

CME100 Series Cable Modem

User's Manual

Rev:03

2003/10/21

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Safety Notes

For Installation

- Use only the type of power source indicated on the marking labels.
- Use only the power adapter supplied with the product.
- Do not overload wall outlet or extension cords as this may increase the risk of electric shock or fire. If the power cord is frayed, replace it with a new one.
- Proper ventilation is necessary to prevent the product overheating. Do not block or cover the slots and openings on the device, which are intended for ventilation and proper operation. It is recommended to mount the product with a stack.
- Do not place the product near any source of heat or expose it to direct sunshine.
- Do not expose the product to moisture. Never spill any liquid on the product.
- Do not attempt to connect with any computer accessory or electronic product without instructions from qualified service personnel. This may result in risk of electronic shock or fire.
- Do not place this product on an unstable stand or table.

For Using

- Power off and unplug this product from the wall outlet when it is not in use or before cleaning. Pay attention to the temperature of the power adapter. The temperature might be high.
- After powering off the product, power on the product at least 15 seconds later.
- Do not block the ventilating openings of this product.
- When the product is expected to be not in use for a period of time, unplug the power cord of the product to prevent it from the damage of storm or sudden increases in rating.

For Service

Do not attempt to disassemble or open covers of this unit by yourself. Nor should you attempt to service the product yourself, which may void the user's authority to operate it. Contact qualified service personnel under the following conditions:

- If the power cord or plug is damaged or frayed.
- If liquid has been spilled into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally when the operating instructions are followed.
- If the product has been dropped or the cabinet has been damaged.
- If the product exhibits a distinct change in performance.

Warning

- This equipment must be installed and operated in accordance with provided instructions and a minimum 20 cm spacing must be provided between computer mounted antenna and person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- 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 undesired operation.

Caution

- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

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Before You Use

The cable modem is a DOCSIS (Euro-DOCSIS) compliant cable modem that provides high-speed connectivity to residential, commercial, and education subscribers on public and private networks via an existing cable infrastructure. The cable modem can inter-operate with any DOCSIS (Euro-DOCSIS) compliant headend equipment. The IP traffic can transfer between the cable modem and DOCSIS (Euro-DOCSIS) compliant headend equipment. The data security secures upstream and downstream communications.

Features

- Up to 42.88 Mbps (55.2 Mbps for Euro-DOCSIS) downstream and up to 30.72 Mbps upstream, two-way cable modem.
- F-Connector for the cable interface.
- Standard RJ-45 connector for 10/100BaseT Ethernet with auto-negotiation function.
- USB Connector for USB interfaces.
- Frequency agility.
- Multiple users support.
- Transparent bridging for IP traffic.
- RSA and 56 bit DES data encryption security.
- Interoperable with any DOCSIS (Euro-DOCSIS) compatible cable modems and headend equipment.
- SNMP network management support.
- Remote operating firmware downloading.
- Support private DHCP server for status monitoring
- Clear LED display.
- Plug and Play.

System Requirements

This cable modem equips ETHERNET and USB interfaces. You can choose either one to connect to the cable modem. Before installing the EMTA, please check the following requirements with your computer.

For Ethernet Connection

- ◆ Windows98(SE)/2000/NT/ME/XP operating system or Apple Macintosh series that supports TCP/IP protocol
- ◆ 10/100 Base-T NIC (network interface card)
- ◆ Subscribe to a Cable Television Company for cable modem service

For USB Connection

- ◆ Windows98(SE)/2000/ ME/XP operating system
- ◆ Available USB port
- ◆ Subscribe to a Cable Television Company for cable modem service

Unpacking

Check the contents of the package against the pack contents checklist below. If any of the items is missing, then contact the dealer from whom the equipment was purchased.

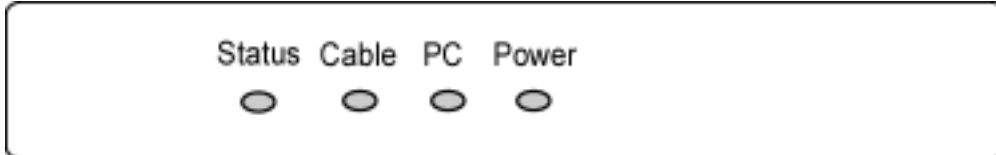
-
- Cable Modem
 - Twisted Pair Ethernet Cable (CAT5/RJ-45)
 - USB Cable
 - Power Adapter
 - Quick Start Guide
 - Software CD

Chapter 1: Overview

Physical Outlook

Front Panel

The following illustration shows the front panel of the cable modem:



LED Indicators

The LEDs on the front panel are described in the table below (from left to right):

LED	Function	Color	Status	Description
Power	Power	Green	On	Power is being applied to CM.
PC	Link/PC Data	Green	On	Ethernet/USB carrier is present.
			Blinking	To indicate Ethernet or USB data.
Cable	RF Data	Green	Blinking	To indicate transmit RF US traffic.
Status	Link	Green	On	Modem registration completed.
			Blinking	illuminates solid green when the modem is registered on the network. To indicate one of the following conditions: 1. Scan downstream channel. (2 sec) 2. Downstream is locked and sync O.K. (1 sec) 3. Ranging process is O.K. (0.25 sec) 4. Registration successfully. (Keep On)

Rear Panel



12VDC: 12V Power connector

RST : Reset-to-Default push button

ETHERNET : Ethernet 10/100BaseT RJ-45 connector

USB : USB Connector

CABLE : F-Connector

Chapter 2: Installation

This cable modem equips USB and Ethernet interfaces. You can choose either one to connect to the cable modem.

Connecting the Cable Modem to Your Computer

Installation Procedure for Ethernet Interface

Follow the steps below for proper installation:

1. Make sure your computer meets the system requirements.
2. Connect a coaxial cable (supplied by the local Cable Television Company) to the CABLE connector on the modem.

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

3. Connect the RJ-45 Ethernet cable to one of the **ETHERNET** connector on the modem, connect the other end with the 10/100BaseT Ethernet port on your computer.
4. Plug the power adapter into the **12VDC** connector of the modem.
5. Plug the other end of the power adapter into a power outlet.
6. The cable modem will look for the proper cable modem signal in the Cable Television network and process the initial registration. The cable modem is ready for data transfer after the LED “**Status**” is in solid green.

Note: The **RST** button at the rear panel is for maintenance purpose only.

Installation Procedure for USB Interface

Follow the steps below for proper installation:

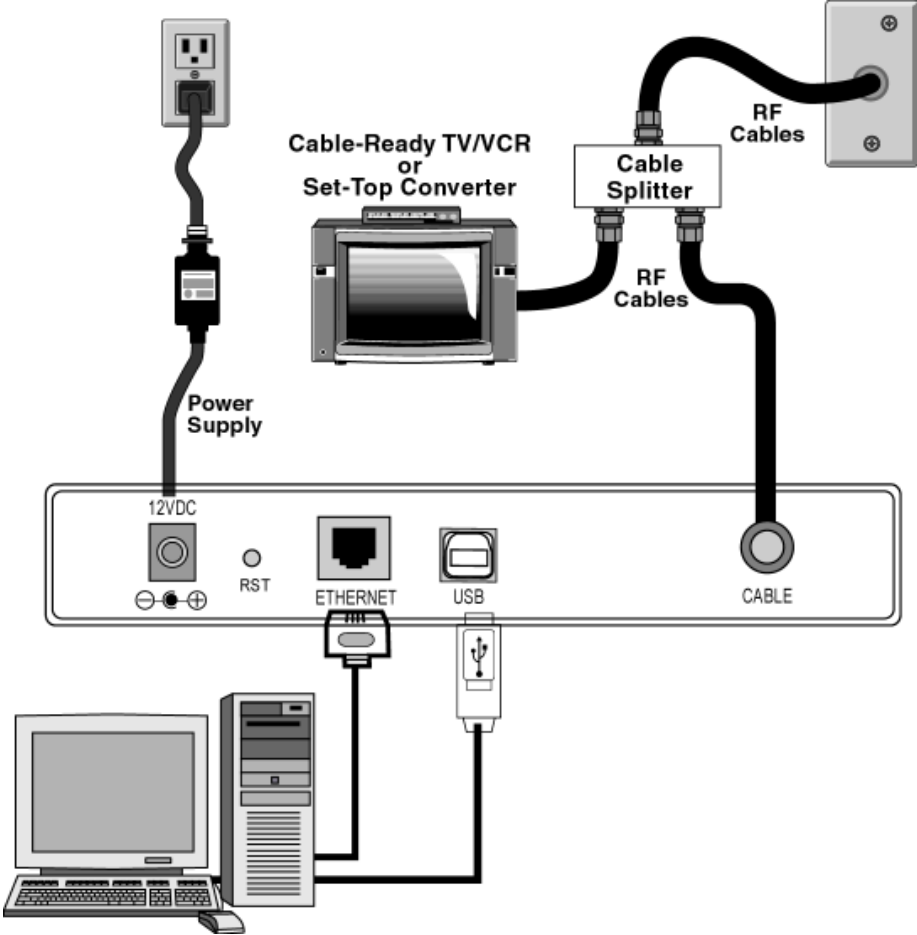
1. Make sure your computer meets the system requirements.
2. Connect a coaxial cable (supplied by the local Cable Television Company) to the CABLE connector on the modem.

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

3. Connect the USB cable to the **USB** connector on the modem.
4. Plug the power adapter into the **12VDC** connector of the modem.
5. Plug the other end of the power adapter into a power outlet.
6. The cable modem will look for the proper cable modem signal in the Cable Television network and process the initial registration. The cable modem is ready for data transfer after the LED “**Status**” is in solid green.

Note: The **RST** button at the rear panel is for maintenance purpose only.

Below shows the connection status among the cable modem and your computer.



Chapter 3: Software Installation and Configuration

USB Driver Installation

For Windows 98/98SE/Me

1. Insert the **USB Cable Modem Driver Installation CD** into the CD-ROM drive.
2. Wait for the cable modem is running in the operational state (registration O.K.). Plug the USB cable into your PC USB port. You will see the next page. Click the **Next** button.
3. Select **Search for the best drivers for your device** and click the **Next** button
4. Check **Specify a location** and browse CD-ROM. Click the **Next** button.
5. Select **The updated driver...** and click the **Next** button.
6. Click the **Next** in the Add New Hardware Wizard Window. The Copying files window opens. After 10 to 20 seconds have passed, the Add New Hardware Wizard Windows reopens.
7. Installation has been completed here. Click the **Finish** button.
8. The system will ask you to restart your computer. Click **Yes** to complete the installation.

For Windows 2000

1. Insert the **USB Cable Modem Driver Installation CD** into the CD-ROM drive.
2. Wait for the cable modem is running in the operational state (registration O.K.). Plug the USB cable into your PC USB port. You will see the next page.
3. Click **Next** in the Found New Hardware Wizard window.
4. Select **Search for a suitable driver for my device (recommended)** in the Found New Hardware Wizard window, and then click **Next**.
5. Select **CD-ROM drives** in the Found New Hardware Wizard window, and then click **Next**.
6. Click **Next** in the Found New Hardware Wizard window. The system searches for the driver file for your hardware device.
7. After the system finds the USB driver, the Digital Signature Not Found window opens displaying a confirmation message to continue the installation.
8. Click **Yes** to continue the installation. The Found New Hardware Wizard window reopens with a message that the installation is complete.
9. Click **Finish** to close the Found New Hardware Wizard window. The USB drivers are installed on your PC and your USB devices are ready for use.

For Windows XP

1. Insert the **USB Cable Modem Driver Installation CD** into the CD-ROM drive.
2. Wait for the cable modem is running in the operational state (registration O.K.). Plug the USB cable into your PC USB port.
3. Select **Install from a list or specific location (Advanced)** in the Found New Hardware Wizard window, and then click **Next**.
4. Select **Search removable media (floppy, CD-ROM)** in the Found New Hardware Wizard window, and then click **Next**.
5. Click **Continue Anyway** in the Hardware Installation window to continue the installation. The Found New Hardware Wizard window reopens with a message that the installation has finished.
6. Click **Finish** to close the Found New Hardware Wizard window. The USB drivers are installed on your PC and your USB devices are ready for use.

Uninstall USB Driver

For Windows 98/98SE/ME

1. Click “Start” button on your computer’s taskbar, point to “Settings”, and then click “Control Panel”.
2. Select **Add/Remove Programs**.
3. On the **Install/Uninstall** tab, select **USB Cable Modem Adapter** from the list box. Click the **Add/Remove** button.
4. A confirmation dialog appears. Click **Yes**.
5. A dialog box appears to ask you unplug USB cable, please unplug the cable and click **OK**.

For Windows 2000/XP

1. Click on the **Start** menu, point to **Settings** and click on **Control Panel**.
2. Select **Add/Remove Programs**.
3. Select **USB Cable Modem Adapter** from the list box.
4. Click the **Change/Remove** button.
5. Click **Yes** button.
6. A dialog box appears to ask you unplug USB cable, please unplug the cable and click **OK**.

Setting TCP/IP on Client PC

After you successfully complete the network interface card (Ethernet card) installation task, you need to make sure the TCP/IP communications protocol used by the Ethernet card is installed and correctly configured on your system.

For Windows 98/98SE/Me

1. Click on the **Start** menu, point to **Settings** and click on **Control Panel**.
2. The Control Panel window will show up. Double-click the “Network” icon in the Control Panel window.
3. Windows will appear the Network dialog box. Click “Configuration” tab to bring it to the front, and on this tab, a list of installed network components appears. Look for an entry that includes TCP/IP-> followed by the Ethernet card installed in your computer.
4. The Select Network Component Type dialog box will show up. Click ”Protocol”, and then click ”Add”.
5. You will see the Select Network Protocol dialog box. Click “Microsoft” in the “Manufactures:” list, and then click “TCP/IP” in the “Network Protocols:” list. Click “OK”.
6. You will be directed back to the Network dialog box, and on the “Configuration” tab, the entry that includes TCP/IP -> followed by the Ethernet card installed in your computer will appear in the list of installed network components.
7. Click TCP/IP -> followed by the Ethernet card installed in your computer, and then click ”Properties”. The TCP/IP Properties dialog box will appear.
8. In the TCP/IP Properties dialog box, please follow the directions below: Click “IP Address” tab to bring it to the front, and then click “Obtain an IP address automatically” on the tab.
9. Click “Gateway” to bring it to the front. On this tab, leave the “New gateway:” blank. If there is the entry in the “Installed gateway:” list, click it and then click “Remove” to remove all installed gateways.
10. Click “DNS Configuration” tabs to bring it to the front, and click “Disable DNS”, then click “OK” to close the dialog box.
11. The Copying Files dialog box will pop up and the system will start copying files from Windows. At the first

time you will be asked to insert the Windows 98 CD-ROM (or diskette) into the CD-ROM drive (or floppy diskette drive) during the files copying, and follow the instructions when they show up, then click "OK". It will prompt another Copying Files dialog box. Please type the command line that Windows 98/Me files located in the dialog box (For example, D:\win98). Click "OK" to continue the files copying.

12. Windows will appear the System Settings Change dialog box and ask you if you would like to restart your computer. Click "Yes".

For Windows 2000/XP

1. Click "Start" button on your computer's taskbar, point to "Settings", and then click "Network and Dial-up Connections".
2. The Network and Dial-up Connections window will show up. Double-click "Local Area Connection" icon in the Network and Dial-up Connections window.
3. The Local Area Connection status window will show up. Click the "Properties" button.
4. Click "Internet Protocol (TCP/IP)" and then click "Properties".
5. The Internet Protocol (TCP/IP) Properties dialog box appears. Click "Obtain an IP address automatically". Click "Obtain DNS server address automatically". Click "OK" to close the dialog box.
6. Windows will appear the System Settings Change dialog box and ask you if you would like to restart your computer. Click "Yes".

DHCP Server

PC connected to the cable modem can automatically get a private IP address from the DHCP server of cable modem before cable modem is on line. The following steps will show you how to get an IP address from DHCP server of cable modem before cable modem is on line.

For Windows 98/98SE/Me

1. Click "Start", point to "Run", and click to open the "Run" windows.
2. Enter "winipcfg" in the "Open" field. Click "OK" to execute the winipcfg and show the "IP Configuration" window.
3. Select the "Ethernet adapter" to show the IP address. Press "Release" and "Renew" if the PC is not accessing the Internet. After the cable modem is on line, you need to press the "Release" and "Renew" to get a new IP address from your ISP's server.

For Windows 2000/XP

1. Click "Start", point to "Run", and click to open the "Run" windows.
2. The Run dialog box appears. Type "cmd" in the "Open" field, and then click "OK" to execute the command.
3. You will enter the dos mode, type "ipconfig", press "Enter" on your keyboard, and you will see the IP address your computer get from the cable modem.
4. If PC is not access Internet, type "ipconfig /release", and press "Enter" on your keyboard to release the IP.
5. Type "ipconfig /renew", and press "Enter" on your keyboard to renew the IP. You can repeat the steps until your computer gets the correct IP.

For Apple Macintosh

1. Click "Apple menu", point to "Control Panels", and click "TCP/IP" to open the "TCP/IP" window.

2. If the iMac gets an invalid IP, select “Using DHCP Server” in “Configure” field. Click the “Close box” at the upper left corner to close the “TCP/IP” window.
3. Click the “Save” in the prompted message box.
4. You need to wait about 2 minutes and open “TCP/IP” window to see the new TCP/IP status.

Renew PC IP Address

There is a chance that your PC does not renew its IP address after cable modem is on line and the PC cannot access the Internet. Please follow the procedures below to renew PC's IP address after the cable modem is on line.

1. Click “Start“, point to “Run“, and click to open the “Run“ windows.
2. Enter winipcfg in the “Open“ field. Click “OK“ to execute the winipcfg and show the “IP Configuration“ window.
3. Select the “Ethernet adapter“ to show the IP address. Press “Release“ and “Renew“ to get a new IP address from your ISP's server.
4. Select the “OK“ to close the IP Configuration window.

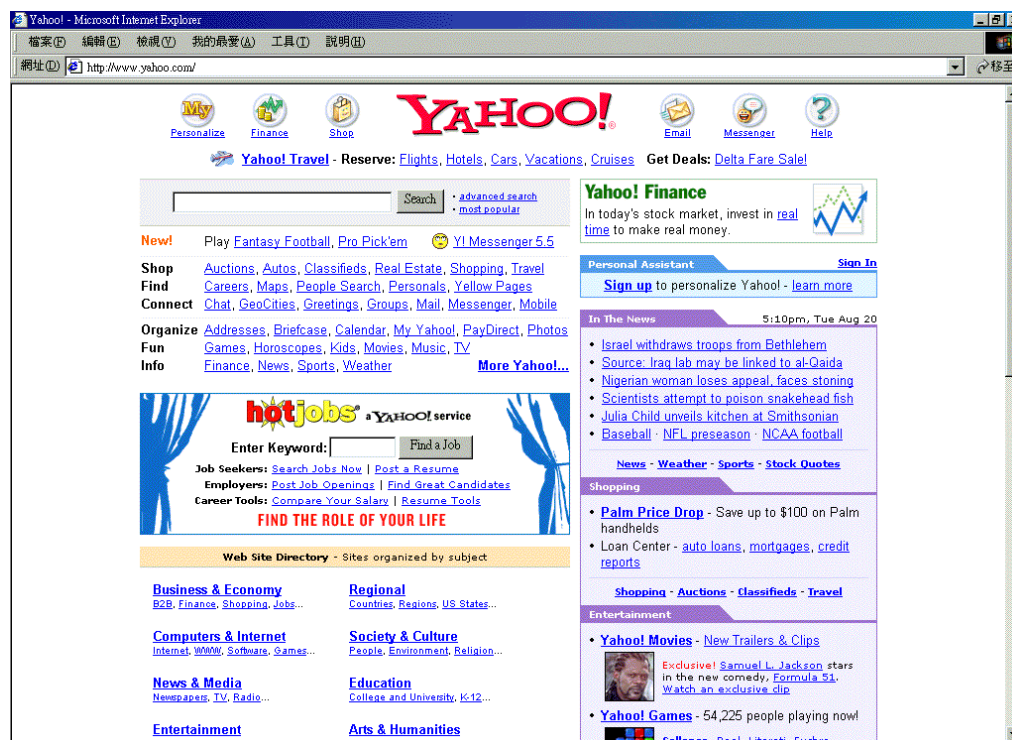
Chapter 4: Access Internet through Cable Modem

For making sure that you can get into Internet successfully, please make sure the following first.

1. Make sure the connection (through Ethernet or USB) between the cable modem and your computer is OK.
2. Make sure the TCP/IP protocol is set properly.
3. Subscribe to Cable Television Company.

Accessing Internet

When you are sure all above is Ok, you can open the Browser (such as I.E.) to open the homepage for the browser. See the following example.



Chapter 5: Troubleshooting

If the suggested solutions in this section do not resolve your issue, contact your system administrator or Internet service provider.

Can I use the same cable line for TV and cable modem?

- A. Yes, the TV and cable modem uses the cable line. You need a splitter to use them at the same time. Ask Cable Company to install the splitter for you to avoid signal degradation.

My cable modem cannot get a solid green light on the Status LED when I connect the cable back.

- A. The cable modem lost the signal during the disconnection period and it will keep scanning other available signal. When you connect the cable back, it might take a while to find the correct channel. You can power cycle the modem to speed up the process since the modem will remember the channel last time and it will start from that channel at startup.

Which port of the Ethernet hub should I connect to the modem if I need to connect multiple PC to the modem?

- A. You should connect the modem to the up-link port of the hub. The link LED of the hub will be on.

How do I see my IP address?

- A. If you are using Windows 95/98(SE)/ME, the winipcfg command will show you the IP address of the PC connected to the cable modem. Notice that even though you seem to get the same address all the time, it may still be a dynamic address.

Can I just connect the cable modem and two computers to a hub?

- A. Yes. You need to make sure you can get two IP addresses from your cable modem service provider. Connect the modem to any port of the hub.

I have a cable modem. How can I make it work?

- A. Basically, the modem is plug and play. You can just connect the modem and you are ready to go if you have the subscription. To ensure good signal for your cable modem, you should ask your cable provider to install the cable modem for you.

Can I switch between a notebook and PC using the same cable modem? Will there be a problem to obtain a DHCP IP address?

- A. This issue depends on how your cable modem service provider manages the modems. If you are using one of the cable modem service providers that register your PC based on the MAC address of the Ethernet card in the PC, then you will have to call them and have them change that entry every time you switch between the two. Ask them if you have a problem on this issue.