



HitronTechnologies

### Broadband Residential Cable Modem Gateway

BRG-3520

### Installation Poster

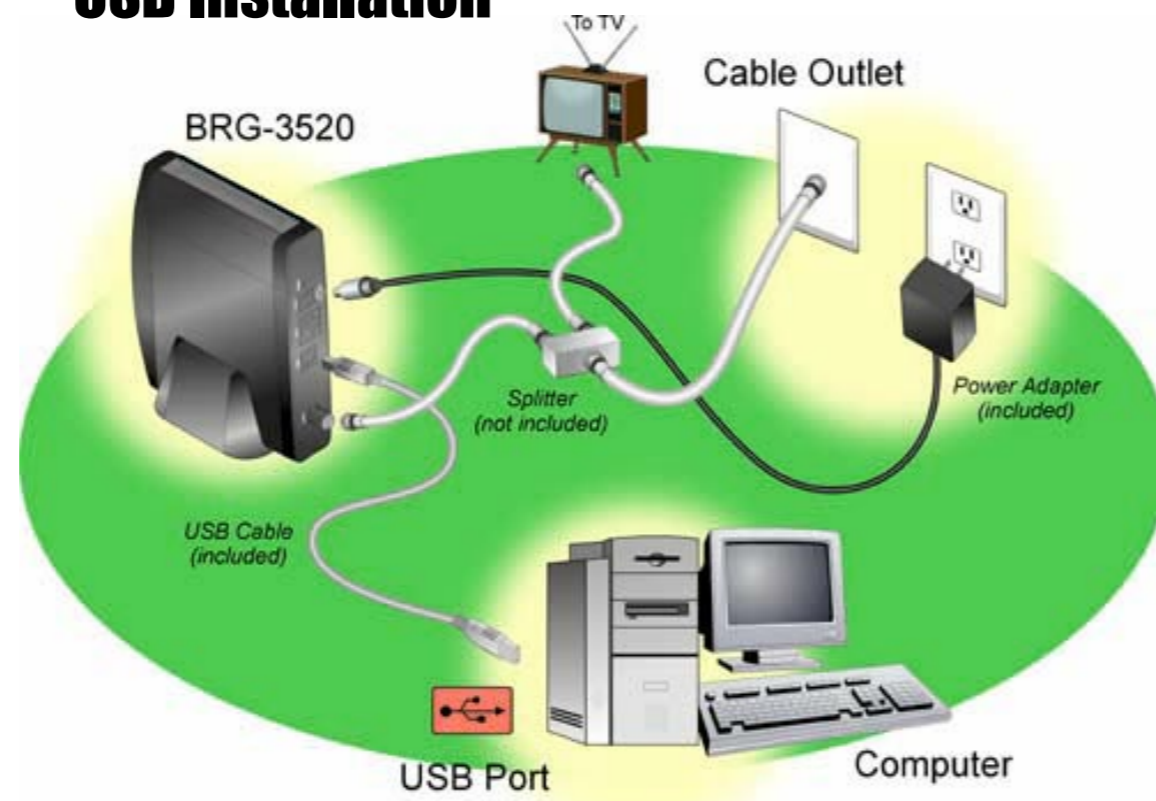
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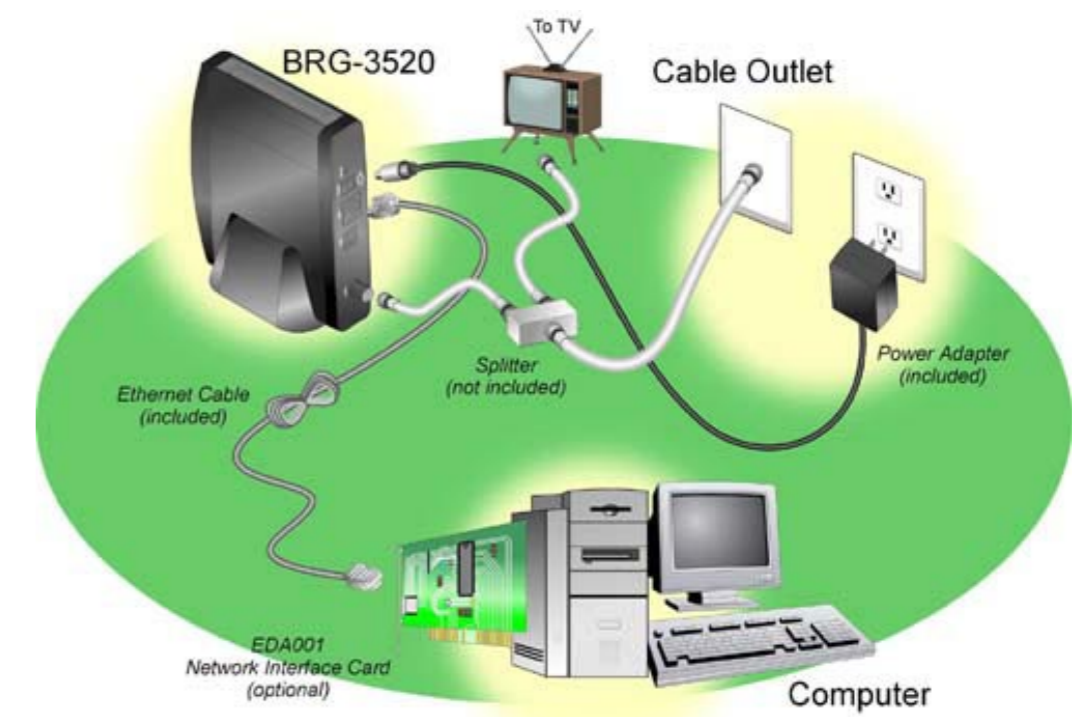
## USB Installation



### Before Installing the Cable Modem

Decide which setup mode ( Ethernet NIC or USB) you want to use and follow the installation process for that setup mode.

## Ethernet NIC Installation



## Package Contents

The Hitron™ BRG-3520 Broadband Residential Cable Modem Gateway (“cable modem”) package contains:

- 1 Hitron BRG-3520 cable modem.
- 1 12VDC/1.25A power adapter.
- **Caution: Be sure to use only the 12VDC/1.25A power adapter that came with the cable modem. Using the wrong power adapter can damage the cable modem.**
- 1 180 cm (6’) CAT.5 UTP Ethernet cable.
- 1 180 cm (6’) USB CABLE
- 1 Hitron Installation and Documentation CD containing software drivers and user documentation.
- This Installation Poster.
- One plastic stand for modem vertical placement
- Four rubber pads for horizontal modem installation

## Before Installing the Cable Modem

### Local Cable Network Service

Before installing the cable modem, contact your local cable service provider to check the availability of Internet/cable network access.

Read the front and back panels of this Installation Poster thoroughly before attempting to install the cable modem.

### Requirements

- RF coaxial cable:
  - One piece of coaxial cable if you are not using a cable line-splitter.
  - Three pieces of coaxial cable if you are using a cable line-splitter.
- A cable line-splitter, if you wish to connect the cable modem and a television to the same wall cable outlet (optional).
- An active two-way cable line installed by your local cable operator.

### Computer System Requirements:

- Pentium processor equivalent (Pentium 166MHz or higher recommended).
  - The original Windows® 95, Windows 98, Windows ME, or Windows 2000 CD-ROM or diskettes.
  - TCP/IP protocol installed (see the “Configuring the TCP/IP Protocol on Your PC” section for more information about TCP/IP installation).
  - An active Ethernet port or network interface card (NIC) installed in your computer.
- The cable modem is OS-independent and can be connected to any computer equipped with an active standard RJ-45 10BaseT Ethernet port.

- For USB connectivity:
  - A computer running Windows 98, Windows ME, or Windows 2000 operating system.
  - An active USB port on your computer.
- For Ethernet connectivity:
  - A PC running Windows 95, Windows 98, Windows ME, Windows NT® 4.0, or Windows 2000 operating system.

## Situating the Cable Modem

The BRG-3520 may be situated on the desktop either vertically-using the stand included-or horizontally. To place the modem flat on the desktop, use the four rubber feet.



Vertical



Horizontal

## USB Installation Process

### 1 Connect the Cables and Power Adapter

To use the computer’s USB interface to connect to the Internet, use the provided USB cable to connect the computer and the cable modem.

- Power off the computer and television.
- Unplug the computer and television.
- Connect the RF coaxial cable (not included) to the cable modem’s CATV cable connector and to the wall cable outlet.
- Plug the USB cable into the cable modem’s USB port and the other end of the cable to the computer’s USB port.
- Connect the 12VDC/1.25A power adapter to the back of the cable modem.

**Caution: Be sure to use only the 12VDC/1.25A power adapter that came with the cable modem. Using the wrong power adapter can damage the cable modem.**

- Plug the power adapter into a surge protector or an electrical outlet.
  - Power on the computer.
- Within a few minutes, the computer detects the cable modem.

## USB Installation Process (cont.)

### 2 Install the USB Software Drivers

When the computer detects the cable modem, insert the Hitron Installation and Documentation CD into the computer’s CD-ROM drive and follow the on-screen prompts to install the necessary driver files. Follow the instructions for your specific operating system.

Note: If the Hitron BRG-3520 Welcome screen appears, click **Cancel** to return to the cable modem installation process. Leave the CD in the CD-ROM drive so that Windows can access the software driver files required for the USB adapter.

**Windows 98:** The **Add New Hardware Wizard** screen appears.

**Note:** Do not install the Windows default driver files, because the files are not designed for use with the cable modem. Instead, use the software driver files located on the Hitron Installation and Documentation CD.

- Select **Search** for the best driver for your device (Recommended) and click **Next**.
- Check the **Specify a Location** check box. The location of the driver file is **D:\Drivers\BRG-3520 USB** where D is the letter of your computer’s CD-ROM drive. If necessary, replace D with the letter of your computer’s CD-ROM drive. You can either click **Browse** to locate the driver file, or type **D:\Drivers\BRG-3520 USB** into the field next to the Browse drop-down list.
- Click **Next** to search for the necessary driver files.
- Select **The updated driver (Recommended) Hitron BRG-3520** and click **Next**. When the system locates the driver files, click **Next** to automatically install the necessary files.
- When prompted, insert the Windows 98 CD into the CD-ROM drive and click **OK**.
- After Windows copies the necessary system files, click **Finish**. The system **Settings Change** dialog box appears.
- Click **Yes** to reboot your computer. You can now go to “**Check the LEDs.**”

**Windows ME:** The **Add New hardware Wizard** screen appears.

- Select **Automatically search for a better driver (Recommended)** and click **Next**.
- When Windows locates the driver files click **Next** to install the necessary files.
- Click **Finish**. The system **Settings Change** dialog box appears.
- Click **Yes** to reboot your computer.
- You can now go to “**Check the LEDs.**”

**Windows 2000:** The **Found New hardware Wizard** screen appears.

- Select **Search for a suitable driver for my device** (Recommended) and click **Next**.
- Check the **CD-ROM drives** check box and click **Next** to search for the necessary driver files.

The location of the driver files is **D:\Drivers\BRG-3520 USB** where D is the letter of your computer’s CD-ROM drive.

- When the **Found New Hardware Wizard** displays the search results, click **Next** to install the necessary driver files.

**Note:** If the **Digital Signature Not Found** screen appears, click **Yes** to continue the installation.

- When the **Found New Hardware Wizard** completes the installation, click **Finish**.
- You can now go to “**Check the LEDs.**”

## Ethernet NIC Installation Process

### 1 Configure the TCP/IP Protocol on Your PC

Before installing the cable modem in the Ethernet mode, you must verify that your computer has the TCP/IP protocol installed. Follow the procedure for your computer’s operating system to verify or install the TCP/IP protocol.

**Windows 95, Windows 98, or Windows ME Operating System:**

- Click **Start**, point to **Settings**, and then click **Control Panel**.
- Double-click the **Network** icon. The screen displays a list of installed network components.
- Search for an entry containing TCP/IP, followed by the NIC hardware device installed in your computer. If you see TCP/IP listed next to your Ethernet hardware device, you may now go to “**Install the Cable Modem.**” If TCP/IP is NOT listed, you must complete the following steps:
  - Click **Add...**
  - Click **Protocol**, and then click **Add...**
  - Click **Microsoft** in the “**Manufacturers:**” list and then click the “**Network Protocols:**” list. Click **OK**.

- You are prompted to restart your computer.
- Click **Yes**. You can now go to “**Install the Cable Modem.**”

**Windows 2000 Operating System**

- Right-click **My Network Places** icon on the Windows desktop.
- Right-click **Local Area Connection** and click **Properties**. Search for an entry containing TCP/IP. If you see TCP/IP listed next to your Ethernet hardware device, you can now go to “**Install the Cable Modem.**” If TCP/IP is not listed, however, you must complete the following steps:
  - Scroll to the **Internet Protocol (TCP/IP)** option.
  - Click to mark the **Internet Protocol** check box with a check
  - Click **OK**. You can now go to “**Install the Cable Modem.**”

### 2 Install the Cable Modem

Refer to the Ethernet NIC illustration, above, when making the following connections:

- Power off the computer and television.
- Unplug the computer and television.
- Connect the coaxial cable from the wall cable outlet to the CATV connector on the back of the cable modem.
 

**Note: If you are using a cable line-splitter (not included)** to connect the computer and a television to the same wall cable outlet, you will use three lengths of coaxial cable. As shown in the Ethernet NIC illustration, a cable line-splitter has three connectors. Use the illustration to make the appropriate coaxial cable connections.
- Connect one end of the Ethernet cable to the cable modem and the other end to the computer.
- Connect the 12VDC/1.25A power adapter to the back of the cable modem.

**Caution: Be sure to use only the power adapter that came with the cable modem. Using the wrong power adapter can damage the cable modem.**

- Power on the modem by plugging the power adapter to a grounded electrical outlet or surge protector plugged into a grounded electrical outlet.
- Plug in and turn on the computer and television.
- You can now go to “**Check the LEDs.**”

## Check the LEDs

After installation is complete, the cable modem is operating properly if the **Power**, **Cable** and **Status** LED lights are solid green.

LED LABEL	COLOR	DESCRIPTION
Power	Green	Cable modem is plugged in to an electrical outlet and is receiving power
Cable	Orange-Blinking	The modem is searching for the DOWNSTREAM frequency
	Orange	Downstream frequency is locked. Searching for UPSTREAM frequency
	Green	Upstream frequency is locked
Status	Green-Blinking	Modem is registering with the cable company's head-end
	Green	Modem is ready for data transfers
ETH	Green	Valid Ethernet link status
	Green-Blinking	Cable modem is transmitting/receiving data through the Ethernet port
USB	Green	USB interface is connected
	Green-Blinking	Data is being sent/received through the USB port

## Back Panel Interface

ETH	RJ-45 female socket for connection of Ethernet cable
USB	USB 'B'-type socket. Connects through USB cable to a computer's USB 'A'-type port.
CATV	RF connector to attach the cable for broadband Internet access
Power	Socket to connect the power adapter included in the product package
RESET	Restores factory default settings

## Product Specifications

<b>Dimensions:</b>	<b>142 x 120 x 30mm</b> <b>5.6 x 4.7 x 1.2in</b>
<b>Net Weight:</b>	<b>345g +/- 10g (0.76lb)</b>
<b>DC Input Voltage:</b>	<b>12V/1.25A</b>
<b>Power Dissipation (Max):</b>	<b>8 Watts</b>
<b>Operating Temperature:</b>	<b>0° C ~ 40° C</b> <b>32° C ~ 104° F</b>
<b>Operating Humidity:</b>	<b>10%~90%</b>
<b>Cable Network Interface:</b>	<b>F Type RF Connector</b>
<b>LAN Access Point:</b>	<b>10/100 Mbps Ethernet MAC</b>
<b>USB Interface (Max):</b>	<b>12Mbps</b>
<b>Downstream transmission speed (MAX):</b>	<b>38Mbps</b>
<b>Upstream transmission speed (MAX):</b>	<b>10Mbps</b>

## Troubleshooting

If the cable modem is not working properly, please follow the procedures below to solve the problem.

1. Check to verify that all equipment is powered on and the cable connections are secure.
2. Check the cable modem to see if the LED lights function properly.

### ■ Power LED not lit

**Action:** Check both ends of the power adapter to make certain that they are securely connected to the power jack on the cable modem and the power outlet.

If both ends of the power adapter are properly connected and there is still no power, the cable modem might have a faulty power adapter or electrical outlet. Try plugging the Hitron power adapter into a different electrical outlet.

**Caution: Be sure to use only the power adapter that came with the cable modem. Using the wrong power adapter can damage the cable modem. If you must replace the power adapter, contact your local cable provider for assistance.**

### ■ USB LED not lit

**Possible reason:** The USB cable is not connected properly or the USB driver is not installed properly.

**Action:** Check if the device being connected is powered on, operating correctly and properly connected. Make sure your operating system does support USB device and installed with the driver provided by Hitron Technologies, Inc. Right now the supported operation systems include Windows 98SE, Windows Me and Windows2000.

### ■ The Ethernet port LED of the connected device is not lit

**Action:** Check if the device being connected is powered on, operating correctly and properly connected. Also check if the cable is **[straight-through]** for an end device like a PC/notebook. If the cable is for a hub or switch port, you should use **[crossed]** wire instead. Make sure the connectors at both ends of the cable are securely seated. If the problems continue, it is possible that the cable you are using is not compliant with specifications, or is improperly connected or damaged.

### ■ Cable LED is not lit or keeps blinking Orange

**Possible reason:** The cable modem cannot detect any carrier or valid data channel from the coaxial cable.

**Action:** Make sure the connectors at each end of the coaxial cable are securely seated. If the problem persists, please contact your cable modem service provider for further assistance. The quality of CATV coaxial cable and installation can affect the connection dramatically.

### ■ Cable LED not lit or stays Orange

**Possible reason:** The cable modem can not range the upstream signal properly with the Cable Headend system .

**Action:** Please make sure the connectors at each end of the coaxial cable are securely seated. If the problem is still persists, contact your cable modem service provider for further assistance.

## Troubleshooting (cont.)

### ■ Status LED is on, but the computer fails to get the IP address and cannot connect to the Internet

#### Possible reasons:

The driver for the network interface card has not been installed or was not installed properly. Please refer to the instruction of the operating system (Windows 95, Windows 98, Windows NT™ , Windows 2000, Windows Me, NetWare, etc.) and the user documentation of the network interface card to have the network interface card installed properly.

In order to access the Internet through the CATV Headend, which acts as an ISP (Internet Service Provider), your computer must have the right TCP/IP setting. Set the TCP/IP setting of the network interface card to get the IP address from the ISP automatically using DHCP protocol. For more information, please contact your local cable modem service provider.

## Safety Issues & Warnings



**WARNING:** Risk of electric shock. Do not expose the cable modem to water or moisture.

- The Hitron Broadband Residential Cable Modem Gateway model BRG-3520 ("cable modem") is a high-performance communications device designed for home and office environments.

- Do **NOT** use the cable modem outdoors. Keep the cable modem in an environment that is between 0°C and 40°C (between 32°F and 104°F).

See **Product Specifications** for more information.

- To avoid overheating the cable modem, do **NOT** place any object on the top of the cable modem.
- Do not restrict the flow of air around the cable modem.
- The manufacturer assumes no liabilities for damage caused by any improper use of the BRG-3520 cable modem.

## Disclaimer

Hitron Technologies, Inc. assumes no liabilities with respect to the contents of this document. Hitron Technologies, Inc. also reserves the right to revise this document or update occasionally the content hereof without any obligation to notify any person of such revisions or amendments.

Specifications subject to change without notice.

## Notices

### FCC

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE AND,
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

### UL Listing

This product is UL-Listed for use with UL-listed PCs containing instructions specifying user installation of accessories.

## Warranty

Hitron warrants this hardware product to be free from defects in workmanship and materials, under normal use and service, for 1 (one) year from the date of purchase from Hitron or its authorized reseller. Hitron's sole obligation under this express warranty shall be, at Hitron's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, Hitron may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of Hitron. Replacement products may be new or reconditioned. Hitron warrants any replaced or repaired product or part for one year from shipment, or the remainder of the initial warranty period, whichever is longer.

Customer must contact a Hitron Technology Inc. Service Center or an Authorized Hitron Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from Hitron or its authorized reseller may be required.

## Contact Hitron

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## Support/Technical Information

Contact your local cable operator for technical support.