

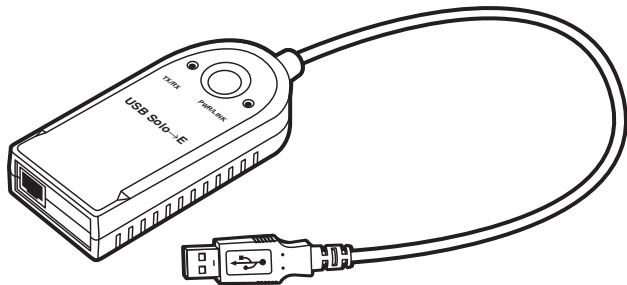


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USB Solo-E (USB to Ethernet Adapter)



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
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
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**FEDERAL COMMUNICATIONS COMMISSION
AND INDUSTRY CANADA
RADIO FREQUENCY INTERFERENCE STATEMENT**

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.

USB SOLO-E (USB TO ETHERNET ADAPTER)

- 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.

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 a 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.

USB SOLO-E (USB TO ETHERNET ADAPTER)

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.

TRADEMARKS

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This product is CE approved.

CONTENTS

1. Specifications	7
2. Introduction	8
2.1 Overview	8
2.2 System Requirements	9
2.3 What the Package Includes	9
2.4 Features	9
2.5 Typical Application	11
3. Installation	12
3.1 Preliminary Steps	12
3.2 Windows 98 Installation	13
3.3 Specifying the TCP/IP Parameters	14
3.4 Hardware Connections	16
4. LED Status Indicators	17
5. Troubleshooting	18

1. Specifications

Operating System — Windows 98 only

Connectors — USB: Type A plug; LAN: RJ-45 jack

LEDs — Power/Link (Orange), TX/RX (Green)

Data Transfer Rate — 10 Mbps

Network Protocol — IEEE 802.3 10BASE-T
Ethernet half-duplex

Cable Length — 30 cm (11.8 inches)

Enclosure — Plastic

Temperature — Operating: 41 to 104°F (5 to 40°C);
Storage: -20 to +60°C (-4 to 140°F)

Relative Humidity — 0 to 80%, noncondensing

Power — From the USB bus

Power Consumption — 90 mA (max.)

Size — 0.9"H x 1.9"W x 3.6"D (2.3 x 4.8 x 9.1 cm)

Weight — 0.2 lb. (0.1 kg)

2. Introduction

2.1 Overview

Universal Serial Bus (USB) port technology has emerged in response to the proliferation of external peripheral devices (scanners, digital cameras, removable drives, etc.) that are increasingly being connected to the latest generation of PCs. The USB behaves in a similar way to conventional bus technology (serial, parallel, PS/2), but is a lot faster. Since it does not require any extra expansion slots or IRQs, many more devices can be attached to the system.

The USB Solo-E (USB to Ethernet Adapter) provides an external plug-and-play LAN connection for PCs, notebooks, laptops, and handheld computing devices that support the USB specification. The USB Solo-E contains an RJ-45 receptacle for the Ethernet 10BASE-T LAN cable with a type A plug for connection to the PC's USB port, or to a USB hub.

NOTE

Since most computers only have one or two USB ports, USB hubs are often used to provide additional ports so that numerous USB peripheral devices can be connected up at the same time. Call Black Box to find out more about USB hubs.

For further convenience—especially to users of notebooks, laptops, and handhelds—the USB Solo-E (USB to Ethernet Adapter) derives its operating power from the Universal Serial Bus itself, so no bulky external power supply needs to be taken along. Also, because it complies with the USB specification, the USB Solo-E supports energy-saving suspend and resume operations.

2.2 System Requirements

- Windows 98
- USB Host Controller installed on the system

2.3 What the Package Includes

- USB Solo-E (USB to Ethernet Adapter)
- This user manual
- (1) 3½" driver diskette

2.4 Features

- Complies with the USB interface specification.
- IEEE 802.3 10BASE-T Ethernet half-duplex.
- Plug-and-play installation with automatic configuration.
- Windows 98 driver support.
- Standard USB cable connection to USB host adapter or USB hub.
- Standard RJ-45 cable connection to the LAN.
- LED display for easy diagnostics.
- Bus-powered—external power supply not required.
- Multi-megabit burst data-transfer rates.
- Full LAN speeds.
- Supports energy-saving suspend and resume functions.

2.5 Typical Application

Figure 2-1 shows a typical application of the USB Solo-E.

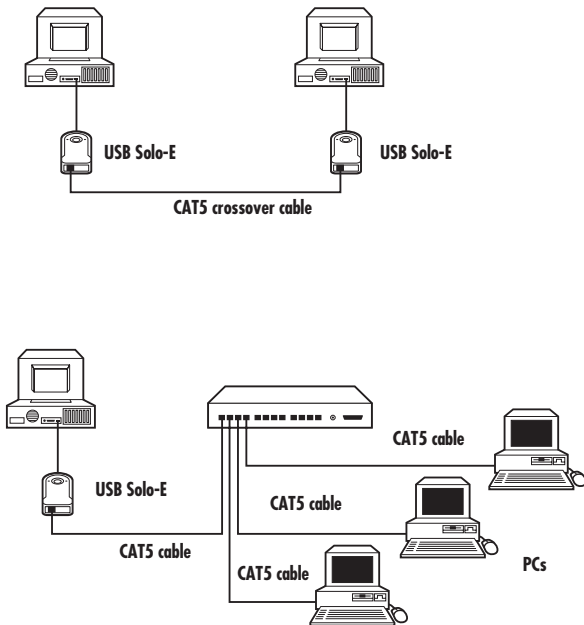


Figure 2-1. Typical Application.

3. Installation

3.1 Preliminary Steps

1. Before you begin, make sure that the USB Solo-E is disconnected from the network, and that no other applications are running.
2. If you have a network interface card (NIC) currently installed in your system, disable it now.
 - a. Right-click on **My Computer**.
 - b. Click on **Properties**.
 - c. Click on **Device Manager**.
 - d. Click on the plus sign next to **Network adapters**.
 - e. Find your device in the list and double-click on it.
 - f. On the **General** page, in the **Device Usage** section, check **Disable in this hardware profile**.
 - g. Click on **OK**.

3.2 Windows 98 Installation

1. Plug the USB Solo-E into the computer's USB port. The **New Hardware Wizard** appears. Click on **Next** to continue.
2. In the dialog box that comes up, leave the default choice (**Search for the best drivers for your device**). Click on **Next** to continue.
3. In the dialog box that comes up, leave the default choice (**Floppy disk drives**). Insert the distribution diskette in the floppy (A:) drive. Click on **Next** to continue.
4. In the dialog box that comes up, click on **Next** to continue. Files are now copied to your hard disk.
5. After the driver files have been copied to the hard disk, a dialog box appears to tell you that the installation has finished. Click on **Finish**.
6. In the dialog box that comes up, you are asked if you want to restart the computer. Remove the distribution diskette, plug the LAN cable into the USB Solo-E's RJ-45 jack, and click on **Yes**.

3.3 Specifying the TCP/IP Parameters

This configuration procedure is identical to that of other network interfaces, for example, an Ethernet card. The following sections describe the basic setup using the TCP/IP protocol.

When the USB Ethernet Adapter is the only installed network interface:

Select **My Computer/Control Panel/Network**.

The Network Configuration form appears. In this form, the USB Ethernet Adapter icon should be visible.

A new protocol icon with the title TCP/IP should also be visible. To specify the TCP/IP parameters, use the procedures described below.

To specify the TCP/IP parameters for New Networks:

1. Select **TCP/IP** (or **TCP/IP->USB Ethernet Adapter**, if more than one network interface is installed).
2. Click **Properties**.

3. Select **Specify an IP Address**.

NOTE

If you are connecting to an existing network, please see your system administrator for this information. If you are setting up a new network, we recommend the following:

Suggested IP Address = 194.168.0."X"
(where "X" is greater than 0 and less than 255).

Suggested Subnet Mask = 255.255.255.0

4. Enter a valid **IP Address** and **Subnet Mask**.

5. Click **OK**.

6. Select the **Identification** tab and verify/modify the computer name and workgroup.

7. Click **OK**. You will see the option to restart your computer if you made changes.

8. Remove any diskette that might be in the floppy drive.

9. Click **Yes** to restart the computer.

3.4 Hardware Connections

Connect the hardware as shown in **Figure 3-1**.

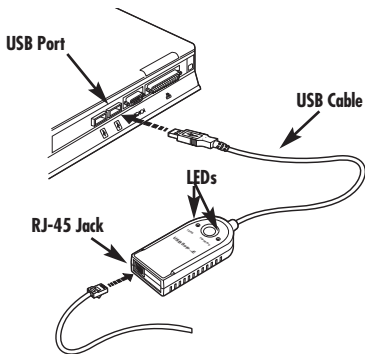


Figure 3-1. Connecting the USB Solo-E.

1. **RJ-45 Receptacle**—The cable from the LAN plugs in here.
2. **USB Cable**—This cable plugs into the computer's USB port (or a USB hub).
3. **LEDs: Power/Link (Orange) and TX/RX (Green)**—These provide information regarding the USB Solo-E's operating status (see **Chapter 4** for details).

4. LED Status Indicators

Indicators on the USB Solo-E operate as described in **Table 4-1**.

Table 4-1. LEDs on the USB Solo-E.

LED	Activity	Indication
Power/Link	ON	The USB Solo-E is receiving power from the PC and is connected to the network.
	OFF	The USB Solo-E is not receiving power from the PC, or is not connected to the network.
TX/RX	Flashing	Data is being transferred to/from the network.
	OFF	No data is being transferred to/from the network.

5. Troubleshooting

Table 5-1 lists common problems and solutions. If, after trying the solutions shown here, you still have problems, call Black Box Technical Support at 724-746-5500.

Table 5-1. Problem/Cause/Solution.

Problem	Cause	Solution
Unit does not operate with Ethernet switch.	Unit operates in half-duplex mode. Older switches may not automatically detect this.	Manually configure the switch. See the documentation that came with the switch for details.
Cannot connect to the network.	Conflict with previously installed network card.	Disable the previously installed network card according to the procedures described in Section 3.1 .