



LGB408A-R2

8-Port Gigabit Unmanaged Switch

Provides (8) 10-/100-/1000-Mbps RJ-45 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 • www.blackbox.com • info@blackbox.com

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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 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 de 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 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 liquidos no sean derramados sobre la cubierta u orificios de ventilación.

NOM Statement

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.

Table of Contents

1. Specifications	8
2. Overview	9
2.1 Introduction	9
2.2 Features.....	9
2.3 What's Included	10
2.4 Hardware Description	10
2.4.1 Front Panel	10
2.4.2 Back Panel.....	12
3. Installation	13
3.1 Connecting the Switch to PCs, Servers, and Other Network Devices.....	13
3.2 Connecting the Switch to a Switch or Hub.....	13
3.3 Application Diagram	14
4. Operation	16
Appendix. Troubleshooting.....	17
A.1 Contacting Black Box	17
A.2 Shipping and Packaging.....	17

Chapter 1: Specifications

1. Specifications

Approvals — FCC Class A, CE

Buffer Memory — RAM: 3.5 MB per device

Filtering/Forwarding Rate — 10-Mbps ports: 14,880 pps,
100-Mbps ports: 148,800 pps,
1000-Mbps ports: 1,488,000 pps

Flow Control — Full-duplex mode: IEEE 802.3x;
Half-duplex mode: Backpressure

JUMBO Frames — Supports 9 KB

MAC Address — 8K MAC addresses

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

Standards Compliance — IEEE 802.3 10BASE-T; IEEE 802.3u
100BASE-TX and IEEE 802.3ab 1000BASE-T copper
over Ethernet

Connectors — (8) integrated RJ-45 ports (10-/100-/
1000-Mbps)

Indicators — (17) LEDs: (1) Power, (8) 1000M, (8) Link/Act.

Temperature Tolerance — Operating: 32 to 113° F
(0 to 45° C);
Storage: -4 to +194° F (-20 to +90° C)

Relative Humidity — 10–90%, noncondensing

Power — Input: 100–240 VAC, 50–60 Hz;
Consumption: 15 W (max.)

Size — 1.7"H x 4.8"W x 8.9"D (4.4 x 12.3 x 22.8 cm)

Weight — 2 lb. (0.9 kg)

2. Overview

2.1 Introduction

The Switch provides eight 10-/100-/1000-Mbps RJ-45 ports. It was designed for easy installation and high performance in an environment where traffic on the network and the number of users increase continuously. With its Gigabit chip set, the 9" Gigabit Ethernet Switch can fully support the highest speed even when fully loaded and running in full-duplex mode.

The switch also provides automatic crossover detection functionality on each port. It's easy to uplink to another switch without crossover cable.

This quiet switch operates without a fan.

The compact rigid desktop size was specifically designed for Remote Office and Branch Office (ROBO) and medium to large workgroups. You can install the switch where space is limited. It provides smooth network migration and easy upgrades to network capacity. The 9" size can be rackmounted on a 10" or 19" cabinet.

2.2 Features

- Complies with the IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet and IEEE 802.3ab Gigabit Ethernet standards.
- Provides eight 10-/100-/1000-Mbps Gigabit switching ports.
- Performs full wire-speed switching with Head of Line (HOL) blocking prevention.
- Provides non-blocking and non-head-of-line blocking full wire-speed forwarding.
- Supports store-and-forward operation.
- Has embedded 3.5 MB SRAM for packet buffer.
- Supports 9 KB JUMBO frames.
- Provides 8K MAC address entry.

Chapter 2: Overview

- Supports broadcast storm filtering.
- All ports provide Auto-Negotiation and Auto-MDI/MDI-X functions.
- Supports flow control: backpressure for half-duplex and IEEE 802.3x for full-duplex mode
- Includes (17) LEDs: (1) Power, (8) 1000M, and (8) Link/Act.
- Configurable to 10-Mbps full-/half-duplex, 100-Mbps full-/half-duplex and 1000-Mbps full-/half-duplex for each port.
- 9" inch compact size, rackmountable to 10" and 19" with bracket.

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) 8-Port Gigabit Unmanaged Switch
- (1) AC power cord
- (2) 19" rackmounting brackets
- This user's manual

2.4 Hardware Description

2.4.1 Front Panel

Figure 2-1 shows the front panel of the switch. Table 2-1 describes its components.



Figure 2-1. Front panel.

Table 2-1. Front panel components.

Number	Name	Description
1	Power LED	Lights when power to the unit is on.
2	(8) 1000M LEDs	On when port is operating at 1000 Mbps. Off when port is operating at 10 or 100 Mbps.
3	(8) Link/Act. LEDs	On when there is a valid link to the corresponding port. Flashing when data is activating.
4	(8) RJ-45 switching ports	Link to 10BASE-T, 100BASE-TX, and 1000BASE-T devices. Automatically sense 10/100/1000M speed and negotiate full-/half-duplex mode.

NOTE: For more information about the LED indicators, go to Chapter 4, Operation.

Chapter 2: Overview

2.4.2 Back Panel

Figure 2-2 shows the back panel of the switch. Table 2-2 describes its components.



Figure 2-2. Back panel.

Table 2-2. Back panel components.

Number	Name	Description
5	3-prong receptacle	Insert 90–240-VAC, 50-/60-Hz power supply cord here.

3. Installation

3.1 Connecting the Switch to PCs, Servers, and Other Network Devices

Use straight-through twisted-pair cable (CAT5) to connect the Switch to PCs, servers, and other network devices. See Figure 3-1.

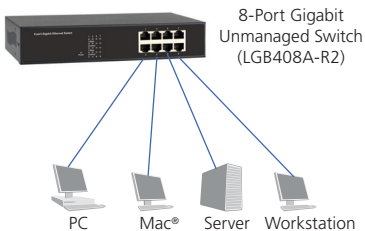


Figure 3-1. Connecting to PCs, servers, and other network devices.

Chapter 3: Installation

3.2 Connecting the Switch to a Switch or a Hub

Use the straight-through twisted-pair cable to connect the switch to another switch or hub on the uplink port.

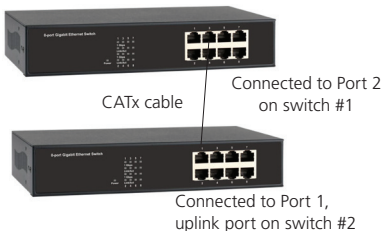


Figure 3-2. Connecting the switch to a switch or hub.

3.3 Application Diagram

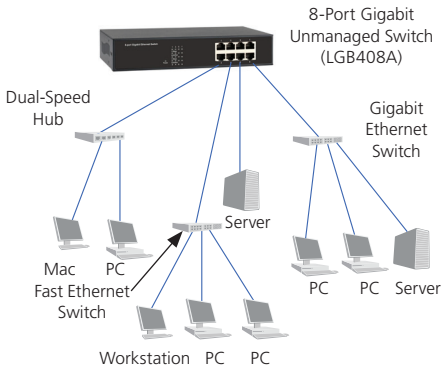


Figure 3-3. Typical application.

Chapter 4: Operation

4. Operation

Figure 4-1 shows the LEDs on the switch's front panel. Table 4-1 describes their functions.



Figure 4-1. LEDs on front panel of switch.

Table 4-1. Front panel indicators.

Number	LEDs	Status	Description
1	(1) Power LED	ON	Power is on
2	8 (1–8) 1000-Mbps LEDs	ON	Link is running at 1000 Mbps.
		OFF	Link is running at 10/100 Mbps.
3	8 (1–8) Link/Act.	ON	Link is established.
		Flashing	Data is activating.

Appendix. Troubleshooting

A.1 Contacting Black Box

If you determine that your 8-Port Gigabit Unmanaged Switch 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.

A.2 Shipping and Packaging

If you need to transport or ship your 8-Port Gigabit Unmanaged Switch:

- 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.

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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 60 seconds or less.

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