LGB516A
LGB524A

Gigabit Unmanaged Switch with SFP Uplinks

Solid Gigabit switching in a rackmount chassis.

LGB516A has (12) RJ-45 ports and (4) RJ-45/SFP combo ports.
LGB524A has (20) RJ-45 ports and (4) RJ-45/SFP combo ports.



Customer Support Information

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500) FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746 • Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018 • Web site: www.blackbox.com • E-mail: info@blackbox.com

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

Class B Digital Device. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or telephone reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an experienced radio/TV technician for help.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To meet FCC requirements, shielded cables and power cords are required to connect this device to a personal computer or other Class B certified device.

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

CE Warning

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

Normas Oficiales Mexicanas (NOM)
Electrical Safety Statement
INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.

2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.

3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.

4. Todas las instrucciones de operación y uso deben ser seguidas.

5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.

6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.

7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.

8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.

9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

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1. Specifications

Buffer Memory — LGB516A: 340 KB;
LGB524A: 500 KB

Certifications — FCC Class B, CE

Filtering/Forwarding Rates — 1000-Mbps port: 1,488,000 pps;
100-Mbps port: 148,800 pps;
10-Mbps port: 14,880 pps

Jumbo Frames — 9.6 KB

Method — Store-and-forward

MAC Address — 8 K

Standards — IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T, IEEE 802.3z, IEEE 802.3x flow control

Transmission Media — 10BASE-T CAT 3, 4, 5 UTP/STP;
100BASE-TX CAT5 UTP/STP;
1000BASE-T CAT5e UTP/STP

Connectors — LGB516A: (12) RJ-45 ports, (4) combo SFP ports;
LGB524A: (20) RJ-45 ports, (4) combo SFP ports

Indicators — LGB516A: (37) LEDs: (16) Link/Act, (16) 1000M, (4) F1–F4, (1) Power;
LGB524A: (53) LEDs: (24) Link/Act, (24) 1000M, (4) F1–F4, (1) Power

Temperature Tolerance — Operating: 32 to 104° F (0 to 40° C);
Storage: -4 to +194° F (-20 to +90° C)

Relative Humidity — 10 to 90% noncondensing

Power — Input: 115–240 VAC, 50–60 Hz;
Consumption: 25 watts maximum

Size — 1.7"H x 17.3"W x 8.7"D (4.4 x 44 x 22 cm)

Weight — LGB516A: 6.4 lb. (2.9 kg);
LGB524A: 6.6 lb. (3 kg)

2. Overview

2.1 Introduction

The Switch provides (16) or (24) 10-/100-/1000-Mbps RJ-45 ports and can support (4) Combo SFP ports for uplink. The switch is easy to install and provides high performance in an environment where traffic on the network and the number of users increases continuously. The switch uses the latest Gigabit chipsets providing it with the best performance and features available; this enables the switch to support full-duplex Gigabit speed on every port without any issues.

The switch also provides MDI/MDI-X automatic crossover detection on every port, so it connects to another switch without crossover cable.

The 19" rackmount size makes the switch a perfect fit for medium to large work-groups. It fits easily into your existing 19" racks and only uses 1 rack unit (RU) of space. Because the switch is unmanaged, it's easy to install. Just install the switch in your rack or cabinet and you are ready to connect up to 16 more devices to your network.

2.2 Features

- Complies with the IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet and IEEE 802.3ab Gigabit Ethernet standards.
- Provides (16) or (24) 10-/100-/1000-Mbps Gigabit switching ports and (4) Combo SFPs.
- 19" rackmount size.
- Supports non-blocking and non-head-of-line blocking full-wire-speed forwarding.
- Supports store-and-forward operation.
- Features an embedded 500 KB packet buffer.
- Supports 9.6 KB JUMBO packets
- Provides 8K MAC address entry.
- Supports broadcast storm filtering.
- All ports provide autonegotiation and Auto-MDI/ MDI-X functions.
- Supports flow control: backpressure for half-duplex and IEEE 802.3x for full-duplex mode.
- Smart plug-and-play.

2.3 What's Included

Before you start to install this Switch, verify that your package contains the following items:

- (1) Gigabit Unmanaged Switch with SFP Uplinks, 16-Port (LGB516A) or 24-Port (LGB524A)
- (1) rackmount kit for rack installation
- (1) AC power cord
- This user's manual

NOTE: If any of these items is found missing or damaged, please contact your Black Box Technical Support at 724-746-5500 or info@blackbox.com for replacement.

2.4 Hardware Description

2.4.1 Gigabit Unmanaged Switch with SFP Uplinks, 16-Port

Figures 2-1 and 2-2 illustrate the front and back panels of the Gigabit Unmanaged Switch, 16-Port. Table 2-1 describes its components.

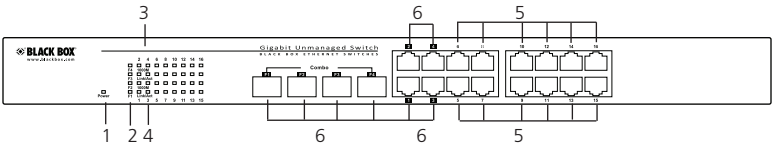


Figure 2-1. LGB516A front panel.

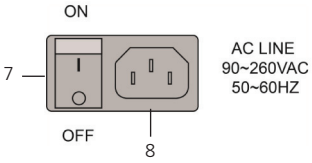


Figure 2-2. Power switch and connector on the LGB516A back panel.

Table 2-1. LGB516A components.

Number in Figures 2-1 and 2-2	Component	Status	Description
1	(1) Power LED	On	Lights when power to unit is on.
2	(4) FIber LEDs (F1–F4)	On	Fiber port(s) are active.
		Flashing	Switch is passing data.
3	(16) 1000M LEDs	On	Link is running at 1000 Mbps.
		Off	Link is running at 10/100 Mbps.
4	(16) Link/Act LEDs	On	Light when SFP is connected.
		Flashing	Switch is passing data.
5	(12) RJ-45 ports	—	Links to RJ-45 ports.
6	(4) RJ-45/SFP combo ports	—	Link to either RJ-45 or SFP devices.
7	ON/OFF switch	ON	Power to switch is on.
		OFF	Power to switch is off.
8	AC input connector	—	90–260 VAC, 50–60 Hz

2.4.2 Gigabit Unmanaged Switch with SFP Uplinks, 24-Port

Figures 2-3 and 2-4 illustrate the front and back panels of the Gigabit Unmanaged Switch, 24-Port. Table 2-2 describes its components.

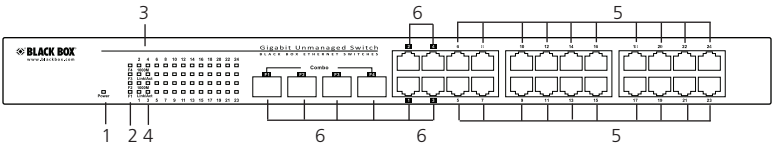


Figure 2-3. LGB524A front panel.

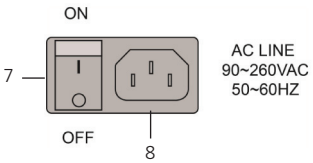


Figure 2-4. Power switch and connector on the LGB524A back panel.

Table 2-2. LGB524A components.

Number in Figures 2-3 and 2-4	Component	Status	Description
1	(1) Power LED	On	Lights when power to unit is on.
2	(4) FIber LEDs (F1–F4)	On	Fiber port(s) are active.
		Flashing	Switch is passing data.
3	(24) 1000M LEDs	On	Link is running at 1000 Mbps.
		Off	Link is running at 10/100 Mbps.
4	(24) Link/Act LEDs	On	Light when SFP is connected.
		Flashing	Switch is passing data.
5	(20) RJ-45 ports	—	Links to RJ-45 ports.
6	(4) RJ-45/SFP combo ports	—	Link to either RJ-45 or SFP devices.
7	ON/OFF switch	ON	Power to switch is on.
		OFF	Power to switch is off.
8	AC input connector	—	90–260 VAC, 50–60 Hz.

3. Connections

3.1 Switch/Hub Connected to 24-Port Gigabit Unmanaged Switch with SFP Uplinks (LGB524A)

The switch provides automatic crossover detection for any port. This enables you to connect to another switch without using a crossover cable.

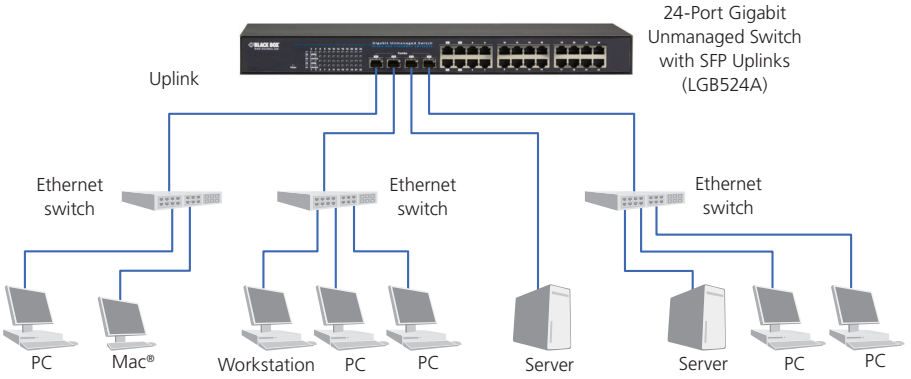


Figure 3-1. Switch connected to LGB524A.

3.2 PC/Other Devices Connected to 24-Port Gigabit Unmanaged Switch with SFP Uplinks (LGB524A)

The switch provides automatic crossover detection for any port. This enables you to connect to PCs, servers, and other network devices without using either a straight-through or crossover cable.

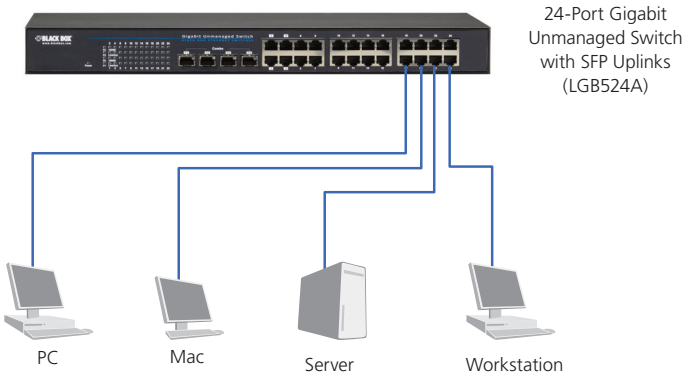


Figure 3-2. PC/other devices connected to LGB524A.

4. Troubleshooting

4.1 Contacting Black Box

If you determine that your Gigabit Unmanaged Switch with SFP Uplinks is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

4.2 Shipping and Packaging

If you need to transport or ship your Gigabit Unmanaged Switch with SFP Uplinks:

- Package it carefully. We recommend that you use the original container.
- If you are returning the unit, make sure you include everything you received with it. Before you ship for return or repair, contact Black Box to get a Return Authorization (RA) number.

Black Box Tech Support: FREE! Live. 24/7.



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724-746-5500 or blackbox.com.

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