X450-G2 Series Switch Quick Reference

Electrical Hazard: Only qualified personnel should perform installation procedures.
Risques d'électrocution: Seul un personnel qualifié doit effectuer les procédures d'installation.

For complete installation instructions see the *Extreme Networks Summit Family Hardware Installation Guide* at: www.extremenetworks.com/documentation

Hardware Components

Figure 1 and Figure 2 display the panel ports, LEDs, and hardware components on the X450-G2 Series switches. See the *Extreme Networks Summit Family Hardware Installation Guide* for component details.

Figure 1 X450-G2 Switch Front Panels

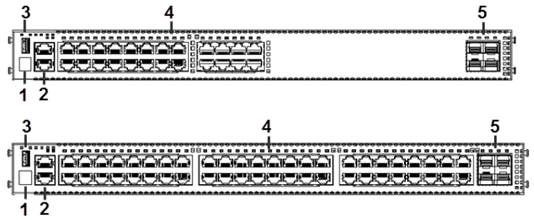
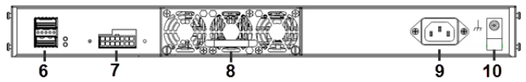
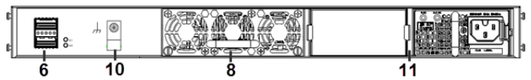


Figure 2 X450-G2 Switch Back Panels

Non-PoE Switch



PoE+ Switch



1	Stack LED	**5**	1000BASE-X SFP or 10G SFP+ ports	**9**	AC power input connector
2	Console/Management ports	**6**	21 Gb stacking port (QSFP+)	**10**	Grounding screw
3	USB port	**7**	Redundant power supply (RPS) connector	**11**	PoE+ power supply bays
4	10/100/1000BASE-T or 10/100/1000BASE-T PoE+ ports	**8**	Front-to-back fan module slot		

Installation Site Requirements

The installation site must be within reach of the network cabling and meet the requirements listed below:

- Appropriate grounded power receptacles must be located within 6 feet of the site.
- A temperature of between 0°C (32°F) and 50°C (122°F) must be maintained at the installation site with fluctuations of less than 10°C (18°F) per hour.
- Installing the system as described in this guide meets the protective earth grounding requirements of the National Electrical Code (NEC) UL 60950 and IEC 60950 standards. If it is necessary to use an alternative grounding method, connect a 14 AWG wire between the ground screw on the chassis and a nearby building ground point.

Caution: To ensure proper ventilation and prevent overheating, leave a minimum clearance space of 5.1 cm (2.0 in.) on both sides of the device.
Warning: A readily accessible disconnect device shall be incorporated in the building installation wiring.
Avertissements: Incorporez sur le circuit de câblage un dispositif de déconnexion facilement accessible.

Handling the Switch

Caution: The switch can be damaged by electrostatic discharge.

To prevent electrostatic damage, attach an electrostatic discharge (ESD) wrist strap to your wrist before handling the switch.
Unpack the switch as follows:
1 Remove the packing material protecting the switch.
2 Remove the tape seal on the non-conductive bag to remove the switch.
3 Perform a visual inspection of the switch for any signs of physical damage. Contact Extreme Networks if there are any signs of damage. See "Getting Help" for more information on contacting Extreme Networks.

Installing the Summit X450-G2 Series Switch

You can install a Summit X450-G2 Series switch in a rack. There are four possible rack mounting configurations, depending upon whether:

- The switch I/O ports or the power supply side of the device face front
- The device is mounted flush with the rack posts or mid-mounted

Stacking Switches

Up to eight X450-G2 Series switches can be stacked together and connected, allowing the entire stack to operate with a single IP address. You can use the following ports for stacking:

- **21Gb QSFP+ stacking ports** (Figure 2, callout 7)—For non-PoE X450-G2 Series switches only. The stacking ports require QSFP+ direct attach passive copper cables, which are available in multiple lengths. You must order these cables separately.
- **Front panel 1GbE or 10GbE ports** (Figure 1 callout 5)—Use two of the front panel 1GbE SFP or 10GbE SFP+ ports. If your Summit X450-G2 Series switch has 10GbE ports, you can use SummitStack-V to create a stack that includes other Summit switch models equipped with 10GbE SFP+ ports.

For complete information about stacking, refer to the *Extreme Networks Summit Family Hardware Installation Guide.*

Securing the Switch to the Rack

Caution: Before rack-mounting the device, ensure that the rack can support it without compromising stability. Otherwise, personal injury and/or equipment damage may result.

Note: The rack mounting brackets provide two holes for securing the Summit X450-G2 Series switch to the rack. Use two screws or fasteners appropriate to your rack on each side when securing the X450-G2 Series switch to the rack.
We recommend that you install the power supplies in the Summit X450-G2 Series switch after you have secured the switch to the rack to minimize weight that must be supported when installing rack screws.

To secure the Summit X450-G2 Series switch to the rack:
1 Attach the mounting brackets to the sides of the switch using six screws for each bracket.
2 Align the rack mount ear holes with the front rack post holes.
3 Secure the Summit X450-G2 Series switches to each rack post with at least two screws or fasteners appropriate to the rack.

Note: If using one power supply, you can install it in either of the two power supply bays. Insert a blank cover, provided with the switch, on the unused power supply bay.

Installing Pluggable Transceivers

Warning: Fiber-optic SFP and SFP+ ports use Class 1 or Class 1M lasers.
LASER RADIATION
DO NOT EXPOSE USERS OF TELESCOPIC OPTICS
CLASS 1 OR 1M LASER PRODUCT
Do not use optical instruments to view the laser output. The use of optical instruments to view laser output increases eye hazard.
Use only UL/CSA recognized pluggable modules.
Avertissements: Les ports de fibre optique SFP et SFP+ utilisent un faisceau laser de classe 1 ou M1.
RAYONNEMENT LASER
NE PAS EXPOSER LES UTILISATEURS D'INSTRUMENTS OPTIQUES TÉLESCOPIQUES
PRODUIT LASER DE CLASSE 1 OU M1
N'utilisez pas d'instrument optique pour visualiser la sortie du faisceau laser. L'utilisation d'un instrument optique pour l'observer accroît le risque de lésions oculaires.
Utilisez uniquement des modules enfichables homologués par l'UL/CSA

To install a transceiver in a Summit X450-G2 Series switch:
1 Attach the anti-static wrist strap. Refer to the instructions on the anti-static wrist strap package.
2 Carefully align the transceiver with the port slot and push the transceiver into the port slot until the transceiver clicks and locks into place.

Installing the Fan Tray

Caution: You must install the front-to-back fan tray (Part # 10945) before connecting power to the switch.

Note: The X450-G2 Series switch does not ship with the fan tray. You must purchase the front-to-back fan tray separately.

To install the front-to-back fan tray in a Summit X450-G2 Series switch:
1 Carefully slide the fan tray module into the switch (see Figure 2, callout 8).
2 Align and fully tighten the captive retaining screws with a 1/4-inch flat-blade screwdriver.

Connecting Power to the Switch

PoE+ Switches

Warning: Extreme Networks power supplies do not have switches for turning the unit on and off. Disconnect all power cords to remove power from the device. Make sure that these connections are easily accessible.
Avertissements: Les sources d'alimentation d'Extreme Networks ne sont pas munies d'interrupteurs pour éteindre ou mettre l'appareil sous tension. Débranchez tous les cordons d'alimentation pour couper le courant à l'appareil. Assurez-vous que ces connexions sont facilement accessibles.

Warning: A dedicated Listed circuit breaker rated at 15A is to be used for each power supply connection.
Avertissements: Utilisez un disjoncteur coté et dédié de 15 A pour chacune des connexions d'alimentation électrique.

Note: The PoE+ Summit X450-G2 Series switches do not ship with any power supplies. You must purchase the front-to-back power supplies (715W or 1100W) separately. See Table 2.

After you have installed the power supply modules, you can connect to a single, primary source of power, or to two sources of power for redundancy.
To power-up your X450-G2 Series switch:
1 Attach the power cord from your redundant power supply into the X450-G2 Series switch's power supply receptacle.
2 Once power is connected, verify that the PSU LED (P1 and/or P2) turns green. If the PSU LED does not turn green, refer to the *Extreme Networks Summit Family Hardware Installation Guide* for troubleshooting information.

Non-PoE Switches

You can connect to a single, primary source of power, or to two sources of power for redundancy. The example used here describes connecting to two power sources.
To power-up your X450-G2 Series switch:
1 Attach the power cord from your redundant power supply into the X450-G2 Series switch's redundant power receptacle.
2 Attach the AC power cord to the X450-G2 Series switch's AC power receptacle.
3 Plug the redundant power supply and the X450-G2 Series switch AC power cords into dedicated, grounded AC outlets.
4 Once power is connected, verify that the CPU (system) LED turns amber until the X450-G2 Series switch finishes its initialization.
If the initialization process is successful, the CPU LED turns green. If the CPU LED does not turn green, refer to the *Extreme Networks Summit Family Hardware Installation Guide* for troubleshooting information.

Purchasing Power Cords

The X450-G2 switches do not include AC power input cords. To purchase the correct power cord for your location, refer to www.extremenetworks.com/product/powercords/.

Initial Network Connection and Configuration

Once you have connected power to the switch and verified LED activity, complete the setup process as follows:
1 Connect a management station to the console port using either an Ethernet to serial adapter or DB-9 serial cable.
2 Verify that the system LEDs are on (solid green or blinking green).
3 Using PuTTY, TeraTerm, or other terminal emulator, connect to the switch using the serial port connection. Be sure that your serial connection is set properly:
   - 9600 baud
   - 8 data bits
   - 1 stop bit
4 Using the console session, perform the following:
   a At the password prompt, press **ENTER** twice.
   b Enter user: `admin`
   c For the initial password, simply press **ENTER**.

Note: We strongly recommend that you change your password.

   d Follow the screen prompts for initial configuration.
   e Enter the `show version` command. Record the switch serial number. The following is example output with the serial number in bold:
   `Transit.3 # show version`
   `Switch : 800444-00-05 0723G-01234 Rev 5.0 BootROM:`
5 Go to Extreme Networks eSupport at https://esupport.extremenetworks.com
6 After logging in, go to the product registration page: http://extrwebapps.extremenetworks.com/Webapps/Public/ProductReg/.
7 Enter the serial number of the switch.
8 Download the software to your PC from the software download page at the eSupport website: https://esupport.extremenetworks.com/eservice_enu/start.swe?SWECmd=Login&SWEPL=1&SWETS=
9 Connect back to the switch via the console port and connect an Ethernet cable from the switch's management port to your PC.
10 If necessary, reset the IP address on your PC (for example, `10.10.10.10 255.255.255.0`) to avoid IP conflict.
11 At the switch, set the IP address of the switch (for example, enter: `con mgmt ipa 10.10.10.9/24`).
12 Enter `save config` to save your configuration.
13 Start a TFTP session using a program such as TFTPD64. Point the TFTP server to your PC IP address and EXOS image file saved on your PC.
14 At the switch, download the new software to the switch. (example: `download image 10.10.10.10 summitX-15.4.1.3-patch1-9.xos`).
15 Install the software after it loads by typing `Y` when prompted if you want to install the load.
16 When the download and install finishes, instruct the switch to reboot when prompted by entering: `reboot`.

Optional CLI Commands

Once logged into the switch you can create new VLANs by issuing the following two commands:

- `create vlan <vlan name>`
- `configure vlan <vlan name> tag XXXX`
  Replace XXXX with the VLAN tag number (1–4096)

These two commands will create a VLAN, give it a logical name, and assign a tag number.
To configure a Default Gateway in the Extreme Networks CLI enter:
`configure iproute add default <IP address>`

Port Configuration CLI Commands

For additional port configuration CLI commands, refer to the *ExtremeXOS Command Reference Guide* at: www.extremenetworks.com/documentation.

Specifications

Temperature and Humidity

Operating: 0°C to 50°C (32°F to 122°F)
Storage: -40°C to 70°C (-40°F to 158°F)
Operating relative humidity: 10% to 95% (non-condensing)

Switch Dimensions

4.40 cm (1.73") Height x 44.1 cm (17.4") Width x 48.7 cm (19.2") Depth

Interfaces

Each X450-G2 Series switch has a USB, console, and management port. The following table lists the specific data interfaces for each model.

Table 1 X450-G2 Series Interface Descriptions

X450-G2-24t-GE4 (Part # 16172)	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, two 21Gb stacking ports (QSFP+)
X450-G2-24t-10GE4 (Part # 16176)	24 10/100/1000BASE-T, 4 10GBASE-X unpopulated SFP+, two 21Gb stacking ports (QSFP+)
X450-G2-48t-GE4 (Part # 16174)	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, two 21Gb stacking ports (QSFP+)
X450-G2-48t-10GE4 (Part # 16178)	48 10/100/1000BASE-T, 4 10GBASE-X unpopulated SFP+, two 21Gb stacking ports (QSFP+)
X450-G2-24p-GE4 (Part # 16173)	24 10/100/1000BASE-T POE+, 4 1000BASE-X unpopulated SFP, two 21Gb stacking ports (QSFP+)
X450-G2-24p-10GE4 (Part # 16177)	24 10/100/1000BASE-T POE+, 4 10GBASE-X unpopulated SFP+, two 21Gb stacking ports (QSFP+)
X450-G2-48p-GE4 (Part # 16175)	48 10/100/1000BASE-T POE+, 4 1000BASE-X unpopulated SFP, two 21Gb stacking ports (QSFP+)
X450-G2-48p-10GE4 (Part # 16179)	48 10/100/1000BASE-T POE+, 4 10GBASE-X unpopulated SFP+, two 21Gb stacking ports (QSFP+)

Power Supplies

Table 2 X450-G2 Series Power Supply Specifications

X450-G2 Series Model	Power Supply
Fixed power supply with front-to-back airflow	
X450-G2-24t-GE4 (Part # 16172) X450-G2-24t-10GE4 (Part # 16176)	100-240V-, 50/60 Hz, 1.0 A
X450-G2-48t-GE4 (Part # 16174) X450-G2-46t-10GE4 (Part # 16178)	100-240V-, 50/60 Hz, 1.0 A
Modular power supply with front-to-back airflow	
X450-G2-24p-GE4 (Part # 16173) X450-G2-24p-10GE4 (Part # 16177)	1100W AC PS FB (front to back) Part #: 10941, Model: PSSF112101A 100-127V/200-240V-, 50-60 Hz, 10.0 A/5.0 A max per PS 715W AC PS FB (front to back) Part #: 10951, Model: PSSF711101A 100-127V/200-240V-, 50-60 Hz, 7.0 A/3.5 A max per PS
X450-G2-48p-GE4 (Part # 16175) X450-G2-48p-10GE4 (Part # 16179)	1100W AC PS FB (front to back) Part #: 10941, Model: PSSF112101A 100-127V/200-240V-, 50-60 Hz, 12.0 A/6.0 A max per PS 715W AC PS FB (front to back) Part #: 10951, Model: PSSF711101A 100-127V/200-240V-, 50-60 Hz, 8.0 A/4.0 A max per PS

Note: X450-G2 Series switches do not support back-to-front power supplies.

External Redundant Power Supply Options

The following redundant power supplies are available for purchase from Extreme Networks for connection to the non-PoE Summit X450-G2 Series switches:

- The AC redundant power supply (Part # 10929, Model: TG11-0156-01), which is capable of providing power to a fully-loaded non-PoE switch.
- The EPS-C2 redundant power supply chassis (Part # 10936), to which you can install up to three Summit 750W AC power supplies (Part # 10931). You must use the EPS-CBL-2x7 cable (Part # 10939) to connect the power supply to the switch.

Note: The PoE+ Summit X450-G2 Series switches have dual hot swappable power supplies for power redundancy.

Getting Help

For additional support related to Summit X450-G2 Series switches or this document, contact Extreme Networks using one of the following methods:

World Wide Web	http://support.extremenetworks.com/
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-603-952-5000 For the Extreme Networks Support toll-free number in your country: www.extremenetworks.com/support/contact/
The latest image and release notes	http://support.extremenetworks.com/

Notice

Legal Notices

Extreme Networks, Inc., on behalf of or through its wholly-owned subsidiary, Enterasys Networks, Inc., reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made.

The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

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All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners.

For additional information on Extreme Networks trademarks, please see:
www.extremenetworks.com/company/legal/trademarks/

Warranty

Warranty information for X450-G2 series switches is located online at:
www.extremenetworks.com/go/warranty

Support

For product support, including documentation, visit:
http://support.extremenetworks.com/

Regulatory and Compliance Information

Federal Communications Commission (FCC) Notice

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

WARNING: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Notice

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Class A ITE Notice

WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Klasse A ITE Anmerkung

WARNHINWEIS: Dieses Produkt zählt zur Klasse A (Industriebereich). In Wohnbereichen kann es hierdurch zu Funkstörungen kommen, daher sollten angemessene Vorkehrungen zum Schutz getroffen werden.

Product Safety

This product complies with the following: UL 60950-1, FDA 21 CFR 1040.10 and 1040.11, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, EN 60825-1, EN 60825-2, IEC 60950-1, 2006/95/EC.

Produktsicherheit

Dieses Produkt entspricht den folgenden Richtlinien: UL 60950-1, FDA 21 CFR 1040.10 and 1040.11, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, EN 60825-1, EN 60825-2, IEC 60950-1, 2006/95/EC.

Korea EMC Statement

이 기기는 업무용(A급) 전자파적합기기로서 판매자
또는 사용자는 이 점을 주의하시기 바라며, 가정
외의 지역에서 사용하는 것을 목적으로 합니다.

Electromagnetic Compatibility (EMC)

This product complies with the following: FCC 47 CFR Part 15 (Class A), ICES-003 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22 (Class A), VCCI V-3, 2004/108/EC (EMC Directive)

Elektro-magnetische Kompatibilität (EMC)

Dieses Produkt entspricht den folgenden Richtlinien: FCC 47 CFR Part 15 (Class A), ICES-003 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22 (Class A), VCCI V-3, 2004/108/EC (EMC Directive)

VCCI Notice

This is a class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI－A

BSMI EMC Statement — Taiwan

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

警告使用者：
此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

警告: 此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

Battery Warning — Taiwan

警告

如果更換不正確之電池型式會有爆炸的風險，

請依製造商說明書處理用過之電池。

Battery Notice

Warning: This product contains a battery used to maintain product information. If the battery should need replacement it must be replaced by Service Personnel. Please contact Technical Support for assistance.
Risk of explosion if battery is replaced by an incorrect type. Dispose of expended battery in accordance with local disposal regulations.
Avertissements: Ce produit renferme une pile servant à conserver les renseignements sur le produit. Le cas échéant, faites remplacer la pile par le personnel du service de réparation. Veuillez communiquer avec l'assistance technique pour du soutien.
Il y a risque d'explosion si la pile est remplacée par un type de pile incorrect. Éliminez les piles usées en conformité aux règlements locaux d'élimination des piles.

Hazardous Substances- China and Taiwan BSMI RoHS

Guidance concerning the China and Taiwan BSMI RoHS (Restriction of Hazardous Substances) directive for this Extreme Networks® product can be found on the following web page:

www.extremenetworks.com/support/documentation/restriction-hazardous-substances/

The page contains tables detailing the presence of 10 substances defined by the RoHS directive.

Hazardous Substances - EU

This product complies with the requirements of Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

European Waste Electrical and Electronic Equipment (WEEE) Notice

In accordance with Directive 2012/19/EU of the European Parliament on waste electrical and electronic equipment (WEEE):

1. The symbol above indicates that separate collection of electrical and electronic equipment is required.
2. When this product has reached the end of its serviceable life, it cannot be disposed of as unsorted municipal waste. It must be collected and treated separately.
3. It has been determined by the European Parliament that there are potential negative effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.
4. It is the users' responsibility to utilize the available collection system to ensure WEEE is properly treated.
   For information about the available collection system, please contact Extreme Customer Support at +353 61 705500 (Ireland).

Safety

Compliant with IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013, EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013, UL 62950-1, 2nd Ed. 2011, CSA C22.2 No. 60950-1-07, 2nd Ed. 2011

Extreme Networks Summit X450-G2 Series Switches

Quick Reference

Summit X450-G2-24t-GE4
Summit X450-G2-24t-10GE4
Summit X450-G2-48t-GE4
Summit X450-G2-48t-10GE4
Summit X450-G2-24p-GE4
Summit X450-G2-24p-10GE4
Summit X450-G2-48p-GE4
Summit X450-G2-48p-10GE4

P/N 121110-00

Extreme networks