



**Hewlett Packard**  
Enterprise

# HPE 5140HI-CMW710-R6615P07 Release Notes

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# Introduction

This document describes the features, restrictions and guidelines, open problems, and workarounds for version R6615P07. Before you use this version on 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 the documents listed in "[Related documents](#)."

## Version information

### Version number

HPE Comware Software, Version 7.1.070, Release 6615P07.

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**NOTE:**

To identify the version number (see Note①), execute the `display version` command in any view.

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### Version history

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**① IMPORTANT:**

The software feature changes listed in the version history table for each version are not complete. To obtain complete information about all software feature changes in each version, see the *Software Feature Changes* document for this release notes.

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**Table 1 Version history**

Version number	Last version	Release Date	Release type	Remarks
R6615P07	R6615P06	2022-06-09	Release version	None
R6615P06	First release	2022-03-25	Release version	First release

## Hardware and software compatibility matrix

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**△ CAUTION:**

To avoid an upgrade failure, use [Table 2](#) to verify the hardware and software compatibility before performing an upgrade.

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**Table 2 Hardware and software compatibility matrix**

Item	Specifications
Product family	5140HI Series
Hardware platform	HPE 5140 24G 4SFP+ 1-slot HI Swch HPE 5140 48G 4SFP+ 1-slot HI Sw HPE 5140 24G PoE+ 4SFP+ 1-slot HI Sw HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw HPE 5140/5520 10GBASE-T MACsec 2p Mod
Minimum memory requirements	2GB
Minimum Flash requirements	512 M
Boot ROM version	Version 119 or higher (Note: Use the <b>display version</b> command in any view to view the version information. Please see <b>Note②</b> )
Host software	5140HI-CMW710-R6615P07.ipe (See the MD5 file)
iMC version	iMC ACLM 7.3 (E0705P12) iMC PLAT 7.3 (E0705P12) iMC QoS 7.3(E0505P01) iMC EIA 7.3 (E0611P13) iMC NTA 7.3 (E0707P06) iMC SHM 7.3 (E0707L06) iMC EAD 7.3 (E0611P10) iMC ICC 7.3 (E0705P12) iMC VLAN 7.3 (E0705P12)
iNode version	iNode 7.3 (E0585)
Remarks	None

**Display the system software and Boot ROM versions of 5140HI**

```
<Sysname>display version
```

```
HPE Comware Software, Version 7.1.070, Release 6615P07 -----Note①
Copyright (c) 2010-2021 Hewlett Packard Enterprise Development LP
HPE 5520 24G 4SFP+ HI Swch R8M25A uptime is 0 weeks, 0 days, 0 hours, 8 minutes
Last reboot reason : User reboot
```

```
Boot image: flash:/5140HI-cmw710-boot-r6615P07.bin
```

```
Boot image version: 7.1.070, Release 6615P07
```

```
Compiled Jun 16 2021 11:00:00
```

```
System image: flash:/5140HI-cmw710-system-r6615P07.bin
```

```
System image version: 7.1.070, Release 6615P07
```

```
Compiled Jun 16 2021 11:00:00
```

```
Feature image(s) list:
```

```
flash:/5140HI-cmw710-freeradius-r6615P07.bin, version: 7.1.070, Release 6615P07
```

```
Compiled Jun 16 2021 11:00:00
```

```
flash:/5140HI-cmw710-escan-r6615P07.bin, version: 7.1.070, Release 6615P07
```

```
Compiled Jun 16 2021 11:00:00
```

```

Slot 1:
Uptime is 0 weeks,0 days,0 hours,8 minutes
5520 24G 4SFP+ HI Swch with 2 Processors
BOARD TYPE:          5520 24G 4SFP+ HI Swch
DRAM:                2048M bytes
FLASH:              512M bytes
PCB 1 Version:      VER.B
Bootrom Version:    119          -----Note②
CPLD 1 Version:     001
Release Version:    HPE 5520 24G 4SFP+ HI Swch R8M26A-6615P07
Patch Version :     None
Reboot Cause :      UserReboot
[SubSlot 0] 48GE+4SFP Plus

```

## ISSU upgrade type matrix

ISSU provides compatible upgrade and incompatible upgrade, depending on the compatibility between software versions. [Table 3](#) provides the approved ISSU upgrade types only between the current version and the history versions within the past 18 months. This matrix does not include history versions that are 18 months earlier than the current version, for which, no ISSU upgrade verification was performed.

For more information about ISSU, see the fundamentals configuration guide for the device.

**Table 3 ISSU version compatibility matrix**

Current version	History version	ISSU upgrade method
5140HI-CMW710-R6615P07	5140HI-CMW710-R6615P06	Compatible

## Upgrade advice

Upgrade to this version as needed to gain benefits introduced in this version.

## Upgrade restrictions and guidelines

document for any feature changes in the new version. Also check the most recent version of the related documents (see "[Related documents](#)") available on the HPE website for more information about feature configuration and commands.

## Hardware feature updates

### R6615P07

None

# R6615P06

First release

## Software feature and command updates

None

## MIB updates

Table 4 MIB updates

Item	MIB file	Module	Description
<b>5140HI-CMW710-R6615P07</b>			
New	None	None	None
Modified	None	None	None
<b>5140HI-CMW710-R6615P06</b>			
New	First release	First release	First release
Modified	First release	First release	First release

## Operation changes

### Operation changes in R6615P07

None

### Operation changes in R6615P06

First release

## Restrictions and cautions

Before performing a software upgrade, it is important to refer to the *Software Feature Changes* document for any feature changes in the new version. Also check the most recent version of the related documents (see "[Related documents](#)") available on the HPE website for more information about feature configuration and commands.

When you use this version of software, make sure you fully understand the restrictions and cautions described in this section.



# Restrictions

## Restrictions for VXLAN

Before you configure VXLAN settings, you must execute the **switch-mode 1** command in system view to set the system operating mode to VXLAN.

## Restrictions for 10-GE interfaces

To connect a 10-GE interface with a GE transceiver module installed to another interface by using a long optical fiber, you must perform the following tasks on the 10-GE interface:

- Set the interface speed to 1000 Mbps by using the **speed 1000** command.
- Configure the interface to operate in full duplex mode by using the **duplex full** command.

## Restrictions for 802.1X

When you enable 802.1X on a Layer 2 aggregate interface, make sure the 802.1X multicast trigger feature is disabled. To disabled the 802.1X multicast trigger feature, use the **undo dot1x multicast-trigger** command.

## Restrictions for dynamic Ethernet service instances

A dynamic Ethernet service instance determines that a packet belongs to the matching VSI if the VLAN ID and source MAC address in the packet match the VLAN ID and MAC address in authorization information for a user.

## Restrictions for the drop-unknown command in IGMP-snooping/MLD-snooping view

The **drop-unknown** command is not supported in IGMP-snooping/MLD-snooping view.

## Restrictions for the convergence time after a master/subordinate switchover

The Layer 2 traffic convergence time after a master/subordinate switchover exceeds 2 seconds in an EVPN network.

## Restrictions for the PSE Device

If a PSE cannot supply power correctly, execute the **poe detection-mode simple** command to enable the simple PD detection mode, and enable non-standard PD detection. To enable non-standard PD detection, execute the **poe legacy enable** command in system view or interface view.

Only PSEs that have a model name ending with character B support PD detection mode configuration. To obtain the model name of a PSE, execute the **display poe pse** command.

# Cautions

None

# Open problems and workarounds

## 202205240571

- Symptom: Threads of OSPFv3 access invalid pointers and are hanged, the core is abnormal, and routes are not updated.
- Condition: This symptom occurs if the following operations are performed:
  - a. Configure a VPN instance that has no OSPFv3 instances.
  - b. Associate the VPN instance with an interface and execute the **ipv6 address** command on the interface.

- c. Execute OSPFv3 preconfigured commands but not OSPFv3 enable commands. The `ospfv3 1 area 0 command` is an example of OSPFv3 enable commands. OSPFv3 preconfigured commands refer to commands other than enable commands, such as `ospfv3 timer hello`, `ospfv3 network-type`, and `ospfv3 cost`.
- d. Remove the VPN instance-interface association or delete the VPN instance.
- Workaround:
  - Do not delete the OSPFv3 process, or remove the VPN instance-interface association before deleting the OSPFv3 process.
  - Make sure the interface does not have OSPFv3 preconfigured commands before removing the VPN instance-interface association or deleting the VPN instance.

## 202205270372

- Symptom: Outgoing packets carry an incorrect source MAC address.
- Condition: This symptom occurs if the following operations have been performed:
  - Configure a MAC address on a VLAN interface.
  - Delete the VLAN interface and re-create it.
- Workaround: None.

## 202204110848

- Symptom: Source ports in a local mirroring group fail to be configured after the source ports in another local mirroring group are configured.
- Condition: This symptom occurs if the following operations are performed:
  - Configure the monitor port as the same port for seven local mirroring groups.
  - Configure the source ports for the seventh local mirroring group.
  - Configure the source ports for another local mirroring group among the remaining local mirroring groups.
- Workaround: Do not configure the monitor port as the same port for different local mirroring groups.

## 202201121803

- Symptom: In a distributed EVPN VXLAN gateway deployment, the VTEP device forwards packets with incorrect VLAN tags.
- Condition: This symptom occurs if the output interface of the forwarding entry for Layer 3 traffic received from the tunnel side is a VLAN interface or Layer 3 interface.
- Workaround: Do not configure the output interface of the forwarding entry for Layer 3 traffic as a VLAN interface or Layer 3 interface in a distributed EVPN VXLAN gateway deployment.

## 202110280495

- Symptom: An IRF fabric fails to forward traffic.
- Condition: This symptom might occur if static ACs are configured on multichassis aggregate interfaces and a subordinate device is rebooted when those aggregate interfaces are receiving packets.
- Workaround: None.

## 202109060975

- Symptom: PIM DM is disabled on a VLAN interface, Layer 2 multicast entries are not established on the subordinate IRF member device, and multicast traffic is broadcast within the VLAN.
- Condition: This symptom occurs if both Layer 2 multicast and Layer 3 multicast are configured for the same VLAN, traffic is received on the subordinate IRF member device, and IGMP snooping is configured for the VLAN on an IRF fabric.

- Workaround: None.

#### **202112310599**

- Symptom: The device issues Layer 3 IPv4 multicast entries successfully and might fail to issue some Layer 3 IPv6 multicast entries, which causes multicast forwarding errors.
- Condition: This symptom might occur if the device issues 3000 IPv4 IPMC multicast entries and then 250 IPv6 IPMC multicast entries and the number of multicast entries reaches the upper limit.
- Workaround: None.

## **List of resolved problems**

### **Resolved problems in R6615P07**

#### **202205111296**

- Symptom: A VSI interface in down state can still act as a gateway interface to forward traffic.
- Condition: This symptom occurs if the `shutdown` command is executed on a VSI interface configured as the VXLAN gateway interface.

#### **202205111299**

- Symptom: When a PoE interface fails to supply power, the traps cannot correctly report the failure.
- Condition: This symptom occurs if the maximum power configured on the PoE interface cannot meet the power requirements of the attached PDs.

#### **202205111292**

- Symptom: Within 5 minutes after the VCF fabric is automatically deployed, the devices try to obtain the device list file.
- Condition: This symptom occurs if legacy automated deployment is performed for the devices and the device list is not configured.

#### **202205111301**

- Symptom: After the VCF fabric is automatically deployed, the original PVID settings of interfaces are lost.
- Condition: This symptom occurs if a device is automatically deployed as an access device, the interfaces have original PVID settings, the interfaces are connected to APs, and then the APs are removed.

#### **202203300334**

- Symptom: The device reboots unexpectedly.
- Condition: This symptom occurs if an AC is associated with a VSI on the device.

#### **202201200603**

- Symptom: When loop detection is configured on a VSI and ARP packets are injected to a blocked AC, the AC can still respond with ARP replies normally.
- Condition: This symptom occurs if ARP proxy is configured on the VSI.

#### **202108170529**

- Symptom: The MAC address entries for MAC authentication users and 802.1x users are not deleted after they go offline.

- Condition: This symptom occurs if MAC authentication users and 802.1x users move between member devices on an IRF fabric.

#### **202203211300**

- Symptom: After a transceiver module is installed into a port, the device reboots unexpectedly.
- Condition: This symptom occurs if the following conditions exist:
  - a. A DR system has peer links.
  - b. Configure an AC on the DR interface (an aggregate interface).
  - c. On a single-homed interface, configure an AC with the same service instance.

#### **202201050390**

- Symptom: A MAC address entry does not age out if the MAC address moves between two interfaces constantly.
- Condition: This symptom might occur if two interfaces receive packets sourced from the same MAC address.

#### **202112281596**

- Symptom: An EVPN DR system uses an Ethernet aggregate link as the IPL. After an AC is deleted and recreated, the AC does not take effect.
- Condition: This symptom might occur if the following events occur:
  - a. The maximum number of ACs is reached.
  - b. A static AC is deleted and recreated on a non-DR interface or DR interface.

#### **202112280428**

- Symptom: MAC address entries are not deleted completely, and the type of the MAC address entries is incorrect.
- Condition: This symptom might occur if the following events occur on a DR system formed by two devices with different capabilities:
  - a. The traffic load reaches the limit of the device with higher capabilities.
  - b. The reset l2vpn mac command is executed.

#### **202112270862**

- Symptom: An EVPN DR system does not forward the broadcast traffic received from DR interfaces over the IPL.
- Condition: This symptom might occur if the configuration is rolled back after the b\_evpn\_drni\_no\_peer\_link\_1\_3\_3.tc script is executed.

#### **202112301425**

- Symptom: On an EVPN DR system, synchronized MAC addresses are issued to incorrect ACs, and this issue cannot be recovered.
- Condition: This symptom might occur if ACs match single-tagged packets and the following operations are performed:
  - a. ACs matching the same VLAN are mapped to different VSIs.
  - b. The ACs are deleted.
  - c. The ACs are recreated to match the same VLAN and mapped to the same VSI.

#### **202201040231**

- Symptom: The device fails to forward some multiple packets.
- Condition: This symptom might occur if BIDIR-PIM is enabled and RPs are configured in BIDIR-PIM domains.

#### 202112280864

- Symptom: MAC address learning is disabled globally when the device is receiving dense traffic, but dynamic MAC address entries are not deleted.
- Condition: This symptom might occur if MAC address learning is disabled globally when the device is receiving dense traffic.

#### 202111260029

- Symptom: MAC address entries created for MAC authentication users are not deleted after MAC authentication is disabled on DR interfaces.
- Condition: This symptom might occur if MAC authentication is disabled on DR interfaces of a DR system that uses an Ethernet aggregate link as the IPL.

#### 202110191417

- Symptom: Once removed from a monitoring group, an interface cannot be assigned to monitoring groups again.
- Condition: This symptom might occur if traffic is mirrored to a monitoring group through local mirroring and flow mirroring.

#### 202112081609

- Symptom: On an EVPN DR system, a BGP task is abnormal and creates a core file.
- Condition: This symptom might occur if the DR system receives ARP packets and 1000 attached hosts migrate from the DR system.

#### 202112291428

- Symptom: A non-existent VLAN is created on the primary DR device in type 2 configuration consistency check.
- Condition: This symptom might occur if the following operations are performed:
  - a. Two devices are booted with initial configuration, and they are configured to set up a DR system.
  - b. The keepalive link comes up.
  - c. An IPP is configured on the primary and secondary devices in sequence.

#### 202112291070

- Symptom: Users fail authentication after the attached IRF fabric reboots.
- Condition: This symptom might occur if an IRF master/subordinate switchover occurs when the interface used for authentication is down and users are online.

#### 202112250446/202112081895

- Symptom: EVPN and Layer 2 multicast are configured on the device, and the `igmp-snooping drop-unknown` setting does not take effect.
- Condition: This symptom might occur if a VXLAN ID is deleted and recreated on a VSI.

#### 202112081745

- Symptom: The device generates blackhole MAC address entries and does not forward certain traffic.
- Condition: This symptom might occur if incoming traffic matches a MAC-based VLAN and an IP subnet-based VLAN simultaneously on the same interface.

#### 202112271474

- Symptom: Member devices in a VXLAN DR system might reboot unexpectedly.
- Condition: This symptom might occur if a certain script is executed.

## 202110210626

- Symptom: AC resources for a VSI might not be deleted completely when an authentication user logs off and then logs on again.
- Condition: This symptom might occur if user MAC addresses move between interfaces and a large number of authentication users exist.

## 202112131788

- Symptom: EVPN is enabled to forward Layer 2 multicast traffic. After a VXLAN ID is deleted and then created again, the drop-unknown setting does not take effect.
- Condition: This symptom might occur if a VXLAN ID is deleted and created again with the drop-unknown setting being intact.

## 202203181089

- Symptom: When all types of MACsec debugging are enabled by using the debugging macsec all command, the system outputs an error message to indicate that it has received an oversized packet. However, the system does not receive an oversized packet.
- Condition: This symptom occurs if MACsec is enabled on a port of the LSWM2XMGT2PM subcard and the local and peer MACsec-enabled ports forward traffic at wire speed.

## 202203211300

- Symptom: A DR member device reboots unexpectedly after a transceiver module is installed.
- Condition: This symptom might occur if the following conditions exist:
  - a. The DR member devices have a physical IPL between them.
  - b. An Ethernet service instance is configured both on a DR interface and an interface attached to a single-homed device.

# Resolved problems in R6615P06

First release

## Support and other resources

### Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
[www.hpe.com/assistance](http://www.hpe.com/assistance)
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)

Information to collect:

- Technical support registration number (if applicable).
- Product name, model or version, and serial number.
- Operating system name and version.
- Firmware version.
- Error messages.
- Product-specific reports and logs.
- Add-on products or components.

- Third-party products or components.

## Documents

To find related documents, see the Hewlett Packard Enterprise Support Center website at <http://www.hpe.com/support/hpesc>.

- Enter your product name or number and click **Go**. If necessary, select your product from the resulting list.
- For a complete list of acronyms and their definitions, see HPE FlexNetwork technology acronyms.

## Related documents

The following documents provide related information:

- HPE PSR150-A & PSR150-D Series Power Supplies User Guide
- HPE PSR720-56A Power Supply User Guide
- HPE PSR1110-56A Power Supply User Guide
- HPE X721 Power to Port Fan Tray (5060-0175) & HPE X722 Port to Power Fan Tray (5060-0174) User Guide
- HPE LSWM2XGT2PM Interface Card (JH156A) User Guide
- HPE LSWM2SP2PM Interface Card (JH157A) User Guide
- HPE LSWM2XMGT2PM Interface Card (R9L65A) User Guide
- HPE FlexNetwork 5140 HI Switch Series Installation Guide
- HPE FlexNetwork 5140 HI Switch Series Configuration Guides Index-R66xx
- About the HPE FlexNetwork 5140 HI Switch Series Configuration Guides-R66xx
- HPE FlexNetwork 5520 H Switch Series Fundamentals Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Virtual Technologies Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 2 - LAN Switching Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 3 - IP Services Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 3 - IP Routing Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series IP Multicast Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series MCE Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series ACL and QoS Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Security Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series High Availability Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Network Management and Monitoring Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series Telemetry Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series OpenFlow Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series VXLAN Configuration Guide-R66xx
- HPE FlexNetwork 5140 HI Switch Series EVPN Configuration Guide-R66xx
- About the HPE FlexNetwork 5140 HI Switch Series Command References-R66xx
- HPE FlexNetwork 5140 HI Switch Series Fundamentals Command Reference-R66xx

- HPE FlexNetwork 5140 HI Switch Series Virtual Technologies Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 2 - LAN Switching Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 3 - IP Services Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Layer 3 - IP Routing Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series IP Multicast Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series MCE Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series ACL and QoS Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Security Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series High Availability Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Network Management and Monitoring Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series OpenFlow Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series Telemetry Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series VXLAN Command Reference-R66xx
- HPE FlexNetwork 5140 HI Switch Series EVPN Command Reference-R66xx
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## Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback ([docsfeedback@hpe.com](mailto:docsfeedback@hpe.com)). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.



# Appendix A Feature list

## Hardware features

**Table 5 5140HI series hardware features for non-PoE switch models**

Item	HPE 5140 24G 4SFP+ 1-slot HI Sw	HPE 5140 48G 4SFP+ 1-slot HI Sw
Dimensions (H x W x D)	43.6 x 440 x 360 mm (1.72 x 17.32 x 14.17 in)	
Weight	≤ 7 kg (15.43 lb)	
Console ports	<ul style="list-style-type: none"> <li>1 x Micro USB console port</li> <li>1 x serial console port</li> </ul> Only the Micro USB console port is available when you connect both ports.	
USB port	1	
Management Ethernet port	1	
SFP+ port	4	
SFP port	8	-
10/100/1000 Base-T Ethernet ports	24	48
SFP+ ports	4	
Expansion slot	1, on the rear panel	
Power module slot	2, on the rear panel	
Fan tray slot	2, on the rear panel	
Input voltage	<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 HP RPS models: A-RPS800 or A-RPS1600)               <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	<ul style="list-style-type: none"> <li>Single AC input: 24 W</li> <li>Single DC input: 24W</li> <li>Dual AC inputs: 29 W</li> <li>Dual DC inputs: 298W</li> </ul>	<ul style="list-style-type: none"> <li>Single AC input: 27 W</li> <li>Single DC input: 24W</li> <li>Dual AC inputs: 31 W</li> <li>Dual DC inputs: 29 W</li> </ul>
Maximum power consumption	<ul style="list-style-type: none"> <li>Single AC input: 87W</li> <li>Single DC input: 88W</li> <li>Dual AC inputs: 91 W</li> <li>Dual DC inputs: 95W</li> </ul>	<ul style="list-style-type: none"> <li>Single AC input: 88W</li> <li>Single DC input: 89W</li> <li>Dual AC inputs: 93 W</li> <li>Dual DC inputs: 96 W</li> </ul>

Item	HPE 5140 24G 4SFP+ 1-slot HI Sw	HPE 5140 48G 4SFP+ 1-slot HI Sw
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 supply fuse	<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	-5°C to 45°C (23°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 6 5140HI series hardware features for PoE switch models**

Item	HPE 5140 24G PoE+ 4SFP+ 1-slot HI Sw	HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw
Dimensions (H x W x D)	43.6 x 440 x 460 mm(1.72 x 17.32 x 18.11 in)	
Weight	≤ 9.6 kg (21.16 lb)	
Console ports	<ul style="list-style-type: none"> <li>1 x Micro USB console port</li> <li>1 x serial console port</li> </ul> <p>Only the Micro USB console port is available when you connect both ports.</p>	
USB port	1	
Management Ethernet port	1	
SFP+ port	4	
10/100/1000Base-T Ethernet ports	24	48
Expansion slot	1, on the rear panel	
Power module slot	2, on the rear panel	
Fan tray slot	2, on the rear panel	
Input voltage	<ul style="list-style-type: none"> <li>AC input for the PSR360-56A/PSR720-56A power module: <ul style="list-style-type: none"> <li>Rated voltage range: 100 VAC to 240 VAC @ 50 Hz or 60 Hz</li> <li>Max voltage range: 90 VAC to 264 VAC @ 47 Hz to 63 Hz</li> </ul> </li> <li>AC input for the PSR1110-56A power module: <ul style="list-style-type: none"> <li>Rated voltage range: 115 VAC to 240 VAC @ 50 Hz or 60 Hz</li> <li>Max voltage range: 102.5 VAC to 264 VAC @ 47 Hz to 63 Hz</li> </ul> </li> </ul> <p>You can use a -48 VDC power source in the equipment room or an H3C RPS (RPS1600-A).</p>	

PoE power capacity	Depends on the power module configurations. For more information, see <a href="#">Table 7</a> .	
Minimum power consumption	31.03W	33.09W
Maximum power consumption (including PoE power consumption)	927.2W	1729W
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 supply fuse	15 A/250 V	
Operating temperature	-5°C to 45°C (23°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 7 PoE power capacity of the HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw Swch switches**

Power module configuration	HPE 5140 24G PoE+ 4SFP+ 1-slot HI Sw		HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw	
	Total PoE power capacity	Max PoE power capacity per port	Total PoE power capacity	Max PoE power capacity per port
2 x PSR1110-56A	810W	30W	1680w	30 W
1 x PSR1110-56A and 1 x PSR720-56A	810W	30W	1560 W	30 W
1 x PSR1110-56A and 1 xPSR360-56A	810W	30W	1200W	30W
2 x PSR720-56A	810W	30W	1200W	30W
1 x PSR1110-56A	810W	30W	810 W	30 W
1 x PSR720-56A and 1 x PSR360-56A	810W	30W	810 W	30 W
1 x PSR720-56A	450W	30W	450 W	30 W
2 x PSR360-56A	450W	30W	450 W	30 W

Power module configuration	HPE 5140 24G PoE+ 4SFP+ 1-slot HI Sw		HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw	
	Total PoE power capacity	Max PoE power capacity per port	Total PoE power capacity	Max PoE power capacity per port
1 x PSR360-56A	180W	30W	180 W	30 W

## Software features

Table 8 Software features of the 5140HI series

Feature	HPE 5140 24G 4SFP+ 1-slot HI Sw HPE 5140 48G 4SFP+ 1-slot HI Sw HPE 5140 24G PoE+ 4SFP+ 1-slot HI Sw HPE 5140 48G PoE+ 4SFP+ 1-slot HI Sw
Full duplex Wire speed L2 switching capacity	<ul style="list-style-type: none"> <li>Excluding subcards: 176 Gbps</li> <li>Including subcards: <ul style="list-style-type: none"> <li>For frames (length=64 bytes): 240 Gbps</li> <li>For frames (length≥128 bytes): 336 Gbps</li> </ul> </li> </ul>
Whole system Wire speed L2 switching Packet forwarding rate	180Mpps
Link aggregation	<ul style="list-style-type: none"> <li>Aggregation of GE ports</li> <li>Aggregation of 10-GE ports</li> <li>Aggregation of 40-GE ports</li> <li>Static link aggregation</li> <li>Dynamic link aggregation</li> <li>Inter-device aggregation</li> <li>A maximum of 128 inter-device aggregation groups</li> <li>A maximum of 32 ports for each aggregation group</li> </ul>
Flow control	<ul style="list-style-type: none"> <li>IEEE 802.3x flow control</li> </ul>
Jumbo Frame	<ul style="list-style-type: none"> <li>Supports maximum frame size of 10000</li> </ul>
MAC address table	<ul style="list-style-type: none"> <li>64K 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>A maximum of 4094 port-based VLANs</li> <li>QinQ, selective QinQ, VLAN mapping</li> <li>Voice VLANs</li> <li>Protocol-based VLANs</li> <li>MAC-based VLANs</li> </ul>
ARP	<ul style="list-style-type: none"> <li>A maximum of 32K ARP entries (a maximum number of 32K ARP entries in later versions)</li> <li>A maximum of 2K static ARP entries</li> <li>Gratuitous ARP</li> </ul>

	<ul style="list-style-type: none"> <li>• ARP attack detection based on DHCP snooping entries, 802.1X entries, and static IPSG bindings</li> <li>• ARP rate limit</li> </ul>
ND	<ul style="list-style-type: none"> <li>• 16K entries</li> <li>• 2K static entries</li> <li>• ND Snooping</li> </ul>
VLAN virtual interface	1K
DHCP	<ul style="list-style-type: none"> <li>• DHCP client</li> <li>• DHCP snooping</li> <li>• DHCP relay</li> <li>• DHCP server</li> <li>• DHCP Option82</li> </ul>
DHCPv6	<ul style="list-style-type: none"> <li>• DHCPv6 server</li> <li>• DHCPv6 relay</li> <li>• DHCPv6 client</li> <li>• DHCPv6 snooping</li> </ul>
DNS	<ul style="list-style-type: none"> <li>• Static DNS</li> <li>• Dynamic DNS</li> <li>• IPv4 and IPv6 DNS</li> </ul>
unicast route	<ul style="list-style-type: none"> <li>• IPv4 and IPv6 static routes</li> <li>• RIP/RIPng</li> <li>• OSPF/OSPFv3</li> <li>• BGP/IPv6 BGP</li> <li>• ISIS/ISISv6</li> </ul>
Multicast	<ul style="list-style-type: none"> <li>• IGMP Snooping</li> <li>• MLD Snooping</li> <li>• multicast VLAN</li> <li>• PIM SM</li> <li>• PIM DM</li> <li>• MSDP</li> </ul>
Broadcast/multicast/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>• 64 Spanning Tree instances</li> <li>• STP Root Guard</li> <li>• BPDU Guard</li> </ul>
SmartLink	<ul style="list-style-type: none"> <li>• 32</li> </ul>
RRPP	<ul style="list-style-type: none"> <li>• RRPP</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>• WRED</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>• Local port mirroring</li> <li>• A maximum number of 7 mirroring groups</li> <li>• Layer 2 remote port mirroring</li> <li>• Flow mirroring</li> </ul>
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 2K users</li> <li>• Port-based and MAC address-based authentication</li> <li>• Guest VLAN</li> <li>• Trunk port authentication</li> <li>• Dynamic 802.1X-based ACL/VLAN assignment</li> </ul>
Open Flow	<ul style="list-style-type: none"> <li>• 16 Instances</li> <li>• 1500 flow entries (issued by using ACL)</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>• Remote Monitoring(RMON)</li> <li>• IMC NMS</li> <li>• Web network management (later version)</li> <li>• System log</li> <li>• Hierarchical alarms</li> <li>• IRF</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>• Remote maintenance through Telnet</li> <li>• NQA</li> <li>• 802.1ag</li> <li>• 802.3ah</li> <li>• DLDP</li> <li>• Virtual Cable Test</li> </ul>



# **Appendix B Fixed security vulnerabilities**

## Fixed security vulnerabilities in R6615P07

None



# Appendix C 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.

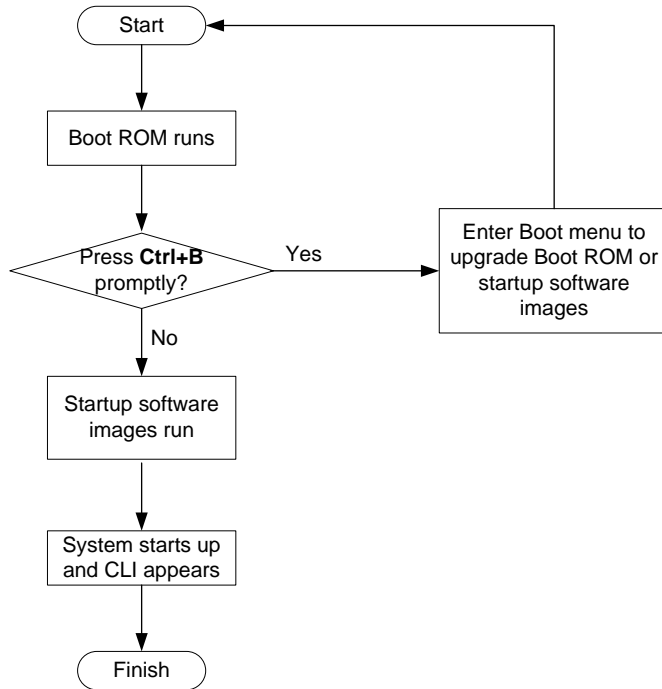
The software images that have been loaded are called “current software images.” The software images specified to load at next startup are called “startup software images.”

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**.

## 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, `5140HI-CMW710-BOOT-Rxxxx.bin` and `5140HI-CMW710-SYSTEM-Rxxxx.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 HPE 5130 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 9](#).

**Table 9 Minimum free storage space requirements**

Upgraded images	Minimum free storage space requirements
Comware images	Two times the size of the Comware upgrade package file.



Upgraded images	Minimum free storage space requirements
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
*****
*
*           HPE 5140 48G 4SFP+ 1-slot HI Sw BOOTROM, Version 117           *
*
*****
Copyright (c) 2010-2020 Hewlett Packard Enterprise Development LP
```

```
Creation Date       : Nov 10 2020, 10:01:13
CPU Clock Speed    : 800MHz
Memory Size        : 2048MB
Flash Size         : 512MB
CPLD Version       : 002
PCB Version        : Ver.B
Mac Address        : 000fe2699a00
```

Press Ctrl+B to access EXTENDED BOOT MENU...0

Press one of the shortcut key combinations at prompt.

**Table 10 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 117
*
*
*****
```

```

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 11 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 12</a> ).

**Table 12 BASIC ASSISTANT menu options**

Option	Task
1. RAM Test	Perform a RAM self-test.

Option	Task
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 13](#)). For more information about password recovery capability, see *Fundamentals Configuration Guide* in *HPE 5130 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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright

```

Enter your choice(0-8):

**Table 13 Extended Boot ROM menu options**

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

Option	Tasks
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 14</a> .
Ctrl+Y: Change Work Mode	Change Work Mode.
Ctrl+C: Display Copyright	Display the copyright statement.

**Table 14 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 15 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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright

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 16 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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright

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.

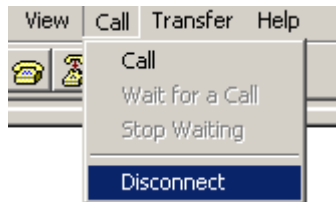
Download baudrate is 115200 bps



Please change the terminal's baudrate to 115200 bps and select XMODEM protocol  
Press enter key when ready

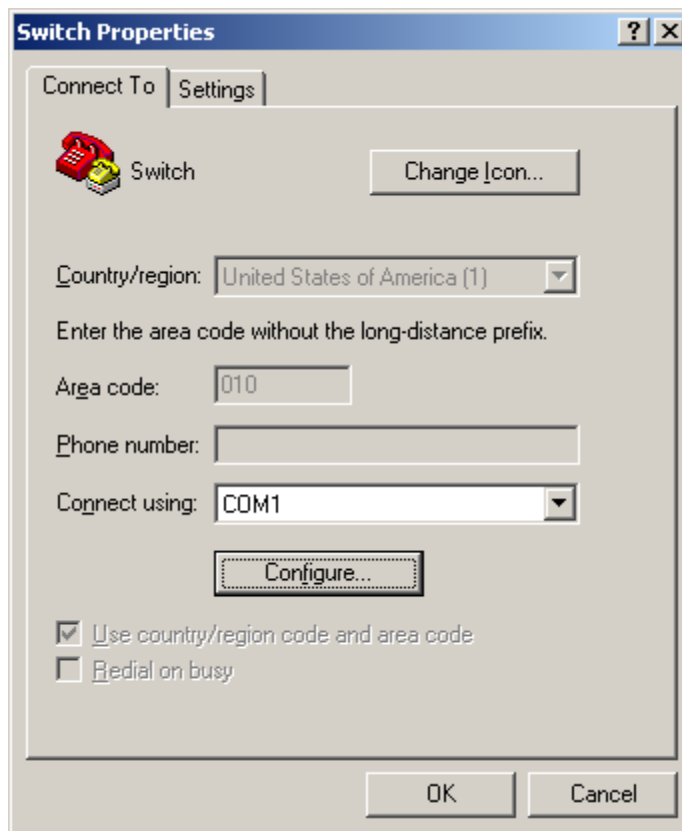
4. Set the serial port on the terminal to use the same baud rate and protocol as the console port. If you select 9600 bps as the download rate for the console port, skip this task.
  - a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

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



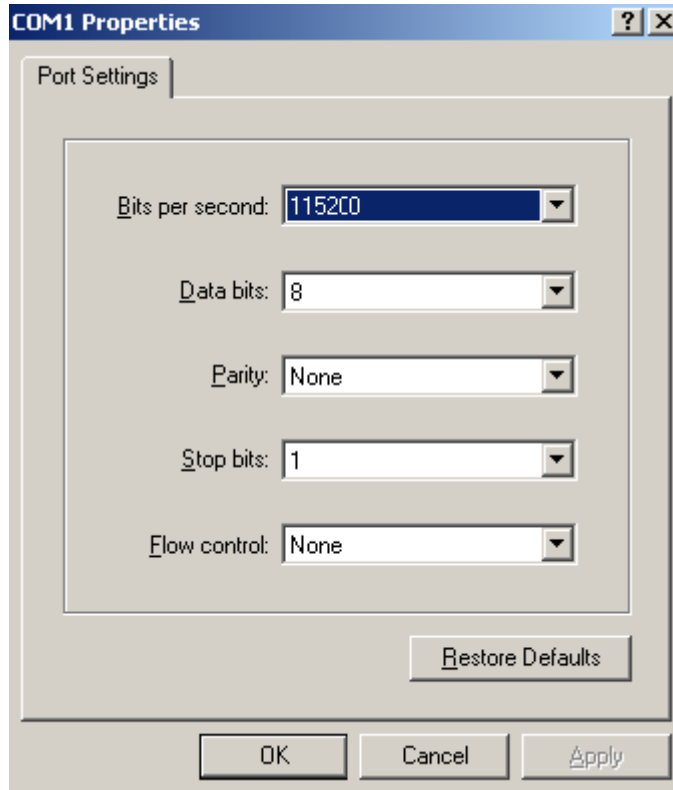
- b. Select **File > Properties**, and in the **Properties** dialog box, click **Configure**.

**Figure 3 Properties dialog box**



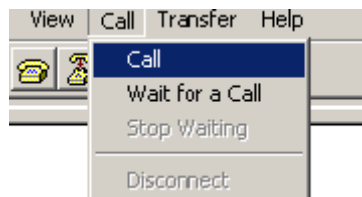
- c. Select **115200** from the **Bits per second** list and click **OK**.

Figure 4 Modifying the baud rate



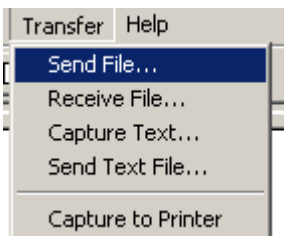
- d. Select **Call > Call** to reestablish the connection.

Figure 5 Reestablishing the connection



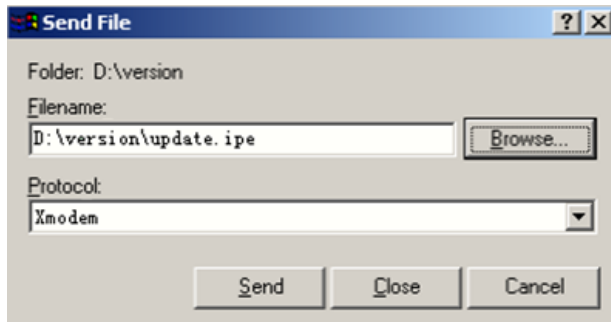
- 5. Press **Enter**. The following prompt appears:  
Are you sure to download file to flash? Yes or No (Y/N):Y
- 6. Enter **Y** to start downloading the file. (To return to the Boot menu, enter **N**.)  
Now please start transfer file with XMODEM protocol  
If you want to exit, Press <Ctrl+X>  
Loading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

Figure 6 Transfer menu



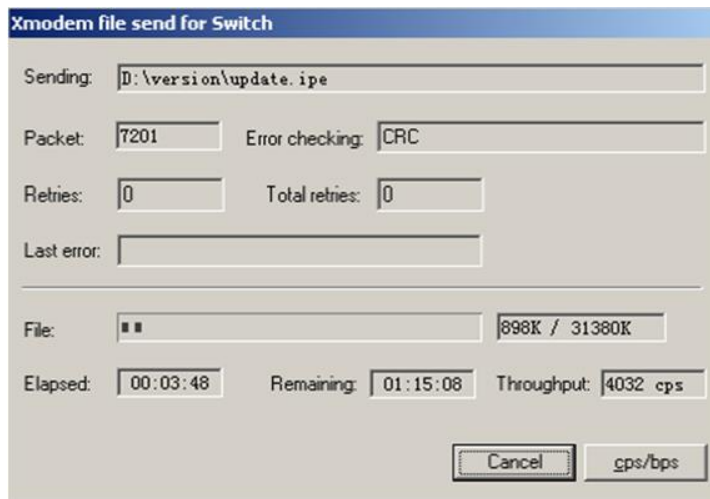
- In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

**Figure 7 File transmission dialog box**



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

**Figure 8 File transfer progress**



- 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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright
```

```
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 17 TFTP parameter description

Table with 2 columns: Item, Description. Rows include Load File Name, Server IP Address, Local IP Address, Subnet Mask, and Gateway IP Address with their respective descriptions.

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 18 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

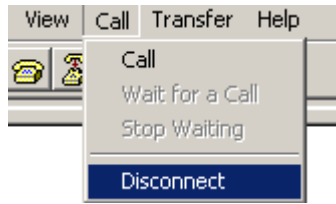
Please change the terminal's baudrate to 115200 bps and select XMODEM protocol

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.

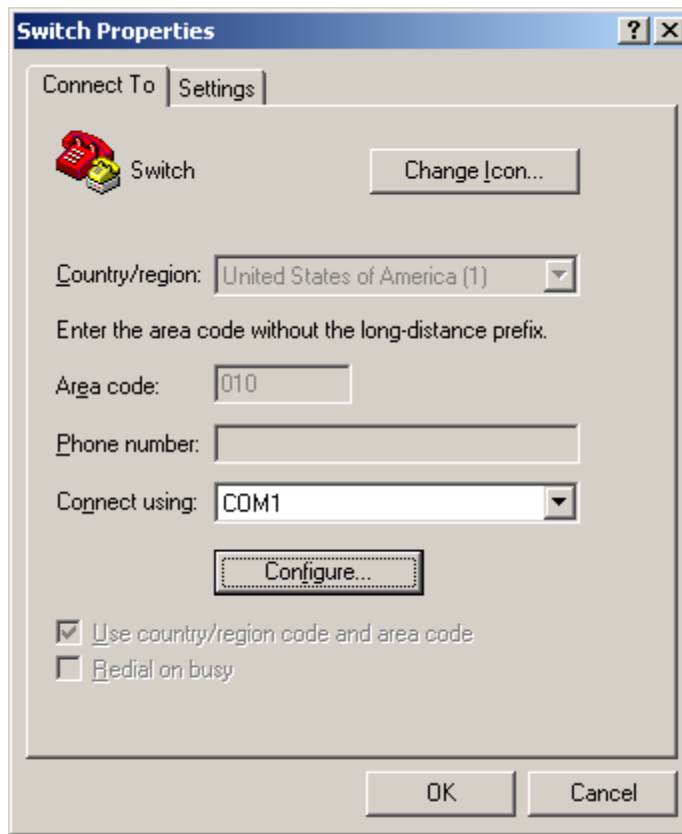
- a. Select **Call > Disconnect** in the HyperTerminal window to disconnect the terminal from the switch.

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



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

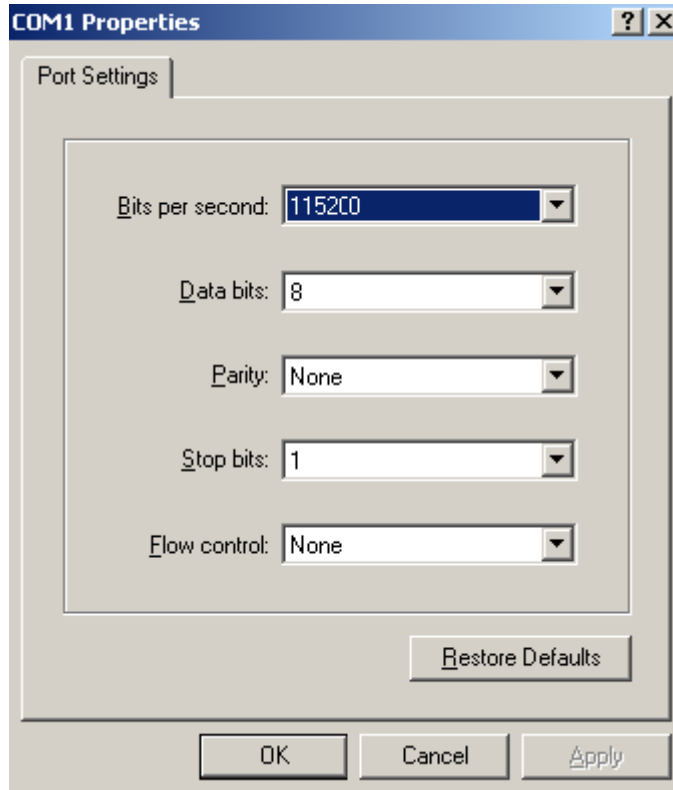
**Figure 10 Properties dialog box**



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

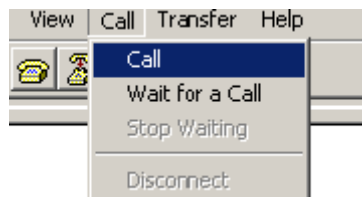


**Figure 11 Modifying the baud rate**



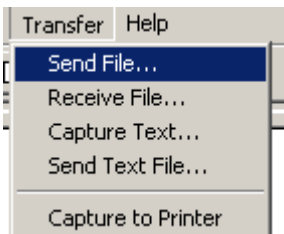
- d. Select **Call > Call** to reestablish the connection.

**Figure 12 Reestablishing the connection**



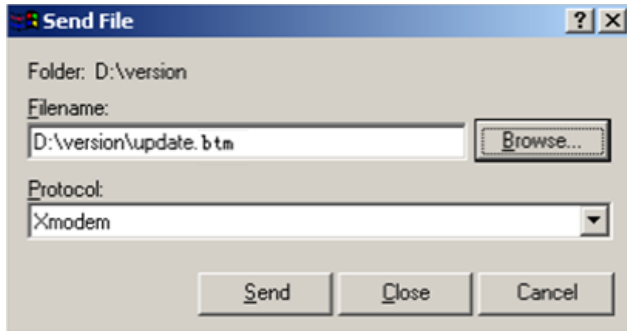
- 6. Press **Enter** to start downloading the file.  
Now please start transfer file with XMODEM protocol  
If you want to exit, Press <Ctrl+X>  
Loading ...CCCCCCCCCCCCCCCCCCCCCCCCCCCC
- 7. Select **Transfer > Send File** in the HyperTerminal window.

**Figure 13 Transfer menu**



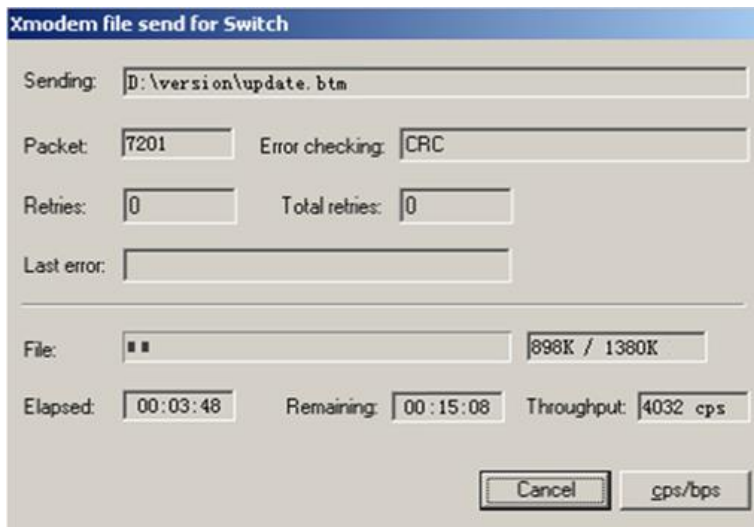
- 8. In the dialog box that appears, click **Browse** to select the source file, and select **Xmodem** from the **Protocol** list.

**Figure 14 File transmission dialog box**



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

**Figure 15 File transfer progress**



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

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

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

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

12. 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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright
```

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
Ctrl+Y: Change Work Mode
Ctrl+C: Display Copyright

```

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.