

16-/24-Port 10/100/1000 RJ-45 Unmanaged Gigabit Switches

Connect up to 16 or 24 Gigabit Ethernet, Fast Ethernet, or Ethernet devices to your network.

Auto-negotiation means every port can automatically sense the mode and speed of connected network devices.



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Information**

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

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

This digital apparatus does not exceed the Class A 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 la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

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 conectado 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 física 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 líneas de energía.
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 objetos líquidos 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: Objetos 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 — LGB416A: 340 KB;
LGB424A: 500 KB

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

Jumbo Frames — 9.6 KB

MAC Addresses— 8 K

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

Transmission Media — 10BASE-T CAT3, 4, 5 UTP/STP;
100BASE-TX: CAT5 UTP/STP;
1000BASE-TX: CAT5e UTP/STP

Transmission Method — Store-and-Forward

Connectors — LGB416A: (16) RJ-45;
LGB424A: (24) RJ-45

Indicators — LGB416A: (16) Link/Act LEDs, (16) 1000M LEDs;
LGB424A: (24) Link/Act LEDs, (24) 1000M LEDs

Temperature Tolerance — Operating: 32 to 131° F (0 to 55° C);
Storage: -4 to +194° F (-20 to +90° C)

Power — 90–260 VAC, 50–60 Hz;
Consumption: 20 Watts maximum

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

Weight — LGB416A: 6.4 lb. (2.9 kg);
LGB424A: 6.6 lb. (3 kg)

2. Overview

2.1 Introduction

The 10/100/1000 RJ-45 Unmanaged Switches provide 16 or 24 10/100/1000 Mbps ports. They're easy to install and provide high performance in an environment where traffic on the network and the number of users increases continuously. The switches support the highest speed even when operating in full-duplex mode.

The switches also provide automatic crossover detection on each port. It's simple and friendly to uplink to another switch without a crossover cable.

Use the switches for medium to large workgroups. It's easy to upgrade network capacity, and you can mount the switches in a 19" rack or cabinet.

2.2 Features

- Complies with IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet, and IEEE 802.3ab Gigabit Ethernet standards.
- Has 16 or 24 autonegotiating 10/100/1000 ports.
- Fits in a 19" rack or cabinet.
- Enables non-blocking and non-head-of-line blocking full wire-speed forwarding.
- Supports store-and-forward operation.
- Provides 8K MAC address entry.
- Supports broadcast storm filtering.
- All ports provide Auto-MDI/MDI-X crossover.
- Uses backpressure flow control for half-duplex operation, and IEEE 802.3x for full-duplex mode.
- Smart plug-and-play.

2.3 What's Included

Your package should contain the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

- (1) 16- or 24-Port 10/100/1000 RJ-45 Unmanaged Gigabit Switch
- (1) rackmount kit (includes [2] brackets, [8] screws)
- (1) AC power cord

- This user’s manual

2.4 Hardware Description

2.4.1 LGB416A

Figures 2-1 and 2-2 show the front and back panel of the 16-port switch. Table 2-1 describes its components.

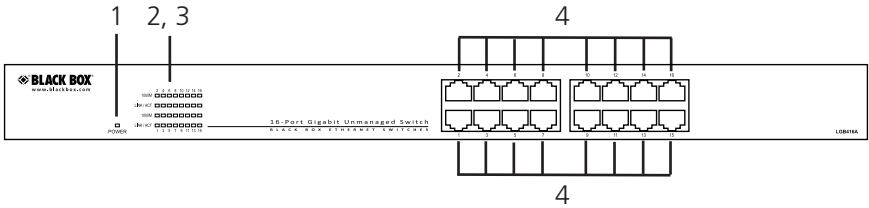


Figure 2-1. LGB416A front panel.

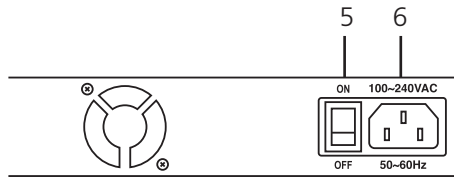


Figure 2-2. LGB416A back panel.

Table 2-1. 16-port switch components.

Number	Component	Description
1	Power LED	Lights when power to the unit is on
2	(16) Link/Act LEDs	On: Link is on
		Flashing: Data present
3	(8) 1000M LEDs	On: Link running at 1000 Mbps
		Off: Link running at 10/100 Mbps
4	(16) RJ-45 connectors	Link to switches/hubs, PCs, servers, or other network devices.
5	On/Off switch	Press to power on/off the unit.
6	3-prong connector	Attaches to a 90–260 VAC, 50–60 Hz power cord (included).

2.4.2 LGB424A

Figures 2-3 and 2-4 show the front and back panel of the 24-port switch. Table 2-2 describes its components.

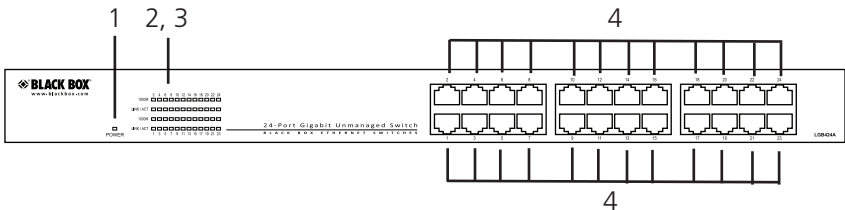


Figure 2-3. LGB424A front panel.



Figure 2-4. LGB424A back panel.

Table 2-2. 24-port switch components.

Number	Component	Description
1	Power LED	Lights when power to the unit is on
2	(24) Link/Act LEDs	On: Link is on
		Flashing: Data present
3	(24) 1000M LEDs	On: Link running at 1000 Mbps
		Off: Link running at 10/100 Mbps
4	(24) RJ-45 connectors	Link to switches/hubs, PCs, servers, or other network devices.
5	On/Off switch	Press to power on/off the unit.
6	3-prong connector	Attaches to a 90–260 VAC, 50–60 Hz power cord (included).

3. Installation

3.1 Connecting a Switch/Hub to the 16-/24-Port Gigabit Ethernet Switch

This switch provides automatic crossover detection for any port, which enables you to uplink another switch without using crossover cable.

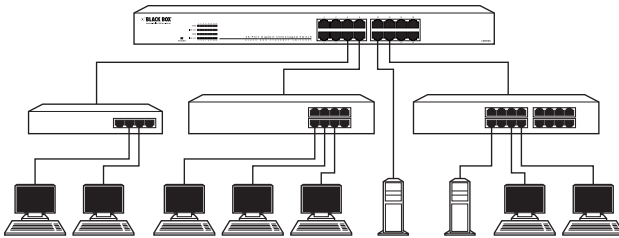


Figure 3-1. Switch/hub connection.

3.2 Connecting a PC/Other Device(s) to the 16-/24-Port Gigabit Ethernet Switch

This switch provides automatic crossover detection for any port, so you can connect this switch to PCs, servers, and other network devices without worrying whether your cable is a straight-through or crossover cable. The switch will work with either cable.

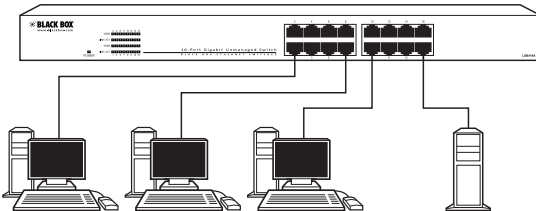


Figure 3-2. PC/other device(s) connection.

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About Black Box

Black Box provides an extensive range of networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 30 seconds or less.

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