

# H3C S5130EI\_E-CMW710-R3106 Release Notes

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This document describes the features, restrictions and guidelines, open problems, and workarounds for version S5130EI\_E-CMW710-R3106. Before you use this version in a live network, back up the configuration and test the version to avoid software upgrade affecting your live network.

Use this document in conjunction with H3C S5130EI\_E-CMW710-R3106 Release Notes (Software Feature Changes) and the documents listed in "[Related documentation](#)."

## Version information

### Version number

H3C Comware Software, Version 7.1.045, Release 3106

Note: You can see the version number with the command **display version** in any view. Please see Note①.

### Version history

Table 1 Version history

Version number	Last version	Release Date	Release type	Remarks
S5130EI_E-CMW710-R3106	ESS 3105P02	2014-7-28	Release version	None
S5130EI_E-CMW710-E3105P02	ESS 3105	2014-6-3	ESS version	None
S5130EI_E-CMW710-E3105	First release	2014-5-12	ESS version	First release

## Hardware and software compatibility matrix

Table 2 Hardware and software compatibility matrix

Item	Specifications
Product family	S5130-EI Series
Hardware platform	S5130-28S-EI
	S5130-52S-EI
	S5130-28F-EI
	S5130-28S-PWR-EI
	S5130-28S-HPWR-EI
	S5130-52S-PWR-EI

Item	Specifications
Minimum memory requirements	1 GB
Minimum Flash requirements	512 M
Boot ROM version	Version 109 or higher (Note: Use the <b>display version</b> command in any view to view the version information. Please see Note②)
Host software	S5130EI_E-CMW710-R3106.ipe
iMC version	iMC PLAT 7.0 (E0202P03) iMC BIMS 7.0 (E0201P02) iMC EAD 7.0 (E0202) iMC EIA 7.0 (E0203H02) iMC MVM 7.0 (E0201P02) iMC NTA 7.0 (E0201P02) iMC QoS 7.0 (E0201H01) iMC SDNM 7.0 (E0201H01) iMC SHM 7.0 (E0202) iMC UBA 7.0 (E0201P02)
iNode version	iNode PC 7.0 (E0203)
Web version	None
Remarks	None

#### Display the system software and Boot ROM versions of S5130-EI:

```

<H3C> display version
H3C Comware Software, Version 7.1.045, Release 3106          ----- Note①
Copyright (c) 2004-2014 Hangzhou H3C Tech. Co., Ltd. All rights reserved.
H3C S5130-52S-EI uptime is 0 weeks, 0 days, 0 hours, 10 minutes
Last reboot reason : USER reboot

Boot image: flash:/s5130ei_e-cmw710-boot-r3106.bin
Boot image version: 7.1.045, Release 3106
  Compiled Jun 24 2014 15:36:20
System image: flash:/s5130ei_e-cmw710-system-r3106.bin
System image version: 7.1.045, Release 3106
  Compiled Jun 24 2014 15:36:20

Slot 1:
Uptime is 0 weeks,0 days,0 hours,10 minutes
H3C S5130-52S-EI with 1 Processor
BOARD TYPE:          LSP7LTSUB
DRAM:                992M bytes
FLASH:               512M bytes
PCB 1 Version:       VER.B
Bootrom Version:     109          ----- Note②
CPLD 1 Version:      001

```

Release Version: H3C S5130-52S-EI-3106  
Patch Version : None  
Reboot Cause : UserReboot  
[SubSlot 0] 48GE+4SFP Plus

## Upgrading restrictions and guidelines

None.

## Hardware feature updates

### S5130EI\_E-CMW710-R3106

None.

### S5130EI\_E-CMW710-E3105P02

Added support for S5130-52S-EI, S5130-28S-PWR-EI, S5130-28S-HPWR-EI, and S5130-52S-PWR-EI.

### S5130EI\_E-CMW710-E3105

First release.

## Software feature and command updates

For more information about the software feature and command update history, see H3C S5130EI\_E-CMW710-R3106 Release Notes (Software Feature Changes).

## MIB Updates

Table 3 MIB updates

Item	MIB file	Module	Description
<b>S5130EI_E-CMW710-R3106</b>			
New	None	None	None
Modified	None	None	None

Item	MIB file	Module	Description
<b>S5130EI_E-CMW710-E3105P02</b>			
New	None	None	None
Modified	None	None	None
<b>S5130EI_E-CMW710-E3105</b>			
New	First release	First release	First release
Modified	First release	First release	First release

## Operation Changes

### Operation changes in R3106

None.

### Operation changes in E3105P02

None.

### Operation changes in E3105

First release.

## Restrictions and cautions

First release.

## Open problems and workarounds

### 201407170560

- Symptom: STP fails to work.
- Condition: This symptom can be seen if the following procedure is performed:
  - a. Create an IRF fabric in ring topology.
  - b. Enable PVST and MVRP on the IRF fabric.
  - c. Perform two master/subordinate switchovers.

- Workaround: Do not enable PVST and MVRP at the same time.

#### 201407220491

- Symptom: Deleting a unicast multiport MAC entry fails.
- Condition: This symptom can be seen if the unicast multiport MAC entry has multiple egress ports.
- Workaround: Use the **undo mac-address multiport** *mac-address* **vlan** *vlan-id* command to specify the VLAN rather than the egress ports when you delete the multiport MAC entry.

#### 201407280036

- Symptom: An SNMP walk on the MAC address table returns incomplete information.
- Condition: This symptom can be seen if the MAC address table has static MAC entries.
- Workaround: Do not configure static MAC entries.

## List of resolved problems

### Resolved problems in R3106

#### 201406060105

- Symptom: The ports in a multi-port MAC entry fail to forward packets.
- Condition: This symptom can be seen if the multi-port MAC entry has an egress port being an aggregate interface.

#### 201406060353

- Symptom: The **igmp-snooping drop-unknown** command in VLAN view does not take effect.
- Condition: This symptom can be seen if the **undo igmp-snooping drop-unknown** command is executed and then the **igmp-snooping drop-unknown** command is executed.

#### 201406060358

- Symptom: The switch unexpectedly reboots after the egress port of ping packets is shut down.
- Condition: This symptom can be seen if the following conditions exist:
  - The switch receives a large number of ping packets.
  - Rate limit is configured on the egress port of the ping packets.
  - Shut down the egress port three minutes after the switch receives the ping packets.

#### 201406060379

- Symptom: The disk space is exhausted after multiple **more** operations are performed to a file.
- Condition: This symptom can be seen if multiple **more** operations are performed to a file.

#### 201406060386

- Symptom: The **speed 100** command executed on an SFP fiber port does not take effect.



- Condition: This symptom can be seen after the **speed 100** command is executed on an SFP fiber port (non combo port) on a switch where all ports are fiber ports.

## Resolved problems in E3105P02

### 201405200058

- Symptom: The switch unexpectedly reboots after IGMP snooping is enabled for the primary VLAN of a private VLAN.
- Condition: This symptom can be seen after IGMP snooping is enabled for the primary VLAN of a private VLAN.

### 201405220612

- Symptom: The switch fails to assign IPv4 or IPv6 PBR settings to a VLAN interface.
- Condition: This symptom can be seen if large numbers of DHCP snooping entries exist.

## Resolved problems in E3105

First release

## Related documentation

### Documentation set

- H3C S5130-EI Switch Series Installation Quick Start
- H3C S5130-EI Switch Series Installation Guide
- H3C PSR150-A & PSR150-D Series Power Modules User Manual
- H3C S5130-EI Switch Series Configuration Guides-Release 3106
- H3C S5130-EI Switch Series Command References-Release 3106

## Obtaining Documentation

Take the following steps to get related documents from the H3C website at [www.h3c.com](http://www.h3c.com).

1. Go to [http://www.h3c.com/portal/Technical\\_Documents](http://www.h3c.com/portal/Technical_Documents).
2. Choose the desired product category and model.

# Appendix A Feature list

## Hardware features

**Table 4 S5130-EI series hardware features for non-PoE switch models**

Item	S5130-28S-EI	S5130-52S-EI	S5130-28F-EI
Dimensions (H × W × D)	43.6 × 440 × 160 mm (1.72 × 17.32 × 6.30 in)	43.6 × 440 × 260 mm (1.72 × 17.32 × 10.24 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)
Weight	≤ 5 kg (11.02 lb)	≤ 5 kg (11.02 lb)	≤ 8 kg (17.64 lb)
Console ports	1	1	1
10/100/1000Base-T Ethernet ports	24	48	8 (Each and its corresponding SFP port form a combo interface.)
100/1000Base-X SFP ports	N/A	N/A	24 (The rightmost eight SFP ports and their corresponding 10/100/1000Base-T Ethernet ports form combo interfaces.)
SFP+ ports	4	4	4
Power module slots	N/A	N/A	2, on the rear panel
Input voltage	<ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul>	<ul style="list-style-type: none"> <li>AC power source               <ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul> </li> <li>DC power source: -48 V DC power source in the equipment room or RPS (recommended H3C models: RPS800-A or RPS1600-A)               <ul style="list-style-type: none"> <li>Rated voltage: -48 VDC to -60 VDC</li> <li>Max voltage: -36 VDC to -72 VDC</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>AC power source               <ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul> </li> <li>DC power source: -48 V DC power source in the equipment room or RPS (recommended H3C models: RPS800-A or RPS1600-A)               <ul style="list-style-type: none"> <li>Rated voltage: -48 VDC to -60 VDC</li> <li>Max voltage: -36 VDC to -72 VDC</li> </ul> </li> </ul>
Minimum power consumption	19 W	<ul style="list-style-type: none"> <li>AC: 38 W</li> <li>DC: 38 W</li> </ul>	<ul style="list-style-type: none"> <li>AC: 30 W</li> <li>DC: 38 W</li> </ul>
Maximum power consumption	26 W	<ul style="list-style-type: none"> <li>AC: 45 W</li> <li>DC: 50 W</li> </ul>	<ul style="list-style-type: none"> <li>AC: 60 W</li> <li>DC: 68 W</li> </ul>
Chassis leakage current compliance	<ul style="list-style-type: none"> <li>UL60950-1</li> <li>EN60950-1</li> <li>IEC60950-1</li> <li>GB4943.1</li> </ul>		

Item	S5130-28S-EI	S5130-52S-EI	S5130-28F-EI
Melting current of power module fuse	AC-input: 2 A/250 V	<ul style="list-style-type: none"> <li>AC-input: 10 A/250 V</li> <li>DC-input: 5 A/250 V</li> </ul>	<ul style="list-style-type: none"> <li>AC-input: 5 A/250 V</li> <li>DC-input: 8 A/250 V</li> </ul>
Operating temperature	0°C to 45°C (32°F to 113°F)		
Operating humidity	5% to 95%, noncondensing		
Fire resistance compliance	<ul style="list-style-type: none"> <li>UL60950-1</li> <li>EN60950-1</li> <li>IEC60950-1</li> <li>GB4943.1</li> </ul>		

**Table 5 S5130-EI series hardware features for PoE switch models**

Item	S5130-28S-PWR-EI	S5130-28S-HPWR-EI	S5130-52S-PWR-EI
Dimensions (H × W × D)	43.6 × 440 × 260 mm (1.72 × 17.32 × 10.24 in)	43.6 × 440 × 300 mm (1.72 × 17.32 × 11.81 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)
Weight	≤ 8 kg (17.64 lb)	≤ 8 kg (17.64 lb)	≤ 8 kg (17.64 lb)
Console ports	1	1	1
10/100/1000Base-T Ethernet ports	24	24	48
SFP+ ports	4	4	4
Input voltage	<ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul>	<ul style="list-style-type: none"> <li>AC power source <ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul> </li> <li>DC power source: H3C RPS1600-A <ul style="list-style-type: none"> <li>Rated voltage: -54 VDC to -57 VDC</li> <li>Max voltage: -44 VDC to -60 VDC for single DC input and -54 VDC to -57 VDC for AC+DC dual inputs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>AC power source <ul style="list-style-type: none"> <li>Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz</li> <li>Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz</li> </ul> </li> <li>DC power source: H3C RPS1600-A <ul style="list-style-type: none"> <li>Rated voltage: -54 VDC to -57 VDC</li> <li>Max voltage: -44 VDC to -60 VDC for single DC input and -54 VDC to -57 VDC for AC+DC dual inputs</li> </ul> </li> </ul>
Maximum PoE per port	30 W	30 W	30 W
Total PoE	190 W	<ul style="list-style-type: none"> <li>AC: 370 W</li> <li>DC: 740 W</li> </ul>	<ul style="list-style-type: none"> <li>AC: 370 W</li> <li>DC: 800 W</li> </ul>
Minimum power consumption	25 W	<ul style="list-style-type: none"> <li>AC: 30 W</li> <li>DC: 25 W</li> </ul>	<ul style="list-style-type: none"> <li>AC: 47 W</li> <li>DC: 43 W</li> </ul>
Maximum power consumption (including PoE consumption)	230 W (including 190 W PoE consumption)	<ul style="list-style-type: none"> <li>AC: 460 W (including 370 W PoE consumption)</li> <li>DC: 790 W (including 740 W PoE consumption)</li> </ul>	<ul style="list-style-type: none"> <li>AC: 490 W (including 370 W PoE consumption)</li> <li>DC: 890 W (including 800 W PoE consumption)</li> </ul>

Item	S5130-28S-PWR-EI	S5130-28S-HPWR-EI	S5130-52S-PWR-EI
Chassis leakage current compliance	<ul style="list-style-type: none"> <li>• UL60950-1</li> <li>• EN60950-1</li> <li>• IEC60950-1</li> <li>• GB4943.1</li> </ul>		
Melting current of power module fuse	AC-input: 6.3 A/250 V	<ul style="list-style-type: none"> <li>• AC-input: 10 A/250 V</li> <li>• DC-input: 25 A/250 V</li> </ul>	<ul style="list-style-type: none"> <li>• AC-input: 10 A/250 V</li> <li>• DC-input: 25 A/250 V</li> </ul>
Operating temperature	0°C to 45°C (32°F to 113°F)		
Operating humidity	5% to 95%, noncondensing		
Fire resistance compliance	<ul style="list-style-type: none"> <li>• UL60950-1</li> <li>• EN60950-1</li> <li>• IEC60950-1</li> <li>• GB4943.1</li> </ul>		

## Software features

**Table 6 Software features of the S5130-EI series**

Feature	S5130-28S-EI	S5130-52S-EI	S5130-28S-PWR-EI	S5130-28S-HPWR-EI	S5130-28F-EI	S5130-52S-PWR-EI
Full duplex Wire speed L2 switching capacity	128 Gbps	176 Gbps	128 Gbps	128 Gbps	128 Gbps	176 Gbps
Whole system Wire speed L2 switching Packet forwarding rate	95.232 Mpps	130.952 Mpps	95.232 Mpps	95.232 Mpps	95.232 Mpps	130.952 Mpps
Forwarding mode	Store-forward					
IRF	<ul style="list-style-type: none"> <li>• Ring topology</li> <li>• Daisy chain topology</li> <li>• LACP MAD</li> <li>• ARP MAD</li> <li>• ND MAD</li> <li>• BFD MAD</li> <li>• IRF comprised of different models</li> </ul>					

Feature	S5130-28S-EI	S5130-52 S-EI	S5130-28S-PWR-EI	S5130-28 S-HPWR-EI	S5130-28F -EI	S5130-52 S-PWR-EI
Link aggregation	<ul style="list-style-type: none"> <li>• Aggregation of 10-GE ports</li> <li>• Aggregation of GE ports</li> <li>• Static link aggregation</li> <li>• Dynamic link aggregation</li> <li>• Inter-device aggregation</li> <li>• A maximum of 14 aggregation groups on a device</li> <li>• A maximum of 128 inter-device aggregation groups</li> <li>• A maximum of 8 ports for each aggregation group</li> </ul>					
Flow control	<ul style="list-style-type: none"> <li>• IEEE 802.3x flow control</li> <li>• Back pressure</li> </ul>					
Jumbo Frame	<ul style="list-style-type: none"> <li>• Supports maximum frame size of 9000</li> </ul>					
MAC address table	<ul style="list-style-type: none"> <li>• 16K MAC addresses</li> <li>• 1K static MAC addresses</li> <li>• Blackhole MAC addresses</li> <li>• MAC address learning limit on a port</li> </ul>					
VLAN	<ul style="list-style-type: none"> <li>• Port-based VLANs (4094 VLANs)</li> <li>• QinQ and selective QinQ</li> </ul>					
VLAN mapping	<ul style="list-style-type: none"> <li>• One-to-one VLAN mapping</li> <li>• Many-to-one VLAN mapping</li> <li>• Two-to-two VLAN mapping</li> </ul>					
ARP	<ul style="list-style-type: none"> <li>• 1K entries</li> <li>• 512 static entries</li> <li>• Gratuitous ARP</li> <li>• Common proxy ARP and local proxy ARP</li> <li>• ARP source suppression</li> <li>• ARP black hole</li> <li>• ARP detection (based on DHCP snooping entries/802.1X security entries/static IP-to-MAC bindings)</li> <li>• Multiport ARP</li> </ul>					
ND	<ul style="list-style-type: none"> <li>• 512 entries</li> <li>• 256 static entries</li> </ul>					
VLAN virtual interface	32					
DHCP	<ul style="list-style-type: none"> <li>• DHCP client</li> <li>• DHCP snooping</li> <li>• DHCP relay agent</li> <li>• DHCP server</li> <li>• DHCPv6 server</li> <li>• DHCPv6 relay agent</li> <li>• DHCPv6 snooping</li> </ul>					
UDP helper	<ul style="list-style-type: none"> <li>• UDP helper</li> </ul>					

Feature	S5130-28S-EI	S5130-52 S-EI	S5130-28S-PWR-EI	S5130-28 S-HPWR-EI	S5130-28F -EI	S5130-52 S-PWR-EI
DNS	<ul style="list-style-type: none"> <li>• Static DNS</li> <li>• Dynamic DNS</li> <li>• IPv4 and IPv6 DNS</li> </ul>					
IPv4 unicast route	<ul style="list-style-type: none"> <li>• 512 static routes</li> <li>• RIP</li> <li>• Routing policies</li> <li>• Policy-based routing</li> </ul>					
IPv6 unicast route	<ul style="list-style-type: none"> <li>• 256 static routes</li> <li>• RIPng</li> <li>• Routing policies</li> <li>• Policy-based routing</li> </ul>					
BFD	<ul style="list-style-type: none"> <li>• Static route</li> <li>• MAD</li> </ul>					
Multicast	<ul style="list-style-type: none"> <li>• IGMP snooping</li> <li>• MLD snooping</li> <li>• IPv4 and IPv6 multicast VLAN</li> <li>• IPv4 and IPv6 PIM snooping</li> </ul>					
Broadcast/multi cast/unicast storm control	<ul style="list-style-type: none"> <li>• Storm control based on port rate percentage</li> <li>• PPS-based storm control</li> <li>• Bps-based storm control</li> </ul>					
MSTP	<ul style="list-style-type: none"> <li>• STP/RSTP/MSTP protocol</li> <li>• STP Root Guard</li> <li>• BPDU Guard</li> </ul>					
QoS/ACL	<ul style="list-style-type: none"> <li>• Remarking of 802.1p and DSCP priorities</li> <li>• Packet filtering at L2 (Layer 2) through L4 (Layer 4)</li> <li>• Eight output queues for each port</li> <li>• SP/WRR/SP+WRR queue scheduling algorithms</li> <li>• Port-based rate limiting</li> <li>• Flow-based redirection</li> <li>• Time range</li> </ul>					
Mirroring	<ul style="list-style-type: none"> <li>• Stream mirroring</li> <li>• Port mirroring</li> <li>• Multiple mirror observing port</li> </ul>					
Remote mirroring	<ul style="list-style-type: none"> <li>• Port remote mirroring (RSPAN)</li> </ul>					

Feature	S5130-28S-EI	S5130-52S-EI	S5130-28S-PWR-EI	S5130-28S-HPWR-EI	S5130-28F-EI	S5130-52S-PWR-EI
Security	<ul style="list-style-type: none"> <li>• Hierarchical management and password protection of users</li> <li>• AAA authentication</li> <li>• RADIUS authentication</li> <li>• HWTACACS</li> <li>• SSH 2.0</li> <li>• Port isolation</li> <li>• 802.1X</li> <li>• Port security</li> <li>• MAC-address-based authentication</li> <li>• IP Source Guard</li> <li>• HTTPS</li> <li>• PKI</li> <li>• EAD</li> </ul>					
802.1X	<ul style="list-style-type: none"> <li>• Up to 2,048 users</li> <li>• Port-based and MAC address-based authentication</li> <li>• Trunk port authentication</li> <li>• Dynamic 802.1X-based QoS/ACL/VLAN assignment</li> </ul>					
Loading and upgrading	<ul style="list-style-type: none"> <li>• Loading and upgrading through XModem protocol</li> <li>• Loading and upgrading through FTP</li> <li>• Loading and upgrading through the trivial file transfer protocol (TFTP)</li> </ul>					
Management	<ul style="list-style-type: none"> <li>• Configuration at the command line interface</li> <li>• Remote configuration through Telnet</li> <li>• Configuration through Console port</li> <li>• Simple network management protocol (SNMP)</li> <li>• IMC NMS</li> <li>• System log</li> <li>• Hierarchical alarms</li> <li>• NTP</li> <li>• Power supply alarm function</li> <li>• Fan and temperature alarms</li> </ul>					
Maintenance	<ul style="list-style-type: none"> <li>• Debugging information output</li> <li>• Ping and Tracert</li> <li>• NQA</li> <li>• Track</li> <li>• Remote maintenance through Telnet</li> <li>• 802.1ag</li> <li>• 802.3ah</li> <li>• DLDP</li> </ul>					

# Appendix B Upgrading software

This chapter describes types of software used on the switch and how to upgrade software while the switch is operating normally or when the switch cannot correctly start up.

## System software file types

Software required for starting up the switch includes:

- **Boot ROM image**—A .bin file that comprises a basic section and an extended section. The basic section is the minimum code that bootstraps the system. The extended section enables hardware initialization and provides system management menus. You can use these menus to load software and the startup configuration file or manage files when the switch cannot correctly start up.
- **Software images**—Includes boot images and system images.
  - **Boot image**—A .bin file that contains the operating system kernel. It provides process management, memory management, file system management, and the emergency shell.
  - **System image**—A .bin file that contains the minimum modules required for device operation and some basic features, including device management, interface management, configuration management, and routing management.

The software images that have been loaded are called “current software images.” The software images specified to load at next startup are called “startup software images.”

These images might be released separately or as a whole in one .ipe package file. If an .ipe file is used, the system automatically decompresses the file, loads the .bin boot and system images in the file and sets them as startup software images. Typically, the Boot ROM and software images for this switch series are released in an .ipe file named **main.ipe**.

---

### NOTE:

Boot ROM images are not released along with the boot images and system images. To get a version of Boot ROM image, contact the H3C technical support.

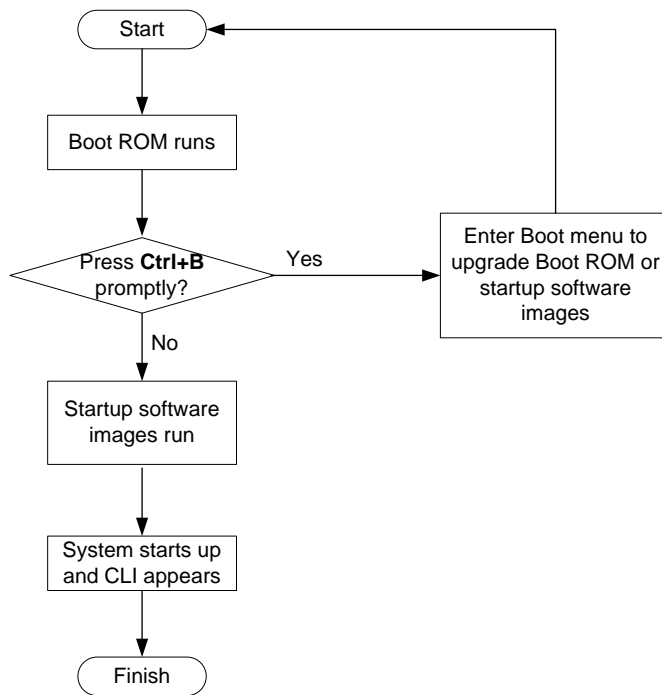
---

## System startup process

Upon power-on, the Boot ROM image runs to initialize hardware and then the software images run to start up the entire system, as shown in [Figure 1](#).



Figure 1 System startup process



## Upgrade methods

You can upgrade system software by using one of the following methods:

Upgrading method	Software types	Remarks
Upgrading from the CLI	<ul style="list-style-type: none"> <li>• Boot ROM image</li> <li>• Software images</li> </ul>	<ul style="list-style-type: none"> <li>• You must reboot the switch to complete the upgrade.</li> <li>• This method can interrupt ongoing network services.</li> </ul>
Upgrading from the Boot menu	<ul style="list-style-type: none"> <li>• Boot ROM image</li> <li>• Software images</li> </ul>	<p>Use this method when the switch cannot correctly start up.</p> <p><b>CAUTION:</b></p> <p>Upgrading an IRF fabric from the CLI instead of the Boot menu.</p> <p>The Boot menu method increases the service downtime, because it requires that you upgrade the member switches one by one.</p>

The output in this document is for illustration only and might vary with software releases. This document uses `boot.bin` and `system.bin` to represent boot and system image names. The actual software image name format is `chassis-model_Comware-version_image-type_release`, for example, `S5130EI_E-CMW710-BOOT-R3106.bin` and `S5130EI_E-CMW710-SYSTEM-R3106.bin`.

## Upgrading from the CLI

This section uses a two-member IRF fabric as an example to describe how to upgrade software from the CLI. If you have more than two subordinate switches, repeat the steps for the subordinate switch to upgrade their software. If you are upgrading a standalone switch, ignore the steps for upgrading the subordinate switch. For more information about setting up and configuring an IRF fabric, see the installation guide and IRF configuration guide for the H3C S5130-EI switch series.

## Preparing for the upgrade

Before you upgrade software, complete the following tasks:

1. Log in to the IRF fabric through Telnet or the console port. (Details not shown.)
2. Identify the number of IRF members, each member switch's role, and IRF member ID.

```
<Sysname> display irf
MemberID  Role    Priority  CPU-Mac      Description
-----
 *+1      Master  5         0023-8927-afdc  ---
 2        Standby 1         0023-8927-af43  ---
-----
* indicates the device is the master.
+ indicates the device through which the user logs in.
```

```
The Bridge MAC of the IRF is: 0023-8927-afdb
Auto upgrade           : no
Mac persistent         : 6 min
Domain ID              : 0
```

3. Verify that each IRF member switch has sufficient storage space for the upgrade images.

---

### ! IMPORTANT:

Each IRF member switch must have free storage space that is at least two times the size of the upgrade image file.

---

# Identify the free flash space of the master switch.

```
<Sysname> dir
Directory of flash:
 0      -rw-      41424  Aug 23 2013 02:23:44  startup.mdb
 1      -rw-      3792   Aug 23 2013 02:23:44  startup.cfg
 2      -rw-     53555200 Aug 23 2013 09:53:48  system.bin
 3      drw-          -   Aug 23 2013 00:00:07  seclog
 4      drw-          -   Aug 23 2013 00:00:07  diagfile
```

```

5      drw-          -   Aug 23 2013 00:00:07      logfile
6      -rw-        9959424 Aug 23 2013 09:53:48      boot.bin
7      -rw-        9012224 Aug 23 2013 09:53:48      backup.bin

```

```
524288 KB total (453416 KB free)
```

# Identify the free flash space of each subordinate switch, for example, switch 2.

```
<Sysname> dir slot2#flash:/
```

```
Directory of slot2#flash:/
```

```

0      -rw-          41424 Jan 01 2011 02:23:44      startup.mdb
1      -rw-          3792 Jan 01 2011 02:23:44      startup.cfg
2      -rw-       93871104 Aug 23 2013 16:00:08      system.bin
3      drw-          -   Jan 01 2011 00:00:07      seclog
4      drw-          -   Jan 01 2011 00:00:07      diagfile
5      drw-          -   Jan 02 2011 00:00:07      logfile
6      -rw-       13611008 Aug 23 2013 15:59:00      boot.bin
7      -rw-        9012224 Nov 25 2011 09:53:48      backup.bin

```

```
524288 KB total (453416 KB free)
```

4. Compare the free flash space of each member switch with the size of the software file to load. If the space is sufficient, start the upgrade process. If not, go to the next step.
5. Delete unused files in the flash memory to free space:

---

**△ CAUTION:**

- To avoid data loss, do not delete the current configuration file. For information about the current configuration file, use the **display startup** command.
  - The **delete /unreserved file-url** command deletes a file permanently and the action cannot be undone.
  - The **delete file-url** command moves a file to the recycle bin and the file still occupies storage space. To free the storage space, first execute the **undelete** command to restore the file, and then execute the **delete /unreserved file-url** command.
- 

# Delete unused files from the flash memory of the master switch.

```

<Sysname> delete /unreserved flash:/backup.bin
The file cannot be restored. Delete flash:/backup.bin?[Y/N]:y
Deleting the file permanently will take a long time. Please wait...
Deleting file flash:/backup.bin...Done.

```

# Delete unused files from the flash memory of the subordinate switch.

```

<Sysname> delete /unreserved slot2#flash:/backup.bin
The file cannot be restored. Delete slot2#flash:/backup.bin?[Y/N]:y
Deleting the file permanently will take a long time. Please wait...
Deleting file slot2#flash:/backup.bin...Done.

```

# Downloading software images to the master switch

Before you start upgrading software images packages, make sure you have downloaded the upgrading software files to the root directory in flash memory. This section describes downloading an .ipe software file as an example.

The following are ways to download, upload, or copy files to the master switch:

- [FTP download from a server](#)
- [FTP upload from a client](#)
- [TFTP download from a server](#)

## Prerequisites

If FTP or TFTP is used, the IRF fabric and the PC working as the FTP/TFTP server or FTP client can reach each other.

Prepare the FTP server or TFTP server program yourself for the PC. The switch series does not come with these software programs.

## FTP download from a server

You can use the switch as an FTP client to download files from an FTP server.

To download a file from an FTP server, for example, the server at 10.10.110.1:

1. Run an FTP server program on the server, configure an FTP username and password, specify the working directory and copy the file, for example, **newest.ipe**, to the directory.
2. Execute the **ftp** command in user view on the IRF fabric to access the FTP server.

```
<Sysname> ftp 10.10.110.1
Trying 10.10.110.1...
Press CTRL+C to abort
Connected to 10.10.110.1(10.10.110.1).
220 FTP service ready.
User (10.10.110.1:(none)):username
331 Password required for username.
Password:
230 User logged in.

3. Enable the binary transfer mode.
ftp> binary
200 Type set to I.

4. Execute the get command in FTP client view to download the file from the FTP server.
ftp> get newest.ipe
227 Entering Passive Mode (10,10,110,1,17,97).
125 BINARY mode data connection already open, transfer starting for /newest.ipe
226 Transfer complete.
32133120 bytes received in 35 seconds (896.0 kbyte/s)
ftp> bye
221 Server closing.
```

## FTP upload from a client

You can use the IRF fabric as an FTP server and upload files from a client to the IRF fabric.

To FTP upload a file from a client:

On the IRF fabric:

1. Enable FTP server.

```
<Sysname> system-view
[Sysname] ftp server enable
```

2. Configure a local FTP user account:

# Create the user account.

```
[Sysname] local-user abc
```

# Set its password and specify the FTP service.

```
[Sysname-luser-manage-abc] password simple pwd
```

```
[Sysname-luser-manage-abc] service-type ftp
```

# Assign the **network-admin** user role to the user account for uploading file to the working directory of the server.

```
[Sysname-luser-manage-abc] authorization-attribute user-role network-admin
```

```
[Sysname-luser-manage-abc] quit
```

```
[Sysname] quit
```

On the PC:

3. Log in to the IRF fabric (the FTP server) in FTP mode.

```
c:\> ftp 1.1.1.1
Connected to 1.1.1.1.
220 FTP service ready.
User(1.1.1.1:(none)):abc
331 Password required for abc.
Password:
230 User logged in.
```

4. Enable the binary file transfer mode.

```
ftp> binary
200 TYPE is now 8-bit binary.
```

5. Upload the file (for example, **newest.ipe**) to the root directory of the flash memory on the master switch.

```
ftp> put newest.ipe
200 PORT command successful
150 Connecting to port 10002
226 File successfully transferred
ftp: 32133120 bytes sent in 64.58 secs (497.60 Kbytes/sec).
```

## TFTP download from a server

To download a file from a TFTP server, for example, the server at 10.10.110.1:

1. Run a TFTP server program on the server, specify the working directory, and copy the file, for example, **newest.ipe**, to the directory.

2. On the IRF fabric, execute the **tftp** command in user view to download the file to the root directory of the flash memory on the master switch.

```
<Sysname> tftp 10.10.110.1 get newest.ipe
Press CTRL+C to abort.
  % Total      % Received % Xferd  Average Speed   Time    Time       Time  Current
                                 Dload  Upload  Total  Spent    Left     Speed
100 30.6M      0 30.6M    0      0   143k      0  ---:--:--  0:03:38  ---:--:--  142k
```

## Upgrading the software images

To upgrade the software images:

1. Specify the upgrade image file (**newest.ipe** in this example) used at the next startup for the master switch, and assign the M attribute to the boot and system images in the file.

```
<Sysname> boot-loader file flash:/newest.ipe slot 1 main
Verifying image file.....Done.
Images in IPE:
  boot.bin
  system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to target slot.
Decompressing file boot.bin to flash:/boot.bin.....Done.
Decompressing file system.bin to flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 1.
```

2. Specify the upgrade image file as the main startup image file for each subordinate switch. This example uses IRF member 2. (The subordinate switches will automatically copy the file to the root directory of their flash memories.)

```
<Sysname> boot-loader file flash:/newest.ipe slot 2 main
Verifying image file.....Done.
Images in IPE:
  boot.bin
  system.bin
This command will set the main startup software images. Continue? [Y/N]:y
Add images to target slot.
Decompressing file boot.bin to flash:/boot.bin.....Done.
Decompressing file system.bin to flash:/system.bin.....Done.
The images that have passed all examinations will be used as the main startup software images at the next reboot on slot 2.
```

3. Enable the software auto-update function.

```
<Sysname> system-view
[Sysname] irf auto-update enable
[Sysname] quit
```

This function checks the software versions of member switches for inconsistency with the master switch. If a subordinate switch is using a different software version than the master, the function

propagates the current software images of the master to the subordinate as main startup images. The function prevents software version inconsistency from causing the IRF setup failure.

4. Save the current configuration in any view to prevent data loss.

```
<Sysname> save
The current configuration will be written to the device. Are you sure? [Y/N]:y
Please input the file name(*.cfg)[flash:/startup.cfg]
(To leave the existing filename unchanged, press the enter key):
flash:/startup.cfg exists, overwrite? [Y/N]:y
Validating file. Please wait.....
Saved the current configuration to mainboard device successfully.
Slot 2:
Save next configuration file successfully.
```

5. Reboot the IRF fabric to complete the upgrade.

```
<Sysname> reboot
Start to check configuration with next startup configuration file, please wait.
.....DONE!
This command will reboot the device. Continue? [Y/N]:y
Now rebooting, please wait...

The system automatically loads the .bin boot and system images in the .ipe file and sets them as the startup software images.
```

6. Execute the **display version** command in any view to verify that the current main software images have been updated (details not shown).

---

#### NOTE:

The system automatically checks the compatibility of the Boot ROM image and the boot and system images during the reboot. If you are prompted that the Boot ROM image in the upgrade image file is different than the current Boot ROM image, upgrade both the basic and extended sections of the Boot ROM image for compatibility. If you choose to not upgrade the Boot ROM image, the system will ask for an upgrade at the next reboot performed by powering on the switch or rebooting from the CLI (promptly or as scheduled). If you fail to make any choice in the required time, the system upgrades the entire Boot ROM image.

---

## Upgrading from the Boot menu

In this approach, you must access the Boot menu of each member switch to upgrade their software one by one. If you are upgrading software images for an IRF fabric, using the CLI is a better choice.



#### TIP:

Upgrading through the Ethernet port is faster than through the console port.

---

## Prerequisites

Make sure the prerequisites are met before you start upgrading software from the Boot menu.

## Setting up the upgrade environment

1. Use a console cable to connect the console terminal (for example, a PC) to the console port on the switch.
2. Connect the Ethernet port on the switch to the file server.

---

### NOTE:

The file server and the configuration terminal can be co-located.

---

3. Run a terminal emulator program on the console terminal and set the following terminal settings:
  - **Bits per second**—9,600
  - **Data bits**—8
  - **Parity**—None
  - **Stop bits**—1
  - **Flow control**—None
  - **Emulation**—VT100

## Preparing for the TFTP or FTP transfer

To use TFTP or FTP:

- Run a TFTP or FTP server program on the file server or the console terminal.
- Copy the upgrade file to the file server.
- Correctly set the working directory on the TFTP or FTP server.
- Make sure the file server and the switch can reach each other.

## Verifying that sufficient storage space is available

---

### ⓘ IMPORTANT:

For the switch to start up correctly, do not delete the main startup software images when you free storage space before upgrading Boot ROM. On the Boot menu, the main startup software images are marked with an asterisk (\*).

---

When you upgrade software, make sure each member switch has sufficient free storage space for the upgrade file, as shown in [Table 7](#).

**Table 7 Minimum free storage space requirements**

Upgraded images	Minimum free storage space requirements
Comware images	Two times the size of the Comware upgrade package file.
Boot ROM	Same size as the Boot ROM upgrade image file.

If no sufficient space is available, delete unused files as described in “[Managing files from the Boot menu.](#)”



## Scheduling the upgrade time

During the upgrade, the switch cannot provide any services. You must make sure the upgrade has a minimal impact on the network services.

## Accessing the Boot menu

```
Starting.....
```

```
Press Ctrl+D to access BASIC BOOT MENU
```

```
*****
*
*          H3C S5130-52S-EI BOOTROM, Version 109          *
*
*
*****
Copyright (c) 2004-2014 Hangzhou H3C Technologies Co., Ltd.
```

```
Creation Date   : May  6 2014, 17:07:14
```

```
CPU Clock Speed : 1000MHz
```

```
Memory Size    : 1024MB
```

```
Flash Size     : 512MB
```

```
CPLD Version   : 001
```

```
PCB Version    : Ver.B
```

```
Mac Address    : 00e0fc105100
```

```
Press Ctrl+B to access EXTENDED BOOT MENU...1
```

Press one of the shortcut key combinations at prompt.

**Table 8 Shortcut keys**

Shortcut keys	Prompt message	Function	Remarks
Ctrl+B	Press Ctrl+B to enter Extended Boot menu...	Accesses the extended Boot menu.	Press the keys within 1 second (in fast startup mode) or 5 seconds (in full startup mode) after the message appears. You can upgrade and manage system software and Boot ROM from this menu.
Ctrl+D	Press Ctrl+D to access BASIC BOOT MENU	Accesses the basic Boot menu.	Press the keys within 1 seconds after the message appears. You can upgrade Boot ROM or access the extended Boot ROM segment from this menu.

## Accessing the basic Boot menu

If the extended Boot ROM segment has corrupted, you can repair or upgrade it from the basic Boot menu.

Press **Ctrl+D** within 1 seconds after the "Press Ctrl+D to access BASIC BOOT MENU" prompt message appears. If you fail to do this within the time limit, the system starts to run the extended Boot ROM segment.

```
*****
*
*          BASIC BOOTROM, Version 109          *
*
*****

      BASIC BOOT MENU

1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
4. Boot extended BootRom
0. Reboot
Ctrl+U: Access BASIC ASSISTANT MENU
```

Enter your choice(0-4):

**Table 9 Basic Boot ROM menu options**

Option	Task
1. Update full BootRom	Update the entire Boot ROM, including the basic segment and the extended segment. To do so, you must use XMODEM and the console port. For more information, see <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
2. Update extended BootRom	Update the extended Boot ROM segment. To do so, you must use XMODEM and the console port. For more information, see <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
3. Update basic BootRom	Update the basic Boot ROM segment. To do so, you must use XMODEM and the console port. For more information, see <a href="#">Using XMODEM to upgrade Boot ROM through the console port</a> .
4. Boot extended BootRom	Access the extended Boot ROM segment. For more information, see <a href="#">Accessing the extended Boot menu</a> .
0. Reboot	Reboot the switch.
Ctrl+U: Access BASIC ASSISTANT MENU	Press <b>Ctrl + U</b> to access the BASIC ASSISTANT menu (see <a href="#">Table 10</a> ).

**Table 10 BASIC ASSISTANT menu options**

Option	Task
1. RAM Test	Perform a RAM self-test.
0. Return to boot menu	Return to the basic Boot menu.

## Accessing the extended Boot menu

Press **Ctrl+B** within 1 second (in fast startup mode) or 5 seconds (in full startup mode) after the "Press Ctrl-B to enter Extended Boot menu..." prompt message appears. If you fail to do this, the system starts decompressing the system software.

Alternatively, you can enter **4** in the basic Boot menu to access the extended Boot menu.

The "Password recovery capability is enabled." or "Password recovery capability is disabled." message appears, followed by the extended Boot menu. Availability of some menu options depends on the state of password recovery capability (see [Table 11](#)). For more information about password recovery capability, see *Fundamentals Configuration Guide* in *H3C S5130-EI Switch Series Configuration Guides*.  
Password recovery capability is enabled.

```
EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot

Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8):
```

**Table 11 Extended Boot ROM menu options**

Option	Tasks
1. Download image to flash	Download a software image file to the flash.

Option	Tasks
2. Select image to boot	<ul style="list-style-type: none"> <li>Specify the main and backup software image file for the next startup.</li> <li>Specify the main and backup configuration files for the next startup. This task can be performed only if password recovery capability is enabled.</li> </ul>
3. Display all files in flash	Display files on the flash.
4. Delete file from flash	Delete files to free storage space.
5. Restore to factory default configuration	Delete the current next-startup configuration files and restore the factory-default configuration. This option is available only if password recovery capability is disabled.
6. Enter BootRom upgrade menu	Access the Boot ROM upgrade menu.
7. Skip current system configuration	Start the switch without loading any configuration file. This is a one-time operation and takes effect only for the first system boot or reboot after you choose this option. This option is available only if password recovery capability is enabled.
8. Set switch startup mode	Set the startup mode to fast startup mode or full startup mode.
0. Reboot	Reboot the switch.
Ctrl+F: Format file system	Format the current storage medium.
Ctrl+P: Change authentication for console login	Skip the authentication for console login. This is a one-time operation and takes effect only for the first system boot or reboot after you choose this option. This option is available only if password recovery capability is enabled.
Ctrl+R: Download image to SDRAM and run	Download a system software image and start the switch with the image. This option is available only if password recovery capability is enabled.
Ctrl+Z: Access EXTENDED ASSISTANT MENU	Access the EXTENDED ASSISTANT MENU. For options in the menu, see <a href="#">Table 12</a> .

**Table 12 EXTENDED ASSISTANT menu options**

Option	Task
1. Display Memory	Display data in the memory.
2. Search Memory	Search the memory for a specific data segment.
0. Return to boot menu	Return to the extended Boot ROM menu.

## Upgrading Comware images from the Boot menu

You can use the following methods to upgrade Comware images:

- Using TFTP to upgrade software images through the Ethernet port
- Using FTP to upgrade software images through the Ethernet port
- Using XMODEM to upgrade software through the console port

## Using TFTP to upgrade software images through the Ethernet port

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.

1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):

2. Enter **1** to set the TFTP parameters.

```
Load File Name      :update.ipe
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address  :0.0.0.0
```

**Table 13 TFTP parameter description**

Item	Description
Load File Name	Name of the file to download (for example, <b>update.ipe</b> ).
Server IP Address	IP address of the TFTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).

### NOTE:

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

3. Enter all required parameters, and enter **Y** to confirm the settings. The following prompt appears:

```
Are you sure to download file to flash? Yes or No (Y/N):Y
```

4. Enter **Y** to start downloading the image file. To return to the Boot menu without downloading the upgrade file, enter **N**.

```
Loading.....
.....
.....
.....Done!
```

5. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```
Please input the file attribute (Main/Backup/None) M
Image file boot.bin is self-decompressing...
Free space: 534980608 bytes
Writing flash.....
.....
.....Done!
```

```
Image file system.bin is self-decompressing...
Free space: 525981696 bytes
Writing flash.....
.....
.....
.....
.....
.....
.....
.....
.....Done!
```

**NOTE:**

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images are not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
- If an image with the same attribute as the image you are loading is already in the flash memory, the attribute of the old image changes to none after the new image becomes valid.

6. Enter **0** in the Boot menu to reboot the switch with the new software images.

```
EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot

Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 0
```

**Using FTP to upgrade software images through the Ethernet port**

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu
```

Enter your choice(0-3):

2. Enter **2** to set the FTP parameters.

```
Load File Name      :update.ipe
Server IP Address   :192.168.0.3
```

```

Local IP Address      :192.168.0.2
Subnet Mask           :255.255.255.0
Gateway IP Address    :0.0.0.0
FTP User Name         :switch
FTP User Password     :***

```

**Table 14 FTP parameter description**

Item	Description
Load File Name	Name of the file to download (for example, <b>update.ipe</b> ).
Server IP Address	IP address of the FTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).
FTP User Name	Username for accessing the FTP server, which must be the same as configured on the FTP server.
FTP User Password	Password for accessing the FTP server, which must be the same as configured on the FTP server.

**NOTE:**

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

3. Enter all required parameters, and enter **Y** to confirm the settings. The following prompt appears:

```
Are you sure to download file to flash? Yes or No (Y/N):Y
```

4. Enter **Y** to start downloading the image file. To return to the Boot menu without downloading the upgrade file, enter **N**.

```

Loading.....
.....
.....
.....Done!

```

5. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```

Please input the file attribute (Main/Backup/None) M
Image file boot.bin is self-decompressing...
Free space: 534980608 bytes
Writing flash.....
.....Done!
Image file system.bin is self-decompressing...
Free space: 525981696 bytes
Writing flash.....
.....
.....

```

```
.....
.....
.....
.....Done!
```

#### EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot

Ctrl+Z: Access EXTENDED ASSISTANT MENU

Ctrl+F: Format file system

Ctrl+P: Change authentication for console login

Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8):0

---

#### NOTE:

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
  - If an image with the same attribute as the image you are loading is already in the flash memory, the attribute of the old image changes to none after the new image becomes valid.
- 

6. Enter **0** in the Boot menu to reboot the switch with the new software images.

### Using XMODEM to upgrade software through the console port

XMODEM download through the console port is slower than TFTP or FTP download through the Ethernet port. To save time, use the Ethernet port as long as possible.

1. Enter **1** in the Boot menu to access the file transfer protocol submenu.
  1. Set TFTP protocol parameters
  2. Set FTP protocol parameters
  3. Set XMODEM protocol parameters
  0. Return to boot menu

Enter your choice(0-3):

2. Enter **3** to set the XMODEM download baud rate.

Please select your download baudrate:

- 1.\* 9600
2. 19200

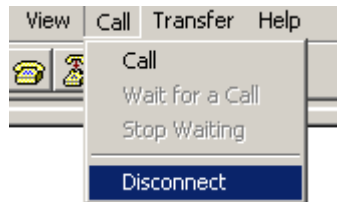


3. 38400
4. 57600
5. 115200
0. Return to boot menu

Enter your choice(0-5):5

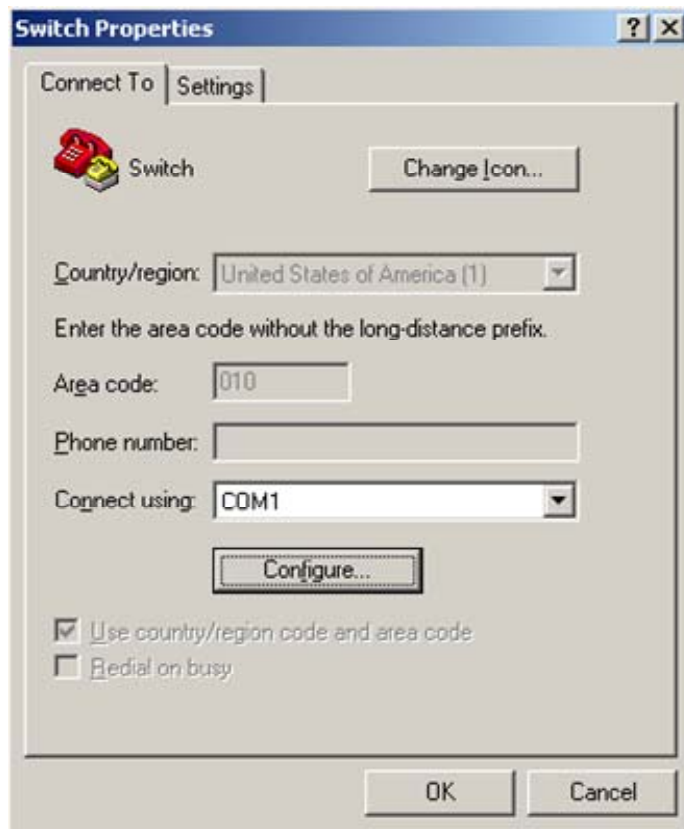
3. Select an appropriate download rate, for example, enter **5** to select 115200 bps.  
Download baudrate is 115200 bps  
Please change the terminal's baudrate to 115200 bps and select XMODEM protocol  
Press enter key when ready
4. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 9600 bps as the download rate for the console port, skip this task.
  - a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

**Figure 2 Disconnecting the terminal from the switch**



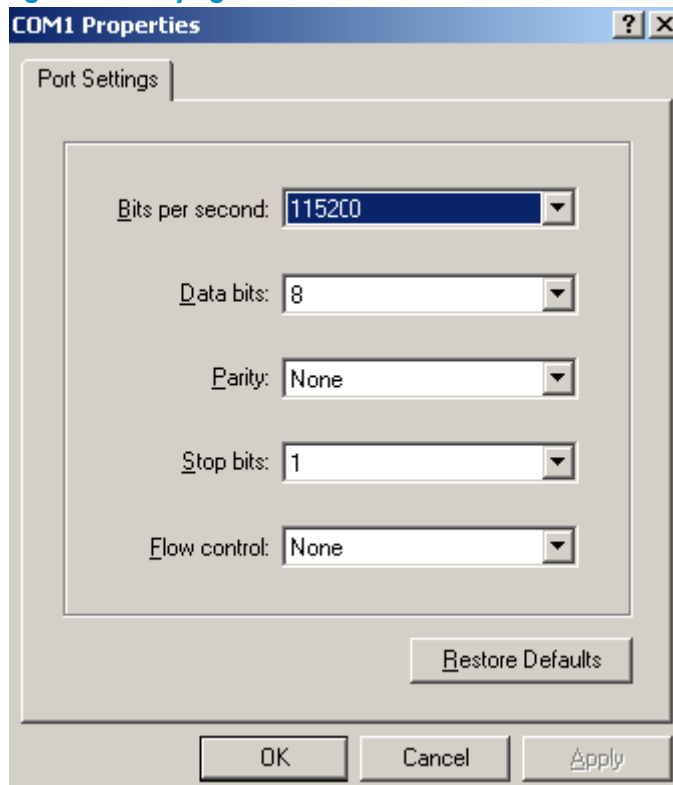
- b. Select **File > Properties**, and in the **Properties** dialog box, click **Configure**.

**Figure 3 Properties dialog box**



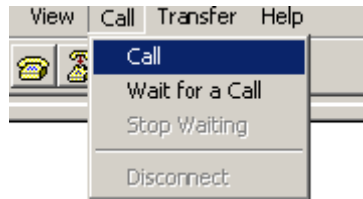
- c. Select **115200** from the **Bits per second** list and click **OK**.

**Figure 4 Modifying the baud rate**



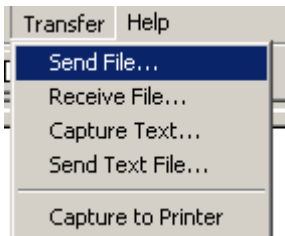
- d. Select **Call** > **Call** to reestablish the connection.

**Figure 5 Reestablishing the connection**



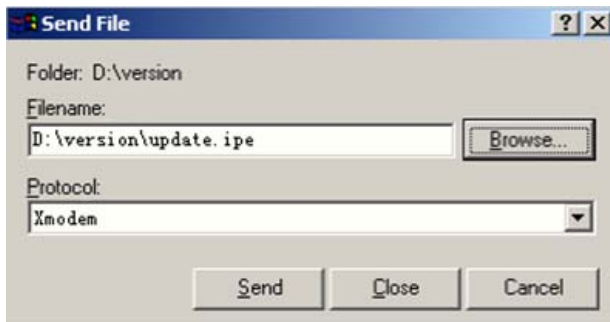
- 5. Press **Enter**. The following prompt appears:  
Are you sure to download file to flash? Yes or No (Y/N):Y
- 6. Enter **Y** to start downloading the file. (To return to the Boot menu, enter **N**.)  
Now please start transfer file with XMODEM protocol  
If you want to exit, Press <Ctrl+X>  
Loading ...CCCCCCCCCCCCCCCCCCCCCCCCCCCC
- 7. Select **Transfer** > **Send File** in the HyperTerminal window.

**Figure 6 Transfer menu**



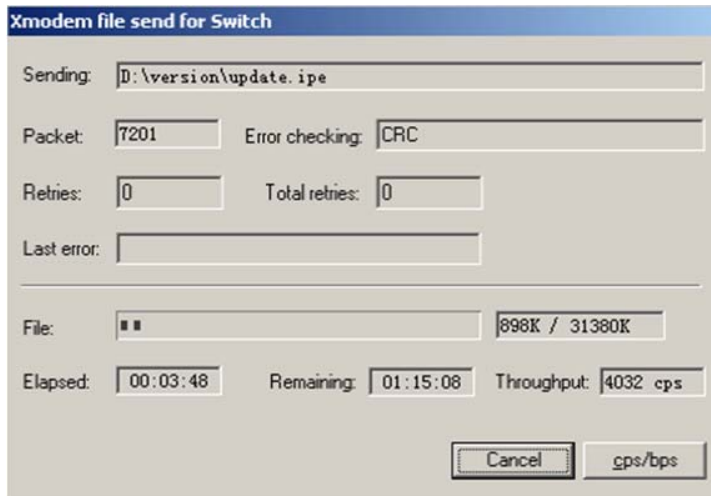
- 8. In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

**Figure 7 File transmission dialog box**



- 9. Click **Send**. The following dialog box appears:

Figure 8 File transfer progress



10. Enter the **M** (main), **B** (backup), or **N** (none) attribute for the images. In this example, assign the main attribute to the images.

```
Please input the file attribute (Main/Backup/None) m
```

```
The boot.bin image is self-decompressing...
```

# At the **Load File name** prompt, enter a name for the boot image to be saved to flash memory.

```
Load File name : default_file boot-update.bin (At the prompt,
```

```
Free space: 470519808 bytes
```

```
Writing flash.....  
.....Done!
```

```
The system-update.bin image is self-decompressing...
```

# At the **Load File name** prompt, enter a name for the system image to be saved to flash memory.

```
Load File name : default_file system-update.bin
```

```
Free space: 461522944 bytes
```

```
Writing flash.....  
.....Done!
```

```
Your baudrate should be set to 9600 bps again!
```

```
Press enter key when ready
```

---

**NOTE:**

- The switch always attempts to boot with the main images first. If the attempt fails, for example, because the main images not available, the switch tries to boot with the backup images. An image with the none attribute is only stored in the flash memory for backup. To use it at reboot, you must change its attribute to main or backup.
  - If an image with the same attribute as the image you are loading is already in flash memory, the attribute of the old image changes to none after the new image becomes valid.
- 

11. If the baud rate of the HyperTerminal is not 9600 bps, restore it to 9600 bps as described in step 5.a. If the baud rate is 9600 bps, skip this step.

---

## NOTE:

The console port rate reverts to 9600 bps at a reboot. If you have changed the baud rate, you must perform this step so you can access the switch through the console port after a reboot.

---

### EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot

Ctrl+Z: Access EXTENDED ASSISTANT MENU

Ctrl+F: Format file system

Ctrl+P: Change authentication for console login

Ctrl+R: Download image to SDRAM and run

Enter your choice(0-8): 0

12. Enter **0** in the Boot menu to reboot the system with the new software images.

## Upgrading Boot ROM from the Boot menu

You can use the following methods to upgrade the Boot ROM image:

- Using TFTP to upgrade Boot ROM through the Ethernet port
- Using FTP to upgrade Boot ROM through the Ethernet port
- Using XMODEM to upgrade Boot ROM through the console port

### Using TFTP to upgrade Boot ROM through the Ethernet port

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu

Enter your choice(0-3):

2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

The file transfer protocol submenu appears:

1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu

Enter your choice(0-3):

3. Enter **1** to set the TFTP parameters.

```
Load File Name      :update.btm
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address  :0.0.0.0
```

**Table 15 TFTP parameter description**

Item	Description
Load File Name	Name of the file to download (for example, <b>update.btm</b> ).
Server IP Address	IP address of the TFTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).

**NOTE:**

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

4. Enter all required parameters and press **Enter** to start downloading the file.

```
Loading.....Done!
```

5. Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom.....Done.
```

6. Enter **Y** at the prompt to upgrade the extended Boot ROM section.

```
Updating extended BootRom? (Y/N):Y
Updating extended BootRom.....Done.
```

7. Enter **0** in the Boot ROM update menu to return to the Boot menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu
```

Enter your choice(0-3):

8. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

## Using FTP to upgrade Boot ROM through the Ethernet port

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu
```

Enter your choice(0-3):

- 2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

The file transfer protocol submenu appears:

- 1. Set TFTP protocol parameters
- 2. Set FTP protocol parameters
- 3. Set XMODEM protocol parameters
- 0. Return to boot menu

Enter your choice(0-3):

- 3. Enter **2** to set the FTP parameters.

```
Load File Name      :update.btm
Server IP Address   :192.168.0.3
Local IP Address    :192.168.0.2
Subnet Mask         :255.255.255.0
Gateway IP Address :0.0.0.0
FTP User Name       :switch
FTP User Password   :123
```

**Table 16 FTP parameter description**

Item	Description
Load File Name	Name of the file to download (for example, <b>update.btm</b> ).
Server IP Address	IP address of the FTP server (for example, 192.168.0.3).
Local IP Address	IP address of the switch (for example, 192.168.0.2).
Subnet Mask	Subnet mask of the switch (for example, 255.255.255.0).
Gateway IP Address	IP address of the gateway (in this example, no gateway is required because the server and the switch are on the same subnet).
FTP User Name	Username for accessing the FTP server, which must be the same as configured on the FTP server.
FTP User Password	Password for accessing the FTP server, which must be the same as configured on the FTP server.

**NOTE:**

- To use the default setting for a field, press **Enter** without entering any value.
- If the switch and the server are on different subnets, you must specify a gateway address for the switch.

- 4. Enter all required parameters and press **Enter** to start downloading the file.

Loading..... Done!

- 5. Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom.....Done.
```

- 6. Enter **Y** at the prompt to upgrade the extended Boot ROM section.

Updating extended BootRom? (Y/N):Y

Updating extended BootRom.....Done.

7. Enter **0** in the Boot ROM update menu to return to the Boot menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu
```

Enter your choice(0-3):

8. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

## Using XMODEM to upgrade Boot ROM through the console port

XMODEM download through the console port is slower than TFTP or FTP download through the Ethernet port. To save time, use the Ethernet port as long as possible.

1. Enter **6** in the Boot menu to access the Boot ROM update menu.

```
1. Update full BootRom
2. Update extended BootRom
3. Update basic BootRom
0. Return to boot menu
```

Enter your choice(0-3):

2. Enter **1** in the Boot ROM update menu to upgrade the full Boot ROM.

The file transfer protocol submenu appears:

```
1. Set TFTP protocol parameters
2. Set FTP protocol parameters
3. Set XMODEM protocol parameters
0. Return to boot menu
```

Enter your choice(0-3):

3. Enter **3** to set the XMODEM download baud rate.

Please select your download baudrate:

```
1.* 9600
2. 19200
3. 38400
4. 57600
5. 115200
0. Return to boot menu
```

Enter your choice(0-5):5

4. Select an appropriate download rate, for example, enter **5** to select 115200 bps.

Download baudrate is 115200 bps

Please change the terminal's baudrate to 115200 bps and select XMODEM protocol

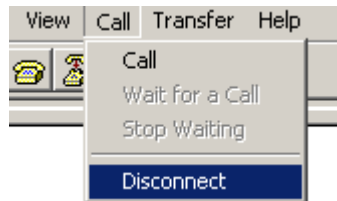
Press enter key when ready

5. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 9600 bps as the download rate for the console port, skip this task.



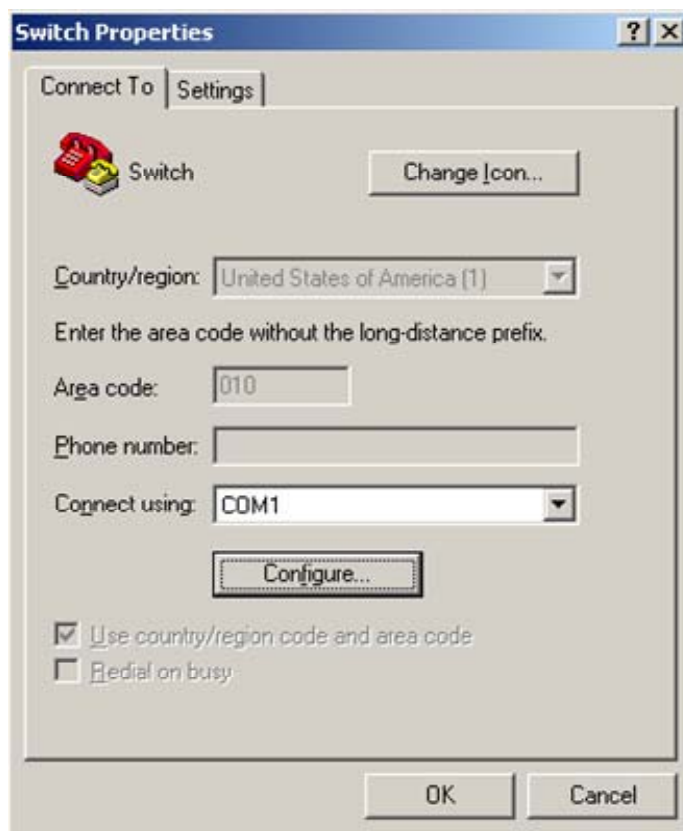
- a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

**Figure 9 Disconnecting the terminal from the switch**



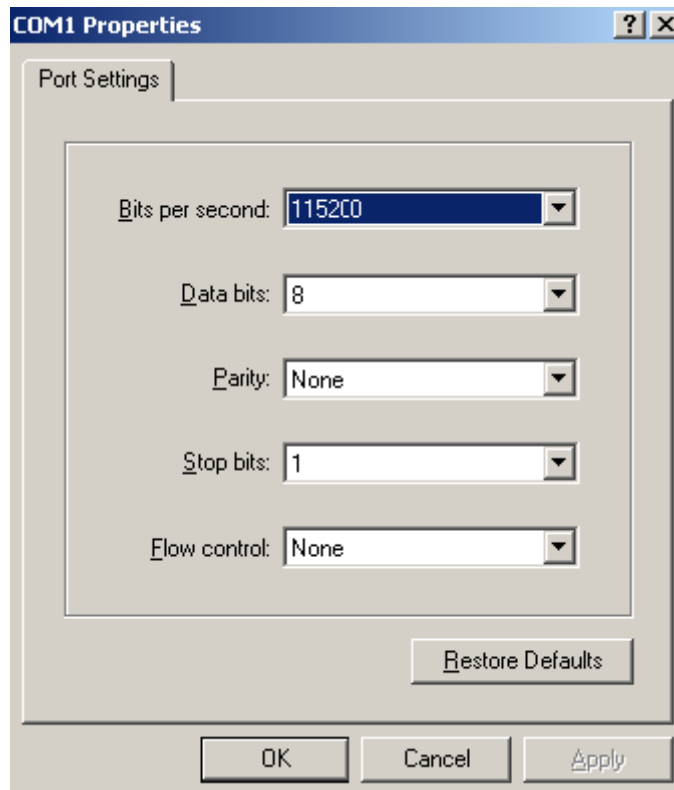
- b. Select **File > Properties**, and in the **Properties** dialog box, click **Configure**.

**Figure 10 Properties dialog box**



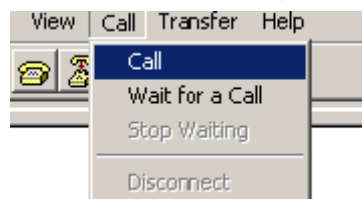
- c. Select **115200** from the **Bits per second** list and click **OK**.

**Figure 11 Modifying the baud rate**



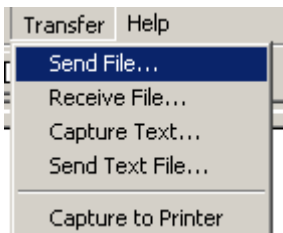
- d. Select **Call** > **Call** to reestablish the connection.

**Figure 12 Reestablishing the connection**



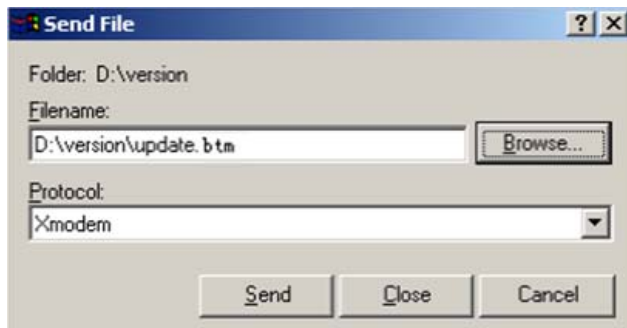
- 6. Press **Enter** to start downloading the file.  
 Now please start transfer file with XMODEM protocol  
 If you want to exit, Press <Ctrl+X>  
 Loading ...cccccccccccccccccccccccccccccccc
- 7. Select **Transfer** > **Send File** in the HyperTerminal window.

**Figure 13 Transfer menu**



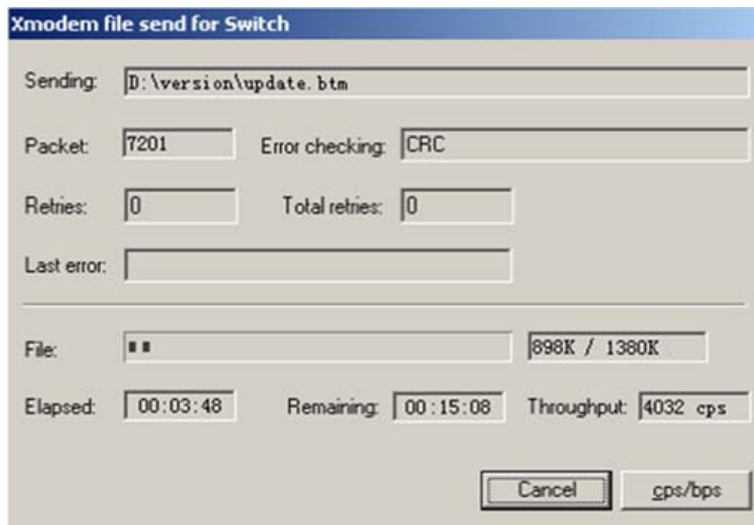
- In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

**Figure 14** File transmission dialog box



- Click **Send**. The following dialog box appears:

**Figure 15** File transfer progress



- Enter **Y** at the prompt to upgrade the basic Boot ROM section.

```

Loading ...CCCCCCCCCCCCCCCC ...Done!
Will you Update Basic BootRom? (Y/N):Y
Updating Basic BootRom.....Done.

```

- Enter **Y** at the prompt to upgrade the extended Boot ROM section.

```

Updating extended BootRom? (Y/N):Y
Updating extended BootRom.....Done.

```

- If the baud rate of the HyperTerminal is not 9600 bps, restore it to 9600 bps at the prompt, as described in step 4.a. If the baud rate is 9600 bps, skip this step.

```

Please change the terminal's baudrate to 9600 bps, press ENTER when ready.

```

---

**NOTE:**

The console port rate reverts to 9600 bps at a reboot. If you have changed the baud rate, you must perform this step so you can access the switch through the console port after a reboot.

---

13. Press **Enter** to access the Boot ROM update menu.
14. Enter **0** in the Boot ROM update menu to return to the Boot menu.
  1. Update full BootRom
  2. Update extended BootRom
  3. Update basic BootRom
  0. Return to boot menu

Enter your choice(0-3):
15. Enter **0** in the Boot menu to reboot the switch with the new Boot ROM image.

## Managing files from the Boot menu

From the Boot menu, you can display files in flash memory to check for obsolete files, incorrect files, or space insufficiency, delete files to release storage space, or change the attributes of software images.

### Displaying all files

Enter **3** in the Boot menu to display all files in flash memory and identify the free space size.

```
EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot

Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run
```

Enter your choice(0-8): 3

The following is a sample output:

Display all file(s) in flash:

File Number	File Size(bytes)	File Name
1	8177	flash:/testbackup.cfg
2(*)	53555200	flash:/system.bin
3(*)	9959424	flash:/boot.bin
4	3678	flash:/startup.cfg_backup
5	30033	flash:/default.mdb
6	42424	flash:/startup.mdb
7	18	flash:/pathfile

```

8             232311             flash:/logfile/logfile.log
9             5981              flash:/startup.cfg_back
10(*)         6098              flash:/startup.cfg
11           20                 flash:/ .snmpboots

```

```

Free space: 464298848 bytes
The current image is boot.bin
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute

```

### Deleting files

If storage space is insufficient, delete obsolete files to free up storage space.

To delete files:

1. Enter **4** in the Boot menu:

Deleting the file in flash:

```

File Number   File Size(bytes)   File Name
=====
1             8177              flash:/testbackup.cfg
2(*)          53555200          flash:/system.bin
3(*)          9959424           flash:/boot.bin
4             3678              flash:/startup.cfg_backup
5             30033            flash:/default.mdb
6             42424            flash:/startup.mdb
7             18               flash:/ .pathfile
8             232311            flash:/logfile/logfile.log
9             5981              flash:/startup.cfg_back
10(*)         6098              flash:/startup.cfg
11           20                 flash:/ .snmpboots

```

```

Free space: 464298848 bytes
The current image is boot.bin
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute

```

2. Enter the number of the file to delete. For example, enter **1** to select the file **testbackup.cfg**.

Please input the file number to change: 1

3. Enter **Y** at the confirmation prompt.

```

The file you selected is testbackup.cfg,Delete it? (Y/N):Y
Deleting.....Done!

```

## Changing the attribute of software images

Software image attributes include main (M), backup (B), and none (N). System software and boot software can each have multiple none-attribute images but only one main image and one backup image on the switch. You can assign both the M and B attributes to one image. If the M or B attribute you are assigning has been assigned to another image, the assignment removes the attribute from that image. If the removed attribute is the sole attribute of the image, its attribute changes to N.

For example, the system image **system.bin** has the M attribute and the system image **system-update.bin** has the B attribute. After you assign the M attribute to **system-update.bin**, the attribute of **system-update.bin** changes to M+B and the attribute of **system.bin** changes to N.

To change the attribute of a system or boot image:

1. Enter **2** in the Boot menu.

```
EXTENDED BOOT MENU

1. Download image to flash
2. Select image to boot
3. Display all files in flash
4. Delete file from flash
5. Restore to factory default configuration
6. Enter BootRom upgrade menu
7. Skip current system configuration
8. Set switch startup mode
0. Reboot
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format file system
Ctrl+P: Change authentication for console login
Ctrl+R: Download image to SDRAM and run
```

```
Enter your choice(0-8): 2
```

2. **1** or **2** at the prompt to set the attribute of a software image. (The following output is based on the option **2**. To set the attribute of a configuration file, enter **3**.)

```
1. Set image file
2. Set bin file
3. Set configuration file
0. Return to boot menu
```

```
Enter your choice(0-3): 2
```

```
File Number      File Size(bytes)      File Name
=====
1(*)              53555200              flash:/system.bin
2(*)              9959424               flash:/boot.bin
3                 13105152              flash:/boot-update.bin
4                 91273216              flash:/system-update.bin
Free space: 417177920 bytes
(*)-with main attribute
(b)-with backup attribute
(*b)-with both main and backup attribute
```

Note:Select .bin files. One but only one boot image and system image must be included.

3. Enter the number of the file you are working with. For example, enter **3** to select the boot image **boot-update.bin**. and enter **4** to select the system image **system-update.bin**.

- ```

Enter file No.(Allows multiple selection):3
Enter another file No.(0-Finish choice):4

```
4. Enter **0** to finish the selection.

```

Enter another file No.(0-Finish choice):0
You have selected:
flash:/boot-update.bin
flash:/system-update.bin

```
  5. Enter **M** or **B** to change its attribute to main or backup. If you change its attribute to M, the attribute of **boot.bin** changes to none.

```

Please input the file attribute (Main/Backup) M
This operation may take several minutes. Please wait....
Next time, boot-update.bin will become default boot file!
Next time, system-update.bin will become default boot file!
Set the file attribute success!

```

## Handling software upgrade failures

If a software upgrade fails, the system runs the old software version.

To handle a software upgrade failure:

1. Verify that the software release is compatible with the switch model and the correct file is used.
2. Verify that the software release and the Boot ROM release are compatible. For software and Boot ROM compatibility, see the hardware and software compatibility matrix in the correct release notes.
3. Check the physical ports for a loose or incorrect connection.
4. If you are using the console port for file transfer, check the HyperTerminal settings (including the baud rate and data bits) for any wrong setting.
5. Check the file transfer settings:
  - If XMODEM is used, you must set the same baud rate for the terminal as for the console port.
  - If TFTP is used, you must enter the same server IP addresses, file name, and working directory as set on the TFTP server.
  - If FTP is used, you must enter the same FTP server IP address, source file name, working directory, and FTP username and password as set on the FTP server.
6. Check the FTP or TFTP server for any incorrect setting.
7. Check that the storage device has sufficient space for the upgrade file.