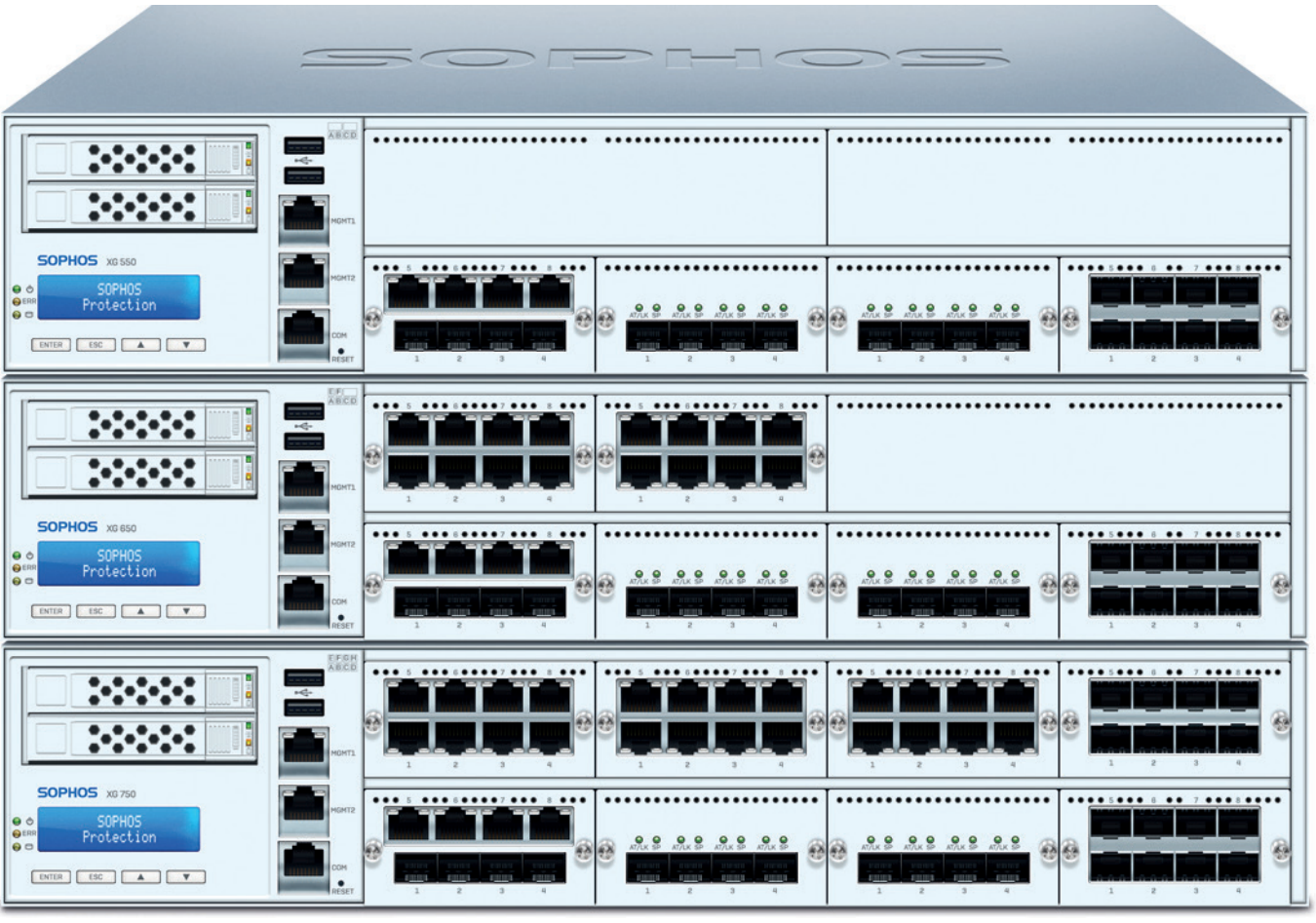
SOPHOS
Security made simple.

Operating Instructions

XG 550/650/750 Rev. 2



Foreword

We are pleased to welcome you as a new customer of our Sophos XG appliances.

To install and configure the hardware appliance you can use the following documents:

- **Hardware Quick Start Guide:** Connection to the system peripherals in a few steps
- **Operating Instructions:** Notes on the security and commissioning of the hardware appliance
- **Administration Guide:** Installing and configuring the software appliance

The Hardware Quick Start Guide and the Safety Instructions are also delivered in printed form together with the hardware appliance. The instructions must be read carefully prior to using the hardware and should be kept in a safe place.

You may download all user manuals and additional documentation from the support webpage at: sophos.com/support

Security Symbols

The following symbol and its meaning appears in the Hardware Quick Start Guide, Safety Instructions and in these Operating Instructions.

Caution and Important Note. If these notes are not correctly observed:

- This is dangerous to life and the environment
- The appliance may be damaged
- The functions of the appliance will be no longer guaranteed
- Sophos shall not be liable for damages arising from a failure to comply with the Safety Instructions

Designed Use

The hardware appliances are developed for use in networks. The XG 550/650/750 models may be operated as a standalone appliance. The hardware appliance can be used in commercial, industrial and residential environments.

The XG 550/650/750 models belong to the appliance group A.

The hardware appliance must be installed pursuant to the current installation notes. Otherwise failure-free and safe operation cannot be guaranteed. The EU declaration of conformity is available at the following address:

Sophos Technology GmbH
Amalienbadstr. 41/Bau 52
76227 Karlsruhe
Germany

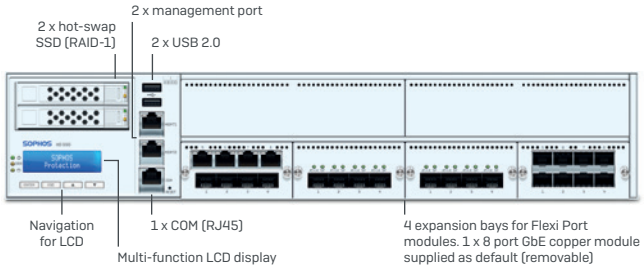
CE Labeling, FCC and Approvals

The XG 550/650/750 appliances comply with FCC Class A, CE, C-Tick, VCCI and UL.

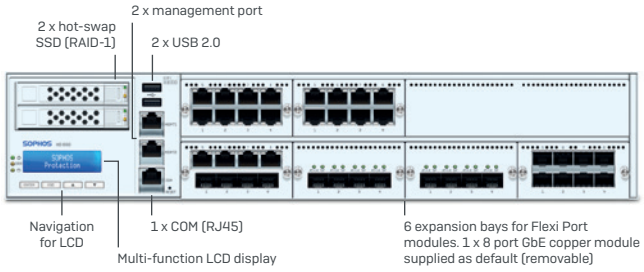
Important Note: For computer systems to remain CE and FCC compliant, only CE and FCC compliant parts may be used. Maintaining CE and FCC compliance also requires proper cable and cabling techniques.

Operating Elements and Connections

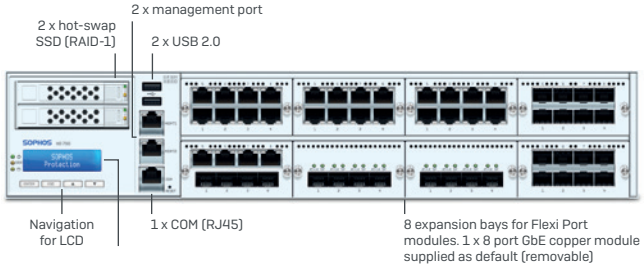
XG 550 Rev. 2



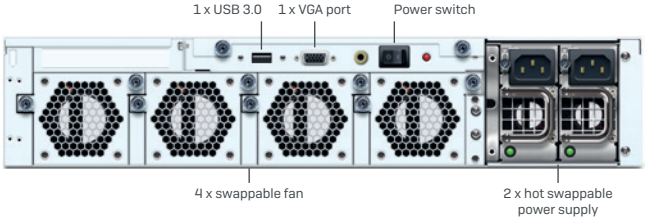
XG 650 Rev. 2



XG 750 Rev. 2



XG 550/650/750 Rev. 2



LED Status

Power (LED Display)	
Power Supply	Red
Power	Green
SSD ACT	Yellow
SDD (FAIL)	Red

LEDs on each Ethernet connector			
Link LED	Abmer	Constantly	1. The Ethernet port is receiving power. 2. Good connection between the Ethernet port and hub.
		Off	1. The adapter and switch are not receiving power. 2. No connection between both ends of network. 3. Network drivers have not been loaded or do not function correctly.
Activity LED	Amber (1000 MBPS) Green (100 MBPS) Off (10 MBPS)	Flashing	The adapter is sending or receiving network data. The frequency of the flashes varies with the amount of traffic.
		Off	No activity

Back side			
Power Supply	Green	Constantly	Power
		Off	No power

LCD and Control Keys

The XG 550/650/750 have an LCD and an operating unit with four membrane keys. In the LCD, 16 characters per line can be displayed.

SOPHOS
Protection

While the security appliance is booting this message is displayed

Firmware Version
SFOS 15.xx.xx

Firmware Version

LCD Menu Details

Firmware Version SFOS 16.xx.xx			
Main Menu 1. System Menu Port A1[LAN]	**System Menu** 1. Show Date	Wed 28 Oct 2015 12:54:32 GMT	
	System Menu 2. Show Uptime	System uptime 0 days 0:26	
	System Menu 3. Show CPU	CPU Usage 0.00%	
	System Menu 4. Show Memory	Memory Usage Used: 7.60%	
	System Menu 5. Show LoadAvg	Load Average 0.89 0.89 0.78	
	System Menu 6. Show Disk	Show Disk 1. Total Usage	Total Disk Usage 0.02
		Show Disk 1. Detail Usage	Root 1% Temp 0%
			Config 9% Signature 1%
	System Menu 7. Live Users	Live Users 0	
Main Menu 2. Network Menu	**Network Menu** 1. Show Port A1[LAN]	Port A1[LAN] 172.16.16.16	
	Network Menu 2. Show Port A2[WAN]	Port A2[WAN] IP NOT ASSIGN	
	Network Menu 3. Show Port A3[NA]	Port A3[NA] IP NOT ASSIGN	
	Network Menu 4. Show All	Port A4[LAN] 172.16.16.16	
		PortA5[WAN] IP NOT ASSIGN	
		Port A6[NA] IP NOT ASSIGN	
		Port A7[NA] IP NOT ASSIGN	
		Port A8[NA] IP NOT ASSIGN	
		Port A9[NA] IP NOT ASSIGN	
	Network Menu 5. Show Gateway	GW1: PortA2 10.0.0.254	
Main Menu 3. Firmware Menu	**Firmware Menu** 1. Show Firmware	FW1=SFOS 15.01.0 Beta	
	Firmware Menu 2. Factory Reset	Factory Reset 1. v to Cont.	
		Factory Reset 2. Confirm	
	Firmware Menu 3. Shutdown	Shutdown 1. v to Cont.	
		Shutdown 1. Confirm	
	Firmware Menu 4. Reboot	Reboot 1. v to Cont.	
		Reboot 1. Confirm	
Main Menu 4. HA Info	Not Configured		

- **Factory reset:** All settings are reset to the factory settings. The factory reset function sets all of the configuration settings and options to their original state. All data entered after the initial installation will be deleted, including the HTTP proxy cache, the entire email queue, accounting and reporting data, passwords, and uninstalled Up2Date packages. The version of the software will not change. That is, all firmware and pattern updates that have been installed will be retained.
- **Shut down:** The security appliance is shut down. The shut down action allows you to turn off the system, and allows you to cleanly stop all running services.
- **Reboot machine:** The security appliance is rebooted. The reboot action will shut down the system completely and reboot.

Control Key Functions

▲ The current menu is left. When the key is pressed a couple of times, the modifications are discarded and the initial state will be displayed.

◀ ▶ These keys are used to switch between the different menus and/or characters.

▼ Pressing executes the configured action.

Factory Reset

S.NO.	Action Item/press	What you see on the LCD	What it means
1.		SOPHOS Protection	Appliance is booting
2.		Firmware Version SFOS 15.xx.xx	Appliance has finished Booting
3.	▼	Main Menu 1. System Menu	Shows Main Menu first item
4.	▶ x2	Main Menu 3. Firmware Menu	Shows Main Menu Third item
5.	▼	Firmware Menu 1. Show Firmware	Enters Into Firmware Menu
6.	▶	Firmware Menu 2. Factory Reset	Shows Firmware Menu Second item
7.	▼	Factory Reset 1. v to Cont.	Press down key to continue
8.	▶	Factory Reset 2. Confirm?	Asks for Confirmation
9.	▼		Factory Reset under progress
10.		Firmware Version SFOS 15.xx.xx	Factory Reset Complete

Shut Down

S.NO.	Action Item/press	What you see on the LCD	What it means
1.		SOPHOS Protection	Appliance is booting
2.		Firmware Version SFOS 15.xx.xx	Appliance has finished Booting
3.	▼	Main Menu 1. System Menu	Shows Main Menu first item
4.	▶ x2	Main Menu 3. Firmware Menu	Shows Main Menu Third item
5.	▼	Firmware Menu 1. Show Firmware	Enters Into Firmware Menu
6.	▶ x2	Firmware Menu 3. Shutdown	Shows Firmware Menu Third item
7.	▼	Factory Reset 1. v to Cont.	Press down key to continue
8.	▶	Factory Reset 1. Confirm?	Asks for Confirmation
9.	▼		Shutdown Complete

Reboot Machine

S.NO.	Action Item/press	What you see on the LCD	What it means
1.		SOPHOS Protection	Appliance is booting
2.		Firmware Version SFOS 15.xx.xx	Appliance has finished Booting
3.	▼	Main Menu 1. System Menu	Shows Main Menu first item
4.	▶ x2	Main Menu 3. Firmware Menu	Shows Main Menu Third item
5.	▼	Firmware Menu 1. Show Firmware	Enters Into Firmware Menu
6.	▶ x3	Firmware Menu 4. Reboot	Shows Firmware Menu Fourth item
7.	▼	Factory Reset 1. v to Cont.	Press down key to continue
8.	▶	Factory Reset 1. Confirm?	Asks for Confirmation
9.	▼		Reboot under progress
10.		Firmware Version SFOS 15.xx.xx	Reboot Complete

Putting into Operation

Caution: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Scope of Supply

The supplied parts are indicated in the Hardware Quick Start Guide.

Mounting Instructions

The XG 550/650/750 appliances are designed for use in racks. Please consider the following security tips:

Important Note: Functional reliability outside of a rack cannot be guaranteed.

Warnings and Precautions

The appliance can be operated safely if you observe the following notes and the notes on the appliance itself.

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In single rack installation, stabilizers should be attached to the rack.
- In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a component from the rack.
- You should extend only one component at a time—extending two or more simultaneously may cause the rack to become unstable.

General Server Precautions

- Review the electrical and general safety precautions that came with the components you are adding to your appliance.
- Determine the placement of each component in the rack before you install the rails.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Allow the hot plug hard drives and power supply modules to cool before touching them.
- Always keep the rack's front door, all panels and server components closed when not servicing to maintain proper cooling.

Rack Mounting Considerations

- **Ambient operating temperature:** If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, you should install the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature.
- **Reduced airflow:** Equipment should be mounted into a rack with sufficient airflow to allow cooling.
- **Mechanical loading:** Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.
- **Circuit overloading:** Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable ground:** Reliable grounding must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e., the use of power strips, etc.).

Rack Mounting Instructions

To mount the appliance to the rack you need the delivered rack-mount kits. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

Because of their dimension and weight the XG 550/650/750 models are delivered with a special rail kit.

Important Note: Make sure you use the screws supplied with the rack-mount brackets. Using the wrong screws could damage the hardware appliance and would invalidate your warranty.

1. Attach the rack-mount kits to the appliance.

   Place the appliance on a hard flat surface with the front panel facing you.

   Attach the rack–mount kits to the left and right side of the appliance with the supplied screws.

   Make sure the kits are properly attached to the appliance.

   Important note: The rails for XG 550/650/750 will fit a rack of 600 mm/23.6" deep.

   Make sure the kits are properly attached to the appliance.

2. Choose the rack location.

   Leave enough clearance in front of the rack so that you can open the front door completely (~60 cm/25 inches).

   Leave approximately 80 cm/30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.

   This product is for installation only in a restricted access location (dedicated equipment rooms, service closets and the like).

3. Install the rails to the rack.

   Please refer to the dedicated sliding rails mounting instructions from the scop of supply.

Connection and Configuration

How to connect the appliance is described in the Hardware Quick Start Guide. For configuration you can follow the initial setup wizard described in the WebAdmin Quick Start Guide or cancel it and perform a manual setup (see the Sophos XG Firewall Administrator Guide).

RAID (SSD) System

The XG550/650/750 model are equipped with a RAID system with two Solid State Drive. A RAID system (redundant array of independent disks) connects several physical Solid State Drive to one particularly performing logical drive. This type of Solid State Drive system enhances the transfer rate and data security. Additionally, a RAID system increases the availability of the security appliance since a defective Solid State Drive can easily and quickly be exchanged—it is not necessary to shut down the system.

Important note: If you need to change a Solid State Drive because of a defect, remember to remove the defective Solid State Drive from the RAID system, otherwise the complete security appliance will fail. Please note that the safe operation of the hardware appliance is only ensured in the long term if both Solid State Drive are working. Immediately exchange damaged Solid State Drive. Only use Solid State Drive which you purchased directly from Sophos or from a Sophos distribution partner. Please remember that any warranty claims are voided for the appliance if a defect has been caused by the use of Solid State Drive which are not suited for the system.

Exchanging the hard disk

1. Identify the defective Solid State Drive.
   In the event of a hardware defect the FAIL LED of the respective Solid State Drive will turn on e.g., SSD 1 (upper Solid State Drive).
2. Open the Solid State Drive latch.
3. Unlock the Solid State Drive by pushing the latch to the left and pulling the lever in your direction.
4. Remove the Solid State Drive from the chassis.
5. Now, insert the new Solid State Drive into the chassis.
6. Lock the Solid State Drive by pushing the lever in the direction of the chassis. Lock the latch at the Solid State Drive.

Important note: Except for short periods of time (e.g., swapping Solid State Drives), do not operate the server with an empty Solid State Drive.

As soon as the security appliance detects the new Solid State Drive, the existing hard disk is mirrored to the new Solid State Drive. This process may take 30 minutes or more.

Redundant Power Supply

The XG 550/650/750 models are equipped with a redundant power supply. The power supply system consists of two separate power supply units. This power supply system increases the availability of the security appliance, since a defective power supply unit can be exchanged easily and quickly during operation.

When the system is running error-free, LED on the back of the appliance shows green. In the event of a hardware defect in one of the power supply units these LEDs will turn red and you will hear a continuous beeping sound. The warning sound can be reset by pressing the red buzzer reset switch on the system chassis. This buzzer reset switch is on the back of the appliance right beside the power supply system.

Important note: If you need to change a power unit because of a defect, remember to remove the defective power unit from the power supply system, otherwise the whole security appliance will fail.

Protect yourself from potential burns by wearing protective gloves when exchanging a power supply unit.

Only use power units which you purchased directly from Sophos or from a Sophos distribution partner. Please remember that any warranty claims are voided for the security appliance if a defect has been caused by the use of power units which are not suited for the system.

Exchanging a power supply unit

1. Identify the defective power supply unit.
   Locate the defective power supply unit by examining the individual LEDs of each unit—no LED light indicates a failure of the unit.
2. On the right side, open the interlock of the power supply unit.
3. Use the special bracket to pull the power supply unit out of the chassis.
4. Now, insert the new power supply unit into the chassis.
5. Lock the new power supply unit.
6. Plug the power cable back into the connector of the new power supply unit and check the following LED displays:
   LED of the new power supply unit lights green. As soon as the new power supply unit is detected and functional, the beeping sound will disappear.

SFP GBIC ports

The XG 550/650/750 models provide the option to add Sophos FleXi Port network modules with SFP (1 GbE) or SFP+ (1/10GbE) GBIC Ports. The abbreviation SFP GBIC stands for small form-factore plugable GigaBit interface converter, a flexible interface which changes electronic signals into optical signals. The converters used with the appliance are often also called Mini-GBIC or New GBIC.

To use SFP GBIC ports, you will need the appropriate SFP GBIC modules. These modules are not delivered with the appliance but available through your Sophos partner. There are different module types. The required type is determined by the existing network. The following SFP GBIC module types may be used:

SFP:

1000 Base-T
IEEE 802.3 - 1 Gbit/s via Ethernet cable. An Ethernet cable category 5 covers a maximum distance about 100 meters.

1000 Base-SX
IEEE 802.3 - 1 Gbit/s via fiberglass. Multi-mode fiberglass cables (MMF) cover a distance of 200 m to 550 m.

1000 Base-LX
IEEE 802.3 - 1 Gbit/s via fiberglass. Here, exclusively singlemode-fiber glass is used. This transmission option covers approximately 10 km.

SFP+:

10GBase-SR
IEEE 802.3 - 10 Gbit/s via fiberglass. Multi-mode fiberglas cables cover a distance of up to 400 m.

10GBase-LR
IEEE 802.3 - 10 Gbit/s via fiberglass. Single-mode fiberglas cover a distance of approximately 10 km

Note: The SFP+ ports of the Sophos FleXi Port modules are dual-rate capable supporting both 1GbE and 10GbE speeds when using appropriate GBICs also supporting both rates.

Caution: The SFP GBIC and SFP+ ports use lasers to transmit signals over fiber optic cable. The lasers are compliant with the requirements of a Class 1 Laser equipment and are inherently eye-safe in normal operation. However, you should never look directly at a transmit port when it is powered on. Always install appropriate and UL approved Laser Class I Transceivers, rated 3.3Vdc, max. 1W, in the fiber ports before using the fiber ports.

Installing a SFP GBIC module:

Please read the operation manual to the SFP GBIC module. Carefully insert the SFP GBIC module into the port until it engages. The interface is immediately ready for use.

Removing a SFP GBIC module:

1. Remove the fiberglass cable from the module which you wish to remove.
2. Remove the module carefully from the port.
   Depending on when you purchased your SFP GBIC module, it may have any of three different release mechanisms: a plastic tab on the bottom of the mini-GBIC, a wire bail, or a plastic collar around the mini-GBIC.

Please read the operation manual to the SFP GBIC module.

Serial Console

You can connect a serial console to the COM port of the Sophos hardware appliances. You can use, for instance, the Hyperterminal terminal program which is included with most versions of Microsoft Windows to log on to the appliance console. Use the provided RJ45 to DB9 adapter cable to connect the console to your hardware appliance.

The required connection settings are:

- **Bits per second:** 38,400
- **Data bits:** 8
- **Parity:** N (none)
- **Stop bits:** 1

Access via the serial console is activated by default on ttyS1. The connections of the appliances and the respective functionality are listed in chapter “Operating Elements and Connections.”

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18-03-09 OINA (DD-2965)