

Smart One DOCSIS Cable Modem

User's Manual

Model Number: CMX300



Warranty

One-Year Limited Warranty

The warranty described below is extended only to the original buyer and is not transferable.

1. Customer Obligations:

A. CUSTOMER assumes full responsibility that the product purchased and any copies of software included with it or licensed separately, meet the specifications, capacity, versatilities and other requirements of the customer.

B. CUSTOMER assumes full responsibility for the installation and effectiveness of the operating environment in which the product and software are to function.

2. Limited Warranties And Conditions Of Sale:

A. Manufacturer warrants that this product is free from all defects in materials and workmanship for one year from the date of purchase from an authorized dealer.

B. Except as provided herein no employee, agent, franchise, dealer or other person is authorized to give any warranties of any nature on behalf of manufacturer.

3. Repairs And Service:

A. In the event of malfunction or failure attributable directly to faulty workmanship and/or materials, the product should be taken to the original authorized dealer it was purchased from or sent to manufacturer, along with proof of purchase and the return merchandise authorization number (RMA) provided by manufacturer.

B. If the product is sent by mail or freight company, the purchaser agrees to pay shipping charges, insure the product or assume the risk of loss or damage which may occur in transit, and to use a shipping container equivalent to the original packaging.

C. Once a product is returned, manufacturer will at its option, repair or replace the defective product or components, to whatever extent it deems necessary to restore the product or component to proper operating condition.

D. Manufacturer shall not be liable for any damages caused by delay in delivering or furnishing equipment and/or software.

4. Limits Of Liability:

- A. THE CUSTOMER SHALL BE SOLELY RESPONSIBLE FOR THE FAILURE OF THIS PRODUCT OR COMPONENT THEREON, RESULTING FROM ACCIDENT, ABUSE, OR MISAPPLICATION OF THE PRODUCT, AND MANUFACTURER ASSUMES NO LIABILITY AS A CONSEQUENCE OF SUCH EVENTS UNDER THE TERMS OF THIS WARRANTY.
- B. WHILE MANUFACTURER HAS MADE EVERY EFFORT TO PROVIDE CLEAR AND ACCURATE TECHNICAL INFORMATION ABOUT THE APPLICATION OF ITS PRODUCTS, MANUFACTURER ASSUMES NO LIABILITY FOR ANY EVENTS ARISING OUT OF THE USE OF THE TECHNICAL INFORMATION.
- C. ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE, SHALL HAVE NO GREATER DURATION THAN THE PERIOD FOR THE EXPRESSED WRITTEN WARRANTY APPLICABLE TO THIS PRODUCT AS SHOWN ABOVE, AND SHALL TERMINATE AUTOMATICALLY AT THE EXPIRATION OF SUCH PERIOD.
- D. NO ACTION SHALL BE BROUGHT FOR BREACH OF ANY IMPLIED OR EXPRESSED WARRANTY AFTER 30 DAYS SUBSEQUENT TO THE EXPIRATION OF THE PERIOD OF THE EXPRESSED WRITTEN WARRANTY.
- E. INCIDENTAL AND CONSEQUENTIAL DAMAGES CAUSED BY MALFUNCTION, DEFECT OR OTHERWISE AND WITH RESPECT TO BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ARE NOT THE RESPONSIBILITY OF MANUFACTURER, AND TO THE EXTENT PERMITTED BY LAW ARE HEREBY EXCLUDED BOTH FOR PROPERTY AND TO THE EXTENT NOT UNCONSCIONABLE, FOR PERSONAL INJURY DAMAGE.
- F. IN ANY EVENT, MANUFACTURER LIABILITY SHALL NOT EXCEED THE WHOLESALE PRICE OF THE PRODUCT.
- G. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY MAY LAST, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS, WHICH MAY VARY FROM STATE TO STATE.
- H. THIS WARRANTY APPLIES ONLY TO THIS PRODUCT, AND IS GOVERNED BY THE LAWS OF THE STATE OF CALIFORNIA. LAWSUITS BASED ON ANY CLAIM ARISING FROM USAGE OF THIS PRODUCT MUST BE FILED AND PERSECUTED IN A COURT OF COMPETENT JURISDICTION LOCATED IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

Trademark and Certification Information

Trademarks

IBM PC is a trademark for International Business Machines.

Macintosh and Mac are trademarks of Apple Computer.

All other trademarks are trademarks of their respective companies.

FCC Part 15 Class Certification

This equipment has been tested and found to comply with the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Note: The user is cautioned that changes or modifications not expressly approved by the Grantee of the equipment authorized could void the user's authority to operate the equipment. Only shielded I/O and power cables should be used with this product in order to assure compliance with FCC emissions limits. Accessory items that the user connects to this equipment should comply with FCC Class B Limits. Manufacturer is not responsible for any radio or television interference caused by using other than the recommended cables and connectors and accessory items or by unauthorized changes or modifications to this equipment.

Canadian Department of Communication Compliance Statement

This equipment does not exceed Class B limits per radio noise emissions for digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications. Operations in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps are necessary to correct the interference.

Items sold by manufacturer/distributor/agent, hereinafter called "Seller", are warranted only as follows: Except as noted below Seller will correct, either by repair or replacement at its option, any defect of material or workmanship which develops within one year after delivery of the item to the original Buyer provided that evaluation and inspection by Seller discloses that such defect developed under normal and proper use. Repaired or replaced items will be further warranted for the unexpired term of their original warranty. All items claimed defective must be returned to Seller, transportation charges prepaid, and will be returned to the Buyer with transportation charges collect unless evaluation proves the item to be defective and that the Seller is responsible for the defect. In that case, Seller will return to Buyer with transportation charge prepaid. Seller may elect to evaluate and repair defective items at the Buyer's site. Seller may charge Buyer a fee (including travel expenses, if needed) to cover the cost of evaluation if the evaluation shows that the items are not defective or that they are defective for reasons beyond the scope of this warranty. The Seller makes no warranty concerning components or accessories not reasonable assistance to Buyer in obtaining from the manufacturer whatever adjustment is reasonable in light of the manufacturer's own warranty. Seller will not assume expense or liability for repairs made outside the factory by other than Seller's employees without Seller's written consent.

SELLER IS NOT RESPONSIBLE FOR DAMAGE TO ANY ASSOCIATED EQUIPMENT, NOR WILL SELLER BE HELD LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THE IMPLIED WARRANTY OF "MERCHANTABILITY" AND "FITNESS FOR PARTICULAR PURPOSE."

Note “A Minimum 26 AWG Line Core should be used for connection to the cable modem”

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Chapter 1 Introduction

This DOCSIS 1.0 product works with all existing DOCSIS 1.0 head-end equipment and Multiple Service Operator (MSO) networks.

The Cable Modem interfaces between a Cable TV Network and your computer via a 10Base-T or 10/100Base-TX Ethernet Network Card and/or an USB port.

1.1 Features

- CableLabs DOCSIS 1.0 Certified
- Ethernet 10Base-T/100Base-TX or USB interface for easy installation
- Status LEDs (Power, Cable, LAN, RX, TX)
- Cable Operator SNMP remote network management
- Web browser management
- Remote software upgradeable by Cable Operators
- Supports up to 15 networked clients

Chapter 2 Before You Begin

Before installation, please check the following requirements with your computer. This cable modem requires ETHERNET and USB interfaces. You can choose either one to connect to the cable modem or connect both simultaneously.

2.1 System Requirements

● System Requirement for an Ethernet Connection

1. IBM Compatible, Macintosh or other workstation supports TCP/IP protocol.
2. An Ethernet port supports 10Base-T or 10//100Base-TX Ethernet connection.
3. Have already subscribed to a cable TV company for cable modem services.

● System Requirement for USB Connection

1. IBM Compatible PC with Microsoft Windows 98/2000/Me.
2. PC with available USB Port.
3. Have already subscribed to a cable TV company for cable modem services.

2.2 Safety Precautions

For your protection, observe the following safety precautions when setting up and using your equipment. Failure to observe these precautions may result in serious personal injury and damage to your equipment.

- Make sure the voltages and frequency of the power outlet matches the electrical rating labels on the AC Adapter.
- Do not place any object on top of the device or force it into a confined space.
- Never push objects of any kind through openings in the casing. Dangerous voltages may be present. Conductive foreign objects could produce a short circuit that could cause fire, electrical shock, or damage to the equipment.
- When installing the Smart One CMX300, be sure to observe the anti-static caution in the installation section of this user's guide. This will prevent damage to the board and other components.

- Whenever there is danger of lightning, disconnect the power cable and the coaxial cable from the cable modem to prevent damage to the unit. The use of an AC protection device will not completely protect the cable modem product from damage caused from the transmission across the cable TV network.

2.3 Unpacking and Inspection

You should find the following items:

- Cable Modem
- AC Adapter
- This User Guide/Quick Guide
- Ethernet RJ-45 Cable
- USB Cable
- USB Driver CD-ROM
- Case Stand Holder

If any item is missing or damaged, please contact Customer Service.

2.4 Operation Environment

Tables 1 and 2 define the maximum ratings for the CABLE MODEM.

Table 1. Maximum Ratings in Non-Operational or Storage Conditions

<i><u>NON-OPERATIONAL OR STORAGE CONDITIONS</u></i>	
Temperature	- 10°C to +60 °C
Humidity	10% to 90% non condensing

Table 2. Operational Conditions

<i><u>OPERATIONAL CONDITIONS</u></i>	
Temperature	0 °C to +40 °C
Humidity	10% to 90% non condensing

Chapter 3 Hardware Installation

This chapter describes the proper steps for connecting your new Cable Modem. Please be sure to follow the steps in the sequence outlined below. Failure to do so could result in improper operation or failure of your Cable Modem.

Step 1:

Connect a DOCSIS 1.0 cable feed to the F-connector on the back of the cable modem as illustrated in Figure 1. Ensure that the center conductor of the 75 ohm coaxial cable is inserted directly into the center of the F-connector. Secure the coaxial cable by carefully threading the outer shell of the coaxial cable connector onto the F-connector in a clockwise direction until tight. Be careful not to over-tighten the connector or you may damage either the connector or the cable modem.

NOTE:

To speed up the initial cable modem registration process, the coaxial cable should be connected to the modem prior to the power connector.

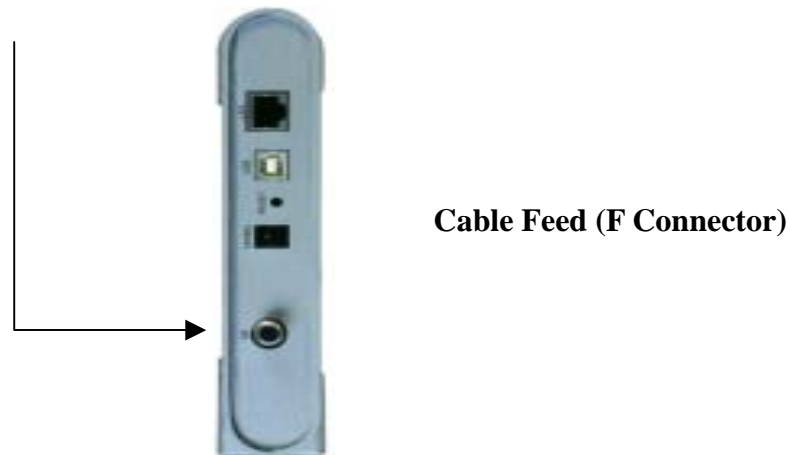


Figure 1. Connecting the Coaxial Cable

Step 2:

Connect the AC Adapter to the Cable Modem by inserting the barrel-shaped connector into the mating power connector on the back of the Cable Modem as illustrated in Figure 2. Exercise carefully to ensure the connectors are properly aligned prior to insertion and ensure the two connectors engage completely. The cable modem is shipped with an AC adapter. Remember to use only power adapter that came with the cable modem. Other power adapters might have voltages that are not correct for your particular cable modem. Using a power adapter with the wrong voltage can damage the cable modem. The cable modem power input requires 12 VDC input with minimum 1000 mA current. The +12 V is on the center connector, and ground is on the outer connector.

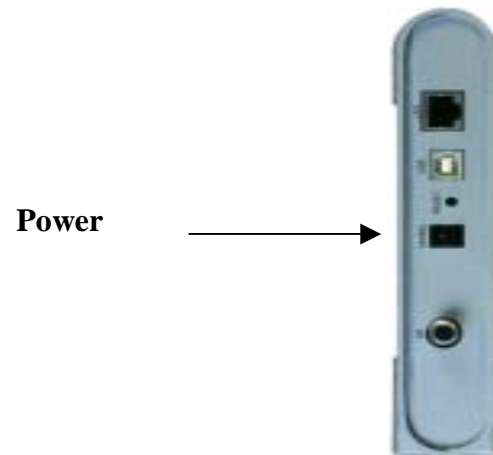


Figure 2. Connecting the AC Adapter

Step 3:

Connect the Cable Modem to an IEEE 802.3 10BaseT / 802.3u 100Base-TX Network using a RJ-45 male-terminated CAT-5 cable as illustrated in Figure 3a.

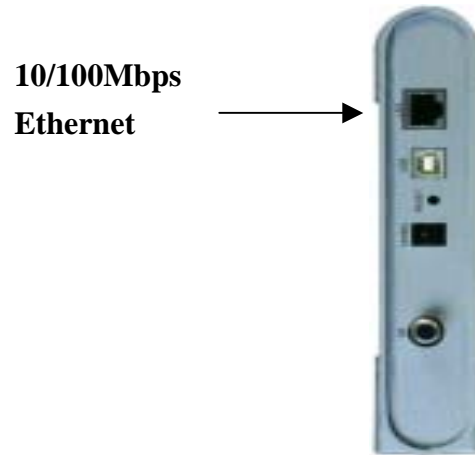


Figure 3a. Connecting to a Network Interface Card

Connect the USB cable to the Cable Modem by inserting the rectangular end of an USB cable into the USB port of the Cable Modem as illustrated in Figure 3b. Ensure the connectors lock together by listening for a snap.

CAUTION 1:

Deciding Which Installation Process to Use on Your Computer:

*You are strongly recommended to connect to the Internet using **either the Ethernet port or the USB port only**. You should not have the USB cable and the Ethernet cable plugged into the cable modem to the computer at the same time. In most cases CATV ISPs provide one IP address only, having the USB and Ethernet cables plugged into the cable modem at the same time might cause you to access the Internet improperly.*

CAUTION 2:

Connecting to More Than one Computer Devices:

*This cable modem provides you the feature for Ethernet and USB interfaces to operate on 2 different computer devices simultaneously. **However, you have to obtain additional IP addresses from your cable service provider.***

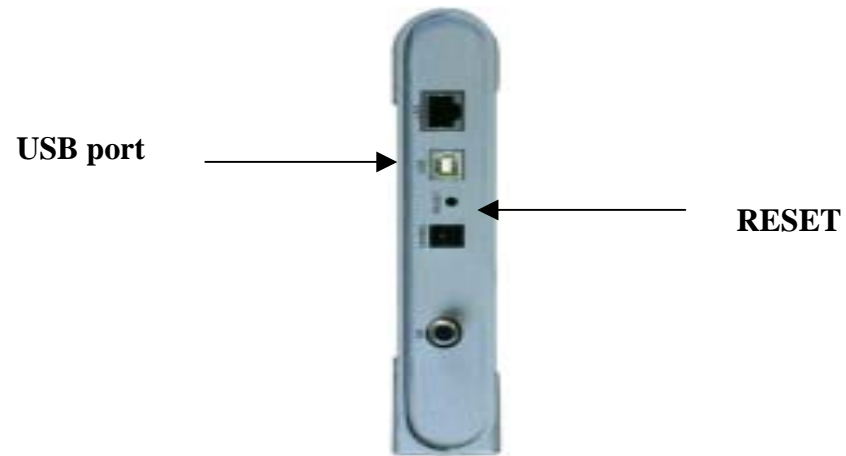


Figure 3b. Connecting the USB Cable

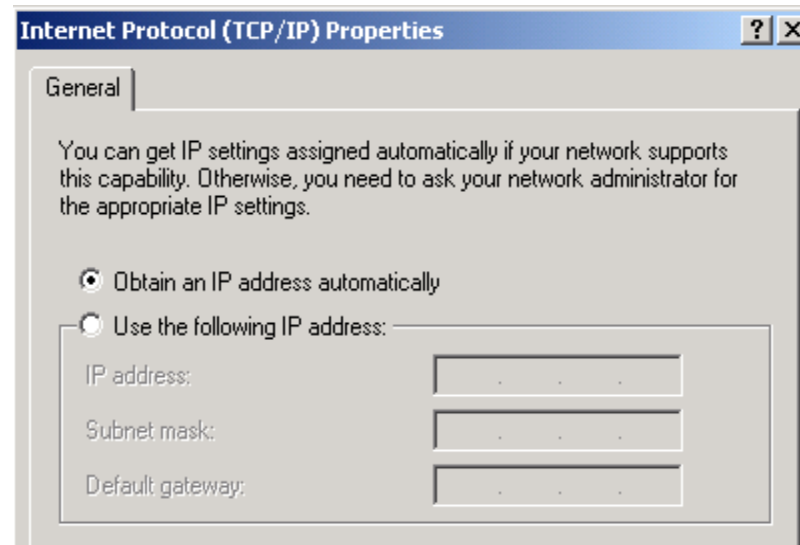
RESET: Power-Reset push button

NOTE: The **RESET** button at the rear panel is for maintenance purpose only

Chapter 4 Ethernet Installation

Setting Up the Computer to Use an Ethernet Connection

If your computer is already equipped with a functional Ethernet Network Adapter (NIC card), you can use the Ethernet port to connect to the cable modem through a RJ45 cable.



Before you connect your cable modem to your PC LAN port, please set the IP address to "Obtain an IP address automatically" as below, and ensure the TCP/IP protocol is installed on your system and configured correctly in your PC.

Following is an **example** of configuring the TCP/IP Protocol on Windows 98 Operating Systems,

1. Click on the "**Start**" button; choose "**Settings**", and then "**Control Panel**", Double click on the "**Network**" icon click "**Properties**".
2. A list of installed network components appears. Look for an entry named *TCP/IP*. This entry may be followed by an arrow and a description of the NIC hardware device installed in the computer. If you don't see "TCP/IP" listed anywhere in "The following network components are installed" dialog box, click on "Add" button, choose "Protocol", and click "Add" button again. Select "Microsoft" as the manufacturer and then scroll down in the list on the right to find "TCP/IP".
If you see "TCP/IP" listed, proceed to step 4
3. Click the OK button. You will be prompted to insert the Windows 98 installation/upgrade CD.
4. Scroll down in the box until you find a line that says "TCP/IP" followed by the name of your Ethernet adapter. Click on "Properties" and choose "Obtain an address automatically" which means that your PC has been configured to use DHCP (Dynamic Host Configuration Protocol).
5. Click OK.

Congratulations! You have successfully set up your new cable modem.

CAUTION:

Using the Ethernet port allows you to use a hub, switch or a router to share your cable modem between multiple computers in your network. To do this, you may need to obtain additional IP addresses from your cable service provider.

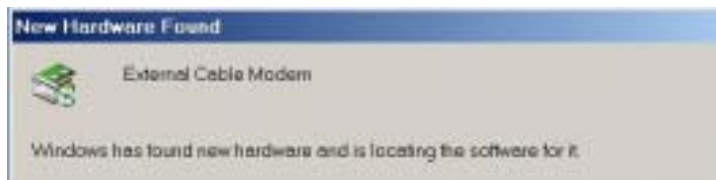
Chapter 5 USB Installation

Using the USB port to install the CMX300 is simpler and quicker than selecting the Ethernet port, since you do not need to install a network interface card (NIC).

5.1 Using USB with the Windows 98 or Windows Me Operating System

To use the USB port with Windows 98/Me:

1. Connect USB cable from PC to CMX300
2. Connect RF cable and power on cable modem. Wait until cable modem registers and LINK LED lights steadily, it will take from 40 sec to 4 min depending on network traffic.
3. Cable modem may reboot if you have previously connected it through the Ethernet port
4. Windows will prompt for new hardware found

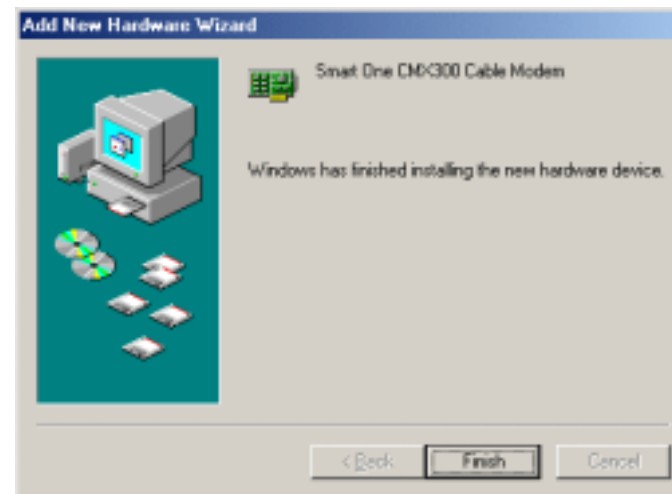


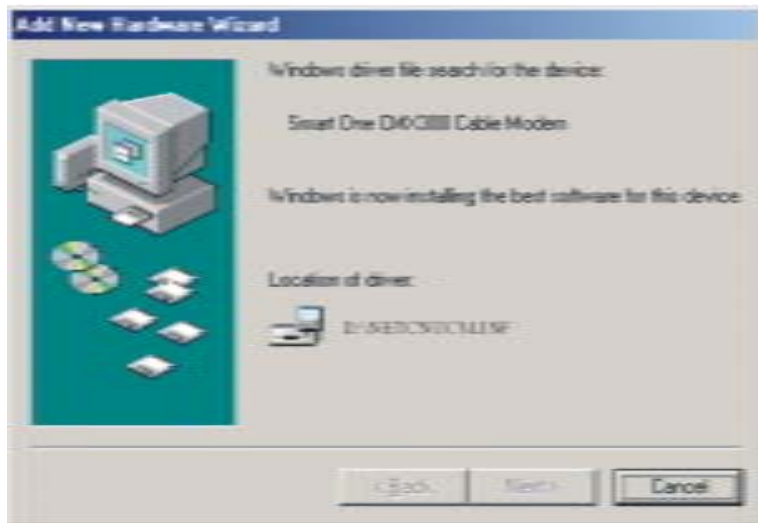
5. Insert the Driver CD-ROM

Click “Automatic search for...” then “Next”



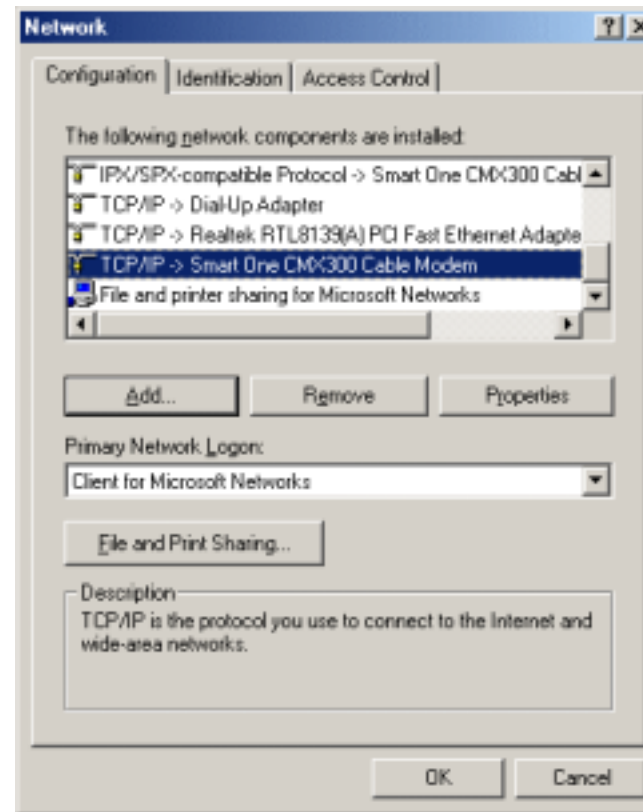
6. Windows will locate the driver automatically.
7. After windows installs the USB driver, click Finish and Windows will ask you to reboot your computer.



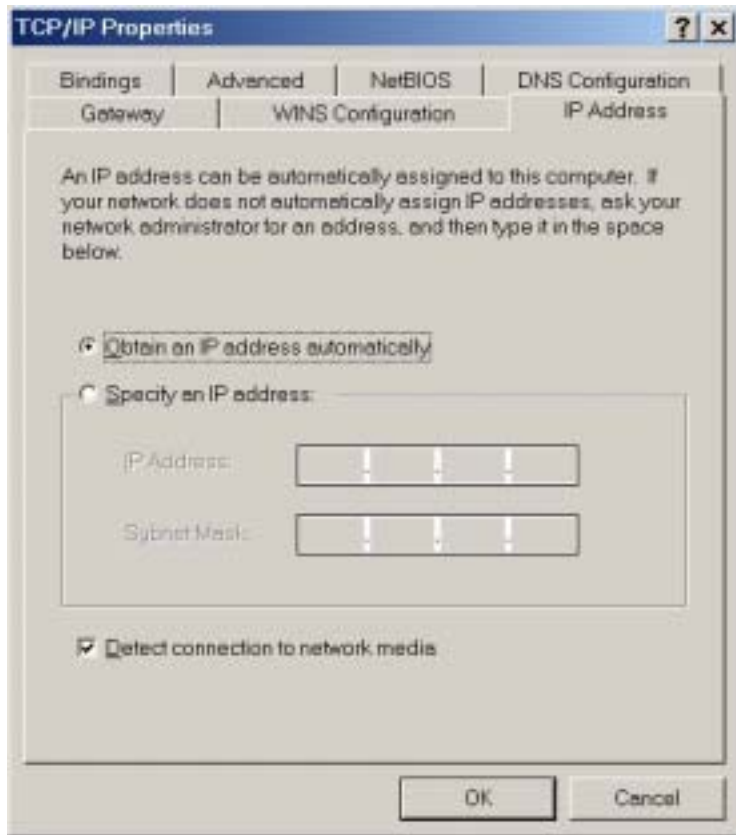


Check the USB Installation

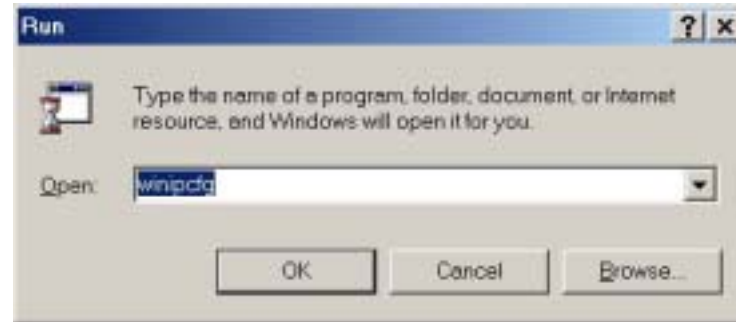
1. Go to Control Panel and under Network Properties verify that the Smart One CMX300 Cable Modem has been successfully installed.



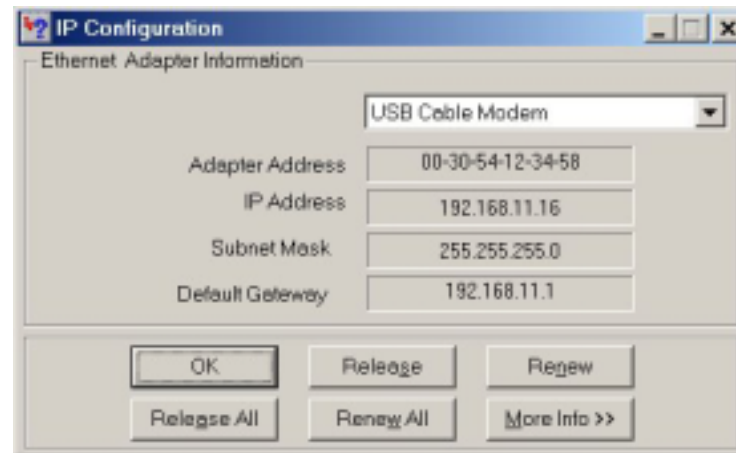
2. Select “TCP/IP -> Smart One CMX300 Cable Modem”
3. Click on “Properties”
4. Click on the IP Address TAB, and choose “Obtain an IP address automatically”



5. For **Windows 98/Me**, on the Windows Desktop, click Start.
6. Select Run.
7. Type **winipcfg.exe** and Click OK



8. Select your adapter name- USB Cable Modem

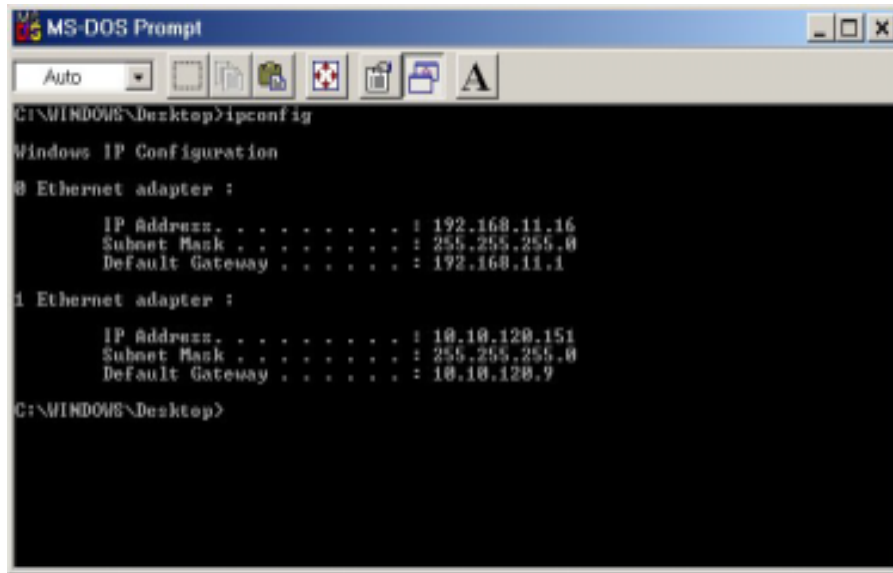


9. Click Renew if you don't receive an IP address

10. Type **command** and click ok



11. Type **ipconfig** and press Enter



12. Type **ipconfig /renew_all** if you don't receive an IP address

Using USB with the Windows 2000 Operating System

To use the USB port with Windows 2000:

1. Connect USB cable from PC to Cable Modem
2. Connect RF cable and power on Cable Modem. Wait until Cable Modem registers and LINK LED lights steadily, it will take from 40 sec to 4 min depending on Network traffic
3. Cable Modem may reboot if you have previously connected it through Ethernet port
4. Windows will prompt new hardware found

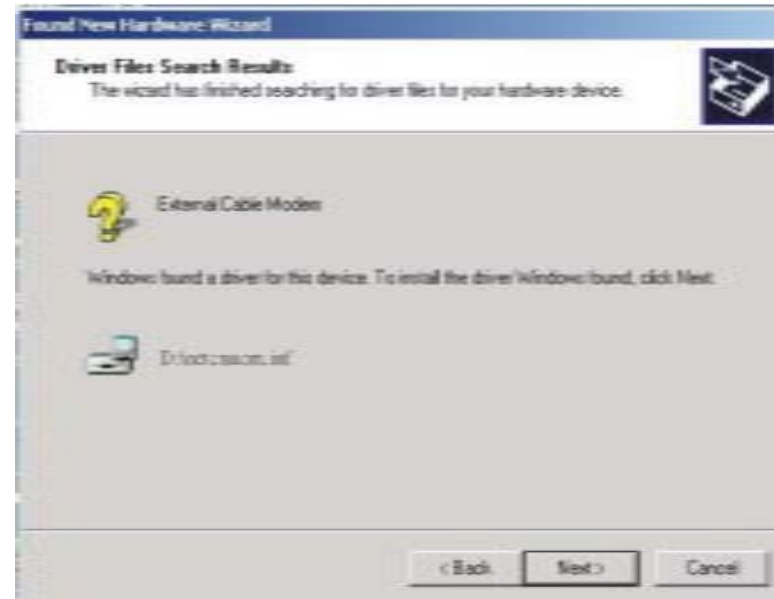


5. Insert the Driver CD-ROM

6. Click “Search for a suitable driver” then “Next”



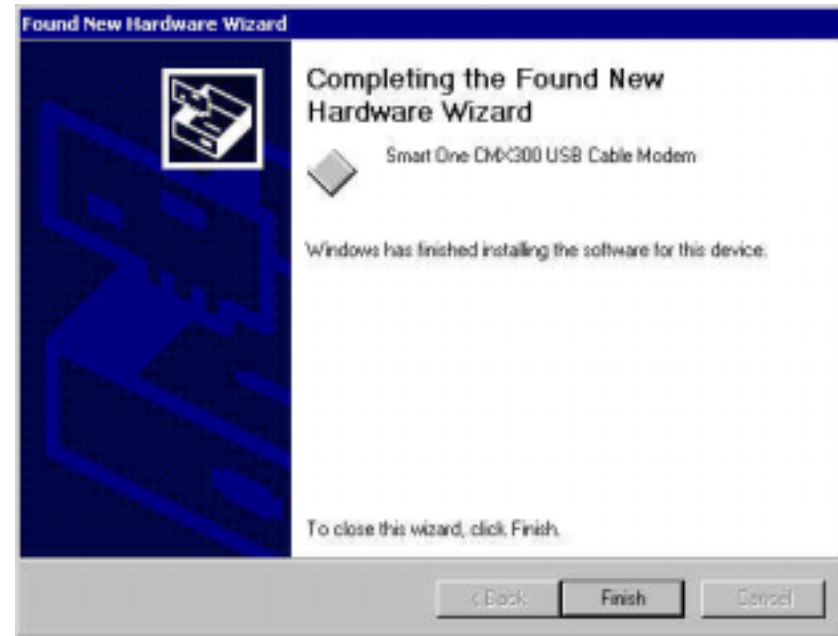
7. Windows will locate the driver automatically



8. Click Yes when you see the image.

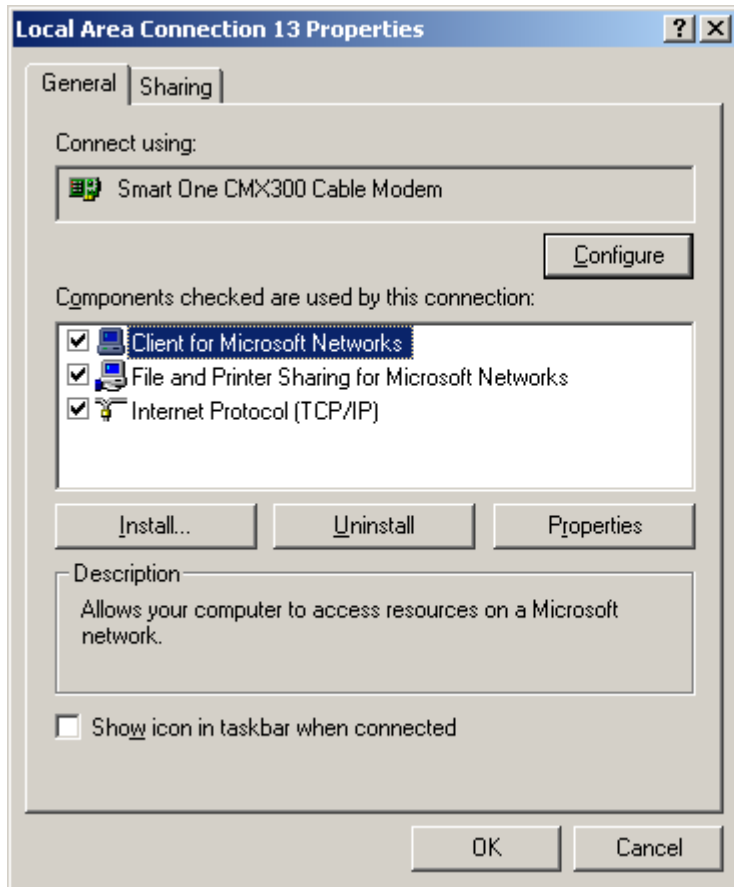


9. After windows installs the USB driver, click Finish and Windows will ask for reboot



Check the USB Installation

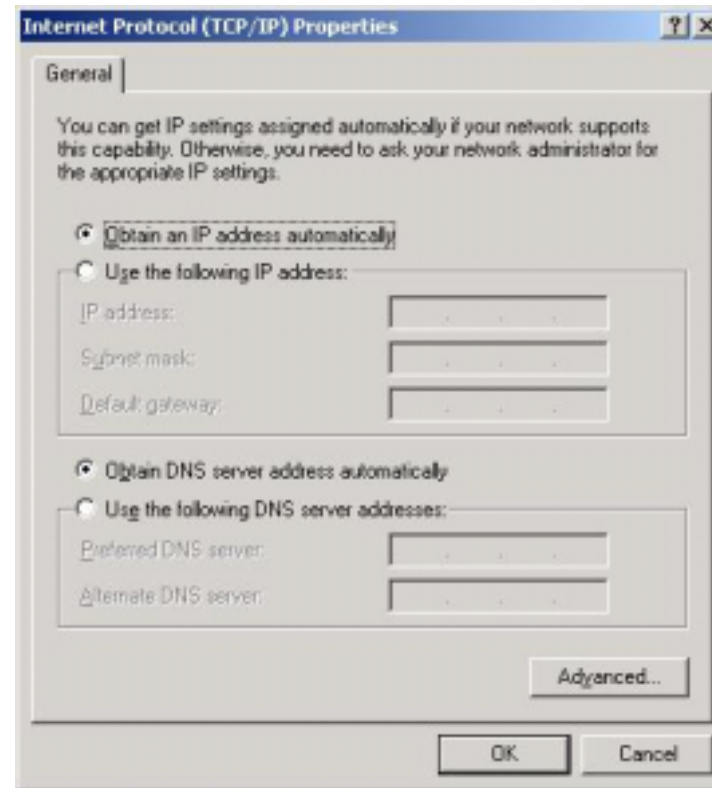
1. Click Network on Control Panel, make sure USB Cable Modem is installed



2. Click TCP/IP -> Smart One USB Cable Modem

3. Click Properties

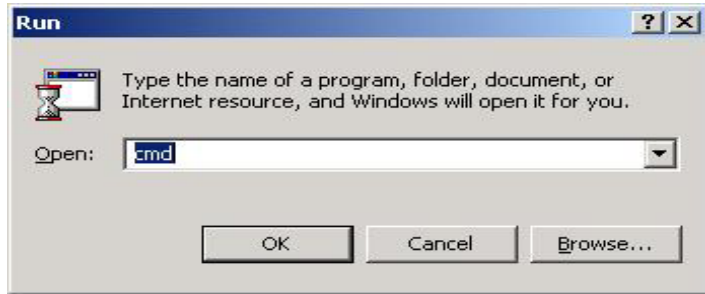
4. Click the IP Address TAB, choose Obtain an IP address automatically



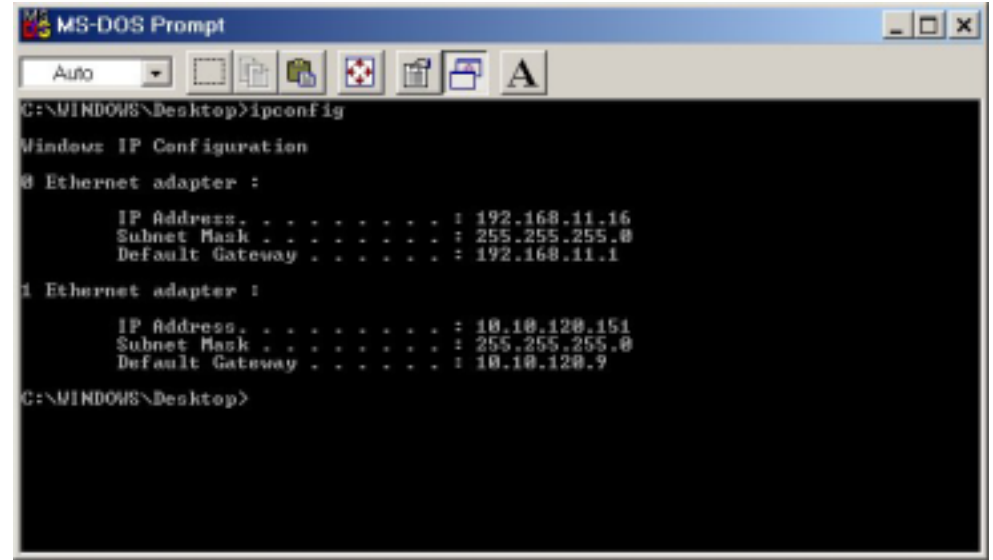
5. For Windows 2000, On the Windows Desktop, click Start.

6. Select Run.

7.Type **cmd** and Click OK



8.Type **ipconfig** and press Enter



9.Type **ipconfig /renew** if you don't receive an IP address

Chapter 6 Diagnostics

There are no user controls on your cable modem. To operate, simply apply power to the unit by inserting the AC Adapter into an AC power outlet. Connecting the AC adapter to an AC protection circuit is always recommended.

6.1 LED Indicators

Your Cable Modem has five status LEDs for diagnostics. You can monitor the LEDs during installation and normal operation.

Table 3 details Cable Modem status LEDs and explain what each LED indicates. This table will also help you to diagnose problems and recommend actions to resolve them.

Table 3. LED Indicators

<i>Function</i>	<i>Definition</i>	<i>Action to be taken</i>
Power	<ul style="list-style-type: none">• Dark for power off• Solid for power on	<ul style="list-style-type: none">• Test the outlet for presence of Electricity• NO ACTION NEEDED
Cable	<ul style="list-style-type: none">• Dark for no downstream RF carrier present or power off• Flashing slowly for downstream RF carrier present and ranging in process• Flashing fast for registration in process• Solid for the Cable Modem registered and ready to transfer data	<ul style="list-style-type: none">• Check the coaxial cable is properly installed, check for TV reception and if the TV splitter is properly installed. You may call your Cable Company for help if you don't have TV reception.• If flashing does not stop and you have a normal TV reception, please call your cable company first. The cable network may not recognize your modem MAC ID.

LAN (PC)	<ul style="list-style-type: none"> • Dark for no Ethernet carrier present or power off • Solid for Ethernet carrier present 	<ul style="list-style-type: none"> • Make sure your PC is ON and in working condition. Verify if your network card is installed properly. Usually a light on the network card indicates it's working status. Consult with your Network card Manufacturer or Best Data Technical support for help
TX (DATA)	<ul style="list-style-type: none"> • Dark for no user data going through the Cable Modem or power off • Flashing for user data going through the Cable Modem 	<ul style="list-style-type: none"> • If the above 3 LEDs are lit but you don't see this LED flashing, please verify that you have properly installed the TCP/IP drivers. Go back to the installation section.
RX (TEST)	<ul style="list-style-type: none"> • Dark for initial self-test of the Cable Modem OK or power off • Flashing for initial self-test of the Cable Modem in progress or software down, or loading of the Cable Modem in progress • Solid for self-test failure of the Cable Modem 	<ul style="list-style-type: none"> • If the above 3 LEDs are normal but RX LED does not blink, be sure that your TCP/IP drivers are properly installed and your Internet browser is open and functioning. This indicates the absence of downstream data transfer. Consult with your cable provider and Best Data Technical Support for help.

Appendix A:

Cable Modem Specifications

Table 4. RF Downstream Specification

PARAMETER	VALUE	NOTES
Center Frequency	91 MHz to 857 MHz +/- 30 kHz	
Level Range	-15 dBmV to +15 dBmV	One Channel
Symbol Rate	5.056941 Msym/sec (30 Mbps) 5.360537 Msym/sec (43 Mbps)	64QAM 256QAM
Bandwidth	6 MHz	
Total Input Power	<30 dBmV	
Input Impedance	75 Ohms	
Input Return Loss	>6 dB	88 MHz to 860 MHz

Table 5. RF Upstream Specification

PARAMETER	VALUE	NOTES
Frequency	5 MHz to 42 MHz	Edge to Edge
Level Range	+8 to +58 dBmV +8 to +55 dBmV	QPSK 16QAM
Modulation	QPSK and 16QAM	
Symbol Rate	320K,640K,1280K,2560K,5120Kbps 640K,1280K,2560K,5120K,10240Kbps	QPSK 16QAM
Bandwidth	200K, 400K, 800K, 1600K, and 3200 KHz	At Edges
Output	75 Ohms	
Output Return Loss	>6 dB	5 MHz to 42 MHz

Table 6. Electrical Specification

PARAMETER	MEASURED VALUE	NOTES
Power Adapter output voltage lower limit	11.4 VDC	
Power Adapter output voltage upper limit	12.6 VDC	
Current consumption	560 mA Normal mode	Normal mode

Table 7. Physical Specification

PARAMETER	VALUE	NOTES
Size	181mm (H) x 143mm (L) x 36 mm (W)	
Weight	TBD	

Table 8. Environmental Specification

PARAMETER	VALUE	NOTES
Operating Temperature	0 ° C to +40 ° C	
Operating Relative Humidity	10% to 90%	Non-condensing
Operating Altitude	-100 to +7,000 feet	
Storage Temperature	-10 ° C to +60 ° C	

Appendix B: Questions and Answers

Section 1: Troubleshooting Modem LED Problems

Troubleshooting the modem portion of this Cable Modem begins with observing the front panel lights (also called LEDs - light emitting diodes). The pattern of these lights indicates the status of the modem. Interpreting the pattern correctly can indicate whether the modem is functioning properly or not. If there is a problem, the lights provide clues as to what the problem might be. The Cable Modem does not require any routine maintenance. If you cannot identify and correct a fault using these troubleshooting procedures, please contact your cable television (CATV) Internet Service Provider (ISP).

Question 1: The Power Light Is Off

Answer:

The normal state for this light is solid red. If the Power light is off, then the modem is not receiving power. Possible Solutions:

1. Check to make sure the power cable is firmly plugged into both the cable modem and the electrical outlet. Try unplugging, then reconnecting the cable at each end.
2. Check that the wall outlet is working. Test it by using a light or some other device in the suspect outlet.
3. If the power light remains off, the external power supply or the power cord is probably defective. Contact the supplier of the Cable Modem for assistance.

Question 2: The Cable Light Is Off

Answer:

The normal state for this light is solid green. If the Cable Light Is Off, then the modem is not detecting the downstream radio frequency (RF) signal provided by the cable network. This could be caused by any of the following:

- Radio frequency noise in the home
- Damaged cable

- Bad or loose cable connections
- Unterminated connections
- Problem with the cable on the street
- Problem in the cable network

Possible Solutions:

1. Disconnect and then reconnect the power. This will automatically reset the modem.
2. Wait at least 4 minutes.
3. If the Cable light is still off, then there could be a problem with the cable wiring. Check all cables between the modem and the ground terminal outside the house. Unplug the power again, and then plug it back in as before.
4. If the Cable light is still off, there might be a problem with the cable network or the modem. Contact your cable provider.

Question 3: The LAN Light Is Off

Answer:

If the LAN light is on, the Cable Modem's Ethernet port is connected to the computer correctly. If the modem is having problems transferring data, check the Cable light, as described in the above Cable Light subsection, to determine the state of the modem.

If the LAN light is off, the modem is not detecting the Ethernet network interface card. Possible Solutions:

1. Make sure the cable between your computer's Ethernet card and the modem is securely fastened at each end.
2. There may be a green "carrier detect" light on the back of the Ethernet card. It should be a steady green. If the cable is securely connected, then the Ethernet card may have loosened from its socket. Open up the computer and make sure the card is firmly seated in place.
3. If you have plugged a hub into the port, you need to use a crossover Ethernet cable instead of a straight through cable.
4. Try replacing the cable between the modem and the Ethernet card.
5. If the problem persists, it could indicate a problem with the Ethernet card or the modem. Contact the manufacturer of the Ethernet card or your cable provider.

Question 4: The RX Light Is Off

Answer:

The RX Light flickering On and Off indicates that the cable network is successfully receiving data. If the RX light is off, then the cable network is not receiving data from the modem.

If the cable network is having problems transferring data, check the Cable light as described above.

Question 5: The TX Light Is Off

Answer:

The TX Light flickering On and Off indicates that the cable network is successfully transmitting data. If the cable network is having problems transferring data, check the Cable light, as described above.

If the TX light is off, then the cable network is not transmitting data to the modem. If the modem is having problems transferring data, check the Cable light, as described above.

Question 6: All LEDs look right, but I still cannot access the Internet

Answer:

If the Power, Cable LEDs, and LAN LED are lighted, the cable modem is operating properly. Try shutting down the computer and then turning it on. This causes the computer to re-establish communications with your cable service provider's computer. Power cycle the cable modem by removing the power adapter from its outlet and then plugging it back into the outlet. Then try reconnecting to your cable service provider. Verify that you have installed TCP/IP properly, and that the TCP/IP parameters provided by your cable service provider are correct for your computer.

If you are using a cable line splitter so that you can connect the cable modem and a television at the same time, try removing the splitter and reconnecting the cables so that the cable modem is connected directly to the cable wall jack. Then try reconnecting to your cable service provider.

Section 2: Troubleshooting Network Problems

If you have been referred to this section from one of the paragraphs above then there is a possible problem with your cable network. Contact your CATV ISP to check if the network is functioning correctly. If the network is functioning correctly then there is likely a problem with your cable modem. Contact your CATV ISP.

Section 3: Troubleshooting User Application Problems

Question 7: If CATV ISP provides one IP address only, how do I switch CPE?

Answer:

Possible Solutions:

You may switch CPE in two ways:

1. On same computer, switch between Ethernet and USB interfaces
2. Switch from computer A to computer B

No matter how you switch CPE, please note that this cable modem is following with the DOCSIS specification definition. The DOCSIS rules state that if you are changing to the other CPE device, the cable modem will utilize its learned original CPE information, which cannot be replaced. You have to **restart** (power cycle) **or reset** the cable modem and follow with the Ethernet or USB installation to set up your cable modem.

Question 8: How to Offer Multiple Users to Operate on One Cable Modem

Answer: Possible Solutions:

1. Connecting to 2 Computer Devices through Ethernet and USB Interfaces:

This cable modem provides you the feature for Ethernet and USB interfaces to operate on 2 different computer devices simultaneously.

However, you have to obtain additional IP addresses from your CATV ISP.

2. Connecting to More Than One Computer Device through Ethernet Interface using an External Hub:

The Cable Modem can simultaneously support up to 15 host devices. The actual number may be limited by your CATV ISP. If your CATV ISP allows you to use multiple IP addresses, you may attach multiple computers or other IP devices using an external hub.

Appendix C: Technical Support

Option 1:

Telephone: 800.587.8167
Support 24 hours a day 7 days a week.
\$7.00 flat fee per incident

Option 2:

Telephone: 818.773.9600
Monday – Friday 8:00 a.m. – 4:30 p.m. PT
FAX: 818.717.1721

Online: www.bestdata.com/tech.htm

Email: tech@bestdata.com