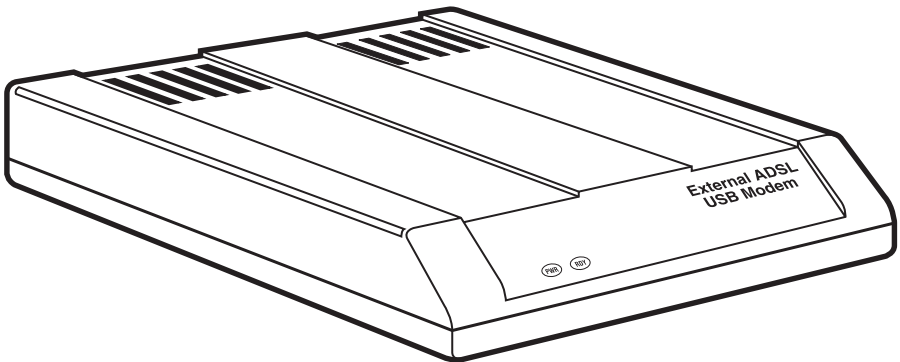




# External ADSL USB Modem Quick Start Guide



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**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](http://www.blackbox.com) • E-mail: [info@blackbox.com](mailto:info@blackbox.com)

**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 J 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.*

**EUROPEAN UNION DECLARATION OF CONFORMITY**

This equipment complies with the requirements of the European EMC Directive 89/336/EEC.



### FCC Requirements for Telephone-Line Equipment

1. The Federal Communications Commission (FCC) has established rules which permit this device to be directly connected to the telephone network with standardized jacks. This equipment should not be used on party lines or coin lines.
2. If this device is malfunctioning, it may also be causing harm to the telephone network; this device should be disconnected until the source of the problem can be determined and until the repair has been made. If this is not done, the telephone company may temporarily disconnect service.
3. If you have problems with your telephone equipment after installing this device, disconnect this device from the line to see if it is causing the problem. If it is, contact your supplier or an authorized agent.
4. The telephone company may make changes in its technical operations and procedures. If any such changes affect the compatibility or use of this device, the telephone company is required to give adequate notice of the changes.
5. If the telephone company requests information on what equipment is connected to their lines, inform them of:
  - a. The telephone number that this unit is connected to.
  - b. The ringer equivalence number.
  - c. The USOC jack required: RJ-11C.
  - d. The FCC registration number.

Items (b) and (d) can be found on the unit's FCC label. The ringer equivalence number (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5). If too many devices are attached, they may not ring properly.

6. In the event of an equipment malfunction, all repairs should be performed by your supplier or an authorized agent. It is the responsibility of users requiring service to report the need for service to the supplier or to an authorized agent.

## Certification Notice for Equipment Used in Canada

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications-network protective, operation, and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly (extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized maintenance facility—in this case, Black Box. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

### CAUTION

**Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.**

The LOAD NUMBER (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices, subject only to the requirement that the total of the load numbers of all the devices does not exceed 100.

**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.

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 USED IN THIS MANUAL

UL® is a registered trademark of Underwriters Laboratories Incorporated.

Windows® is a registered trademark of Microsoft Corporation.

*Any other trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.*

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# 1. Specifications

**Data Rates:** Downloads: 8 Mbps; Uploads: 1 Mbps

**Data Standards:** ITU G.992.1 (G.DMT), G.992.2 (G.lite), ANSI T1.413 Issue 2

**Protocols:** RFC 1483 LLC SNAP, RFC 1483 VCMUX Bridged, RFC 1483 VCMUX Routed, RFC 2364 LLC, RFC 2364 VCMUX

**ATM Attributes:** AAL Type AAL5

**Bus Type:** USB

**Cables and Connectors:** (1) RJ-11 cable, (2) RJ-11 jacks, (1) USB cable

**Management:** Windows based DSL diagnostics tool for Windows® 98, 2000, and Windows Me

**Operating System Support:** Windows 98, 2000, and Windows Me

**Temperature Tolerance:** 32 to 120°F (0 to 50°C)

**Approvals:** FCC Part 15 and Part 68; IC CS03; CE Mark; UL® 1950

**Size:** 1"H x 4.3"W x 5.7"D (2.5 x 10.9 x 14.5 cm)

**Weight:** 9.8 oz. (278 g)

## 2. Introduction

### 2.1 Description

The External ADSL USB Modem supports up to 8-Mbps connections. Using existing phone lines and ADSL service, the Modem gives you connections up to 160 times faster than traditional access technologies. This modem is ideal for business or home users who require broadband for intensive applications like video conferencing, MP3, multimedia, and high-speed Internet or remote access.

### 2.2 Drivers

Three types of drivers are provided for the External ADSL USB Modem: WAN, LAN, and ATM.

#### NOTE

**All three drivers support ATM protocol. In addition, the ATM driver works with ATM services that are available in recent Windows operating systems.**

The proper choice of driver depends on the combination of Windows operating system and protocol.

1. *WAN driver*: This driver causes the modem to resemble a dial-up modem. The modem establishes the call through dial-up networking. This driver supports FC 2364 with PVC connections. You can use it with Windows 98, Windows 98SE, Windows 2000, and Windows Me.
2. *LAN (RFC 1483) driver*: This driver makes the modem appear as a LAN or Ethernet device. It automatically establishes the connection. This driver supports RFC 1483 with PVC connections. You can use it with Windows 98, Windows 98SE, Windows 2000, and Windows Me.
3. *ATM driver*: This driver works in conjunction with ATM services provided by Windows. Both RFC 1577 and RFC 2364 are supported. The ATM driver uses dial-up networking to create a PVC or SVC connection to establish a PPP (RFC 2364) connection. You can use the driver with Windows 98SE, Windows 2000, and Windows Me.

### 2.3 Operating System Support

The Modem supports Windows 98, Windows 98 Second Edition (98SE), Windows 2000, and Windows Me.

## 3. Installation

### 3.1 Installation Pre-Requisites

To install the software, you must know certain technical parameters, settings, and characteristics that are specific to your particular service provider (see the list below). Check with your DSL service provider if necessary.

- Type of driver to be installed
- IP address settings
- Name server information
- ATM Virtual Path ID (VPI)—required if you are not using the default driver type
- ATM Virtual Circuit ID (VCI)—required if you are not using the default driver type
- Encapsulation type—required if you are not using the default driver type
- Modulation type—required if you are not using the default driver type
- User name (for PPP applications only)
- Password (for PPP applications only)

### 3.2 Software Installation

Each type of installation (LAN, WAN, and ATM) involves its own installation sequence guided by the installation wizard. See the User Guide (found on the included CD-ROM) for details. A condensed installation procedure is given below.

Before starting the software setup process, close all Windows programs previously running on your PC.

1. Insert the installation CD into the CD drive. The installation wizard will be launched automatically. Click on the **Drivers** icon. You can also launch the installation wizard by double clicking on the file “Setup.exe” in the root directory of the installation CD.
2. The “Welcome” window provides an opportunity to quit the setup process to exit all Windows programs before continuing. If the Windows programs were previously closed, click **Next**.

3. The “Select ISP” window allows you to specify your DSL service provider. A list of service providers is displayed. Default values for the Type of Driver, ATM Virtual Path ID (VPI), ATM Virtual Circuit ID (VCI), Encapsulation type, and Modulation type are provided for each DSL service provider listed in the window.

If your DSL service provider is listed and you would like to accept the default values, highlight the provider’s name, click **Next**, and continue with Step 5 below.

If your DSL service provider is listed and you would like to change the default values, highlight the provider’s name and click **Customize**. Continue with Step 4a below.

If your DSL service provider is not listed, select **Other Service Provider** and click **Next**. Continue with Step 4b below.

- 4a. Select the type of driver to be installed from the “Select Driver Type” window and click **Next**.
- 4b. Enter the VPI, VCI, Encapsulation type, and Modulation type from the “Communication Settings” window and click **Next**.

## NOTE

**The setting above will vary depending on the application. If you do not know the correct settings for your application, check with your ISP.**

5. The “Start Copying Files” window will be displayed. You may review the current settings and click **Customize** or **Back** to change the settings. Click **Next** to accept the current settings; a message will be displayed indicating that files are being copied.
6. The “Setup Complete” window indicates successful completion of the installation process. Select **Yes, I want to restart my computer now**, remove any disks from their drives, and click **Finish**. Your PC will reboot. Continue with **Section 3.3**.

### 3.3 Hardware Installation

#### NOTE

For Windows 98SE applications, you may need the Windows 98SE CD-ROM to complete the installation. Once the PC has rebooted, install the Modem.

1. Insert the rectangular end of a USB cable into the USB port of your PC.
2. Insert the square end of the USB cable into the USB port of the Modem.

#### NOTE

The Modem will be detected and messages will be displayed as the modem software is installed.

3. For Windows 2000 applications, the “Digital Signature Not Found” window may appear, warning that the installation software is not a digitally signed version. A digital signature is not necessary; we have tested the software with Windows 2000. Click **Yes** to allow the installation to continue. (A digitally signed version of the software will be released in the near future; call Black Box Technical Support at 724-746-5500 for details.)
4. For Windows 2000 applications, the “Found New Hardware Wizard” window indicates that the modem has been installed and suggests you reboot the system to have new settings take effect.
5. A message is displayed confirming reboot of the system; click **Yes**. Once the PC has rebooted, installation of the modem is complete. Continue with the “Customizing Communication Settings” section in the Modem Users’ Guide.



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