

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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 when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

The use of non-shielded I/O cables may not guarantee compliance with FCC RFI limits.

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 the Canadian Department of Communications.

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 le ministère des Communications du Canada.

SAFETY CERTIFICATIONS

UL/CUL: Listed to Safety of Information Technology Equipment, Including Electrical Business Equipment.

CE: The products described herein comply with the Council Directive on Electromagnetic Compatibility (89/336/EEC) and the Council Directive on Electrical Equipment Designed for use within Certain Voltage Limits (73/23/EEC). Certified to Safety of Information Technology Equipment, Including Electrical Business Equipment. For further details, contact Black Box.



Class 1 Laser product, Luokan 1 Laserlaitte,
Laser Klasse 1, Appareil A' Laser de Classe 1



WARRANTY

Contact Black Box for warranty information.



Multi Port Media Converters Installation Guide

LB1004A - LB1005A - LB1006A

About Multi Port Media Converters

The **Multi Port Media Converter** is a 10/100 auto-negotiating, switching optical access product. There is one uplink port (either fiber or 10/100 twisted pair; uplink can be on rear or front of unit) and three 10/100 twisted pair downlink ports. The fiber port always operates at 100 Mbps FDX; each copper port auto-senses the connected device's speed and duplex mode: 10 Mbps or 100 Mbps and HDX or FDX (including Flow Control). The *Multi Port Media Converter* offers plug-and-play operation, including the AutoCross feature which automatically selects between a crossover work-station or pass-through repeater hub connection depending on the connected device.

The *Multi Port Media Converter* also protects against Broadcast storms, and allows packets of up to 1532 bytes to pass. The *Multi Port Media Converter* uses a universal, external switching power cube with 100 - 240 \pm 10% VAC input and 5V DC output.

LB1004A	TX/3 + FX-MM1300-SC [2km]
LB1005A	TX/3 + FX-MM1300-ST [2km]
LB1006A	TX/3 + TX [100m]

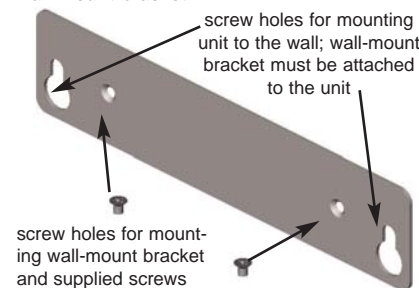
Installing Multi Port Media Converters

Install the *Multi Port Media Converter* as a table-top device, or mount to a wall surface with the appropriate bracket (included). To wall mount, use the supplied screws to attach the wall-mount bracket to the *Multi Port Media Converter*, then simply mount the unit to the wall by tightening the screws (not supplied).

NOTE: The *Multi Port Media Converter* packaging also includes four small rubber "feet" for use in table-top or wall-mount installations.

Plug the *Multi Port Media Converter* into a power source and attach the connected devices. Verify installation by observing the LEDs (see page 2) on the unit.

wall-mount bracket



Multi Port Media Converter with wall-mount bracket attached



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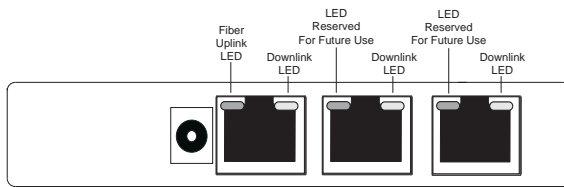
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LED Operation

Each *Multi Port Media Converter* includes diagnostic LEDs for troubleshooting.



Twisted Pair Downlink Ports

The LED indicator for the twisted pair downlink port is located on the RJ-45 connector of the downlink port next to the power connector. There are two LED functions for the twisted pair downlink ports. LED functions are as follows:

- Glows amber when a link is established on the copper port
 - Glows amber indicating a valid link, then blinks amber when activity is detected on the copper port.
- (Green LED on RJ-45 connectors reserved for future use, with one exception— see below).

Fiber Uplink Port

The LED indicator for the fiber uplink port is located on the RJ-45 connector of the downlink port next to the power connector. There are four LED functions for the fiber uplink port. LED functions are as follows:

- Glows green when a link is established on the fiber port.
- Glows green indicating a valid link, then blinks green when activity is detected on the fiber port.
- When the LED is OFF, there is no link (check cabling, check remote device).
- Blinking LED - indicates the device attached to the other end of the fiber maybe passing Link Fault Propagation, or generating noise onto the fiber. This normally happens when there is a media converter at the fiber end of the link. Connect the second port of the converter onto a valid device to generate link.

Twisted Pair Uplink Port

If the *Multi Port Media Converter* has a twisted pair uplink port, the LED location and functionality is the same as for the downlink ports.

General Information

Black Box Customer Service 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

Mail order: Black Box Corporation
1000 Park Drive, Lawrence, PA 15055-1018

Web site: www.blackbox.com

E-mail: info@blackbox.com

SPECIFICATIONS

Environmental:

Operating Temperature: 32° - 122° F (0° - 50° C)

Storage Temperature: 20° - 160° F (-20° - 70° C)

Humidity: 5 - 95% (non-condensing)

Electrical:

AC Input Load: 100-240 VAC \pm 10%

Dimensions:

92"H x 3.50"W x 4.38"D (2.34 x 8.89 x 11.13 cm)

Heat Generation:

17 BTU/hr. maximum

ELECTROSTATIC DISCHARGE PRECAUTIONS

Electrostatic discharge (ESD) can cause damage to your add-in modules. Always observe the following precautions when installing or handling an add-in module or any board assembly.

- 1) Do not remove unit from its protective packaging until you're ready to install it.
- 2) Wear an ESD wrist grounding strap before handling any module or component. If you do not have a wrist strap, maintain grounded contact with the system unit throughout any procedure requiring ESD protection.



WARNING! Integrated circuits and fiber optic components are extremely susceptible to electrostatic discharge damage. Do not handle these components directly unless you are a qualified service technician and use tools and techniques that conform to accepted industry practices.

- 3) Hold boards by the edges only; do not touch the electronic components or gold connectors.
- 4) After removal, always place the boards on a grounded, static free surface, ESD pad or in a proper ESD bag. Do not slide the board over any surface.