oct-04) - For ET-9MS Models Only**

**Major new features:**

- SNMP v3 encryption and authentication; application note also revised
- SNMP notifications (traps) for authentication failure, topology change and links
- Can disable SNMP completely
- Priority Queuing (i.e. Traffic Priority) – QoS, CoS, ToS/DiffServ
- Message rate filtering – broadcasts and multicasts storm protection
- All parameters obtained via DHCP are now displayed in the Sys. Info. page

**Bug fixes:**

- Fdb table reports wrong port for management MAC addresses
- Issue with MAC address for each port for RSTP
- RSTP issue when switch is queried by SNMP software

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**Version 1.10 (Release Date: 30-July-04) - Initial Release For ET-9MS Models Only****Major new features:**

- First release which includes:
- Rapid Spanning Tree Protocol (RSTP) with support for STP
- SNMP v1 and v2
- DHCP or fixed settings
- Port configuration
- Port mirroring
- Basic (http) and secure (https) web interface
- Telnet and terminal interface

**Bug fixes:**

- Not applicable (original release)