

DWG855

digital | **BROADBAND**
EMTA GATEWAY

THOMSON

Important Information

CAUTION

Disconnect power before servicing.

CAUTION

This device is intended for indoor operation only. Telephone jacks Line 1 and Line 2 must not be connected to outside wiring.

CAUTION

To ensure reliable operation and to prevent overheating, provide adequate ventilation for this modem and keep it away from heat sources. Do not locate near heat registers or other heat-producing equipment. Provide for free air flow around the EMTA Gateway and its power supply.

CABLE INSTALLER:

This reminder is provided to call your attention to Article 820-40 of the National Electrical Code (Section 54 of the Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

PacketCable and DOCSIS compliant

This product was designed according to Data over Cable Service Interface Specifications and PacketCable Voice Over IP Cable Telephony Specifications.

It will operate on any DOCSIS-compliant Hybrid Fiber Coax (HFC) cable system and offers DOCSIS and PacketCable Baseline Privacy to promote secure internet transactions and PC-secure telephone service.

Operating Information

Operating Temperature: 0° - 40° C (32° - 104° F)

Storage Temperature:-30° to 65° C

If you purchased this product at a retail outlet, please read the following:

Product Registration

Please fill out the product registration card (packed separately) and return it immediately, or register on-line at rca.com. Registering allows us to contact you if needed.

Product Information

Keep your sales receipt to obtain warranty parts and service and for proof of purchase. Attach it

here and record the serial and model numbers in case you need them. The numbers are located on the back of the product.

Model No. _____Serial No _____

Purchase Date: _____Dealer/Address/Phone: _____

Important Information

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Chapter 1: Connections and Setup

Introduction

EMTA Gateway Features

- CableLabs DOCSIS 1.0/1.1/2.0, CableHome 1.1 and PacketCable 1.0/1.1 (upgradeable to PC1.5) Standard Compliant
- Integrated battery backup for telephony
- Support Multiple Provisioning Modes.
- Support PacketCable NCS 1.0 MGCP1.0 (Media Gateway Control Protocol)
- Support PacketCable Multimedia specifications
- 4 Standard RJ-45 connector for 10/100BaseT Ethernet with auto-negotiation and MDIS functions
- USB Connector for USB interface
- IEEE802.11g Wireless Access Point
- Two RJ-11 Foreign Exchange Station (FXS) ports for IP telephony (with CO over-voltage protection, unit to be undamaged when plugged in local LEC RJ-11)
- Support simultaneous voice and data communications
- Two simultaneous voice conversations in the different FXS ports with different CODEC: PCM A-law, PCM μ -law, G.729, G.729a, G.729e, and G.728
- Echo Cancellation
- Voice Active Detection (VAD)
- DTMF detection and generation
- Comfort Noise Generation (CNG)
- Support V.90 fax and modem services
- Transparent bridging for IP traffic
- RSA and 56 bit DES data encryption security
- Support VPN end point
- Multicast pass-through with MIBs to enable/disable multicast pass through feature
- SNMP network management support
- Remote operating firmware downloading
- Support Web pages and private DHCP server for status monitoring

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- Telnet debug of voice call flows
- Clear LED display
- Plug and Play
- Support for UpnP QoS and UPnP MIBS

What's on the CD-ROM

Insert the RCA Digital Cable Modem CD-ROM into your CD-ROM drive to view troubleshooting tips, the internal diagnostics, and other valuable information.

Note: You will need to use the CD-ROM to install the USB driver if you are connecting via the USB port.

CD-ROM Contents:

- Links to RCA web sites
- Electronic file of the instruction book in additional languages
- Usage and troubleshooting tips

Accessing the Diagnostics Display through the CD-ROM

A button on the CD-ROM menu called “Look at Diagnostics” (found under the “About My Digital Cable Modem” menu) launches your browser and displays status and diagnostic information stored within the modem in HTML format.

Your PC must receive an IP address assignment from the Cable Company's server, over the cable network. You may want to “bookmark” the IP address in your browser after the diagnostics page is displayed.

DOCSIS and PacketCable are trademarks of Cable Television Laboratories, Inc.

Chapter 1: Connections and Setup

Computer Requirements

For the best possible performance from your Digital Cable Modem, your personal computer must meet the following minimum system requirements (note that the minimum requirements may vary by cable companies):

	IBM PC COMPATIBLE	MACINTOSH**
CPU	Pentium preferred	PowerPC or higher
System RAM	16MB (32MB preferred)	24MB (32MB preferred)
Operating System	Windows* NT/2000/Me/XP, Linux	Mac OS** 7.6.1 or higher
Available Disk Space	125MB	50MB
Sound Card	Required for audio on CD-ROM	N/A
Video	VGA or better (SVGA preferred)	VGA or better (SVGA built-in preferred)
CD-ROM Drive	Required	Required
Ethernet	10BaseT or 100BaseT An Ethernet card makes it possible for your computer to pass data to and from the internet. You must have an Ethernet card and software drivers installed in your computer. You will also need a standard Ethernet cable to connect the Ethernet card to your EMTA Gateway.	10BaseT or 100BaseT
USB Port	USB (Windows 2000/ME/XP only) The Universal Serial Bus is a high speed bus that enables your computer to communicate simultaneously with a variety of peripherals. However, if you have other peripherals that send and receive a lot of information, such as speakers, printers or scanners, we recommend using an Ethernet card to support this modem.	

*Windows is a trademark of Microsoft Corporation.

**Macintosh and the Mac OS are trademarks of Apple Computer, Inc.

Setting the Modem in the Stand

Once you have the rubber pads attached to the bottom of the stand, place the EMTA Gateway upright in the stand, making sure to line up the notch of the stand with the groove on the bottom of the modem.

Illustrations contained in this document are for representation only.

Chapter 1: Connections and Setup

Wall Mounting

The number of the screw: 2 pcs

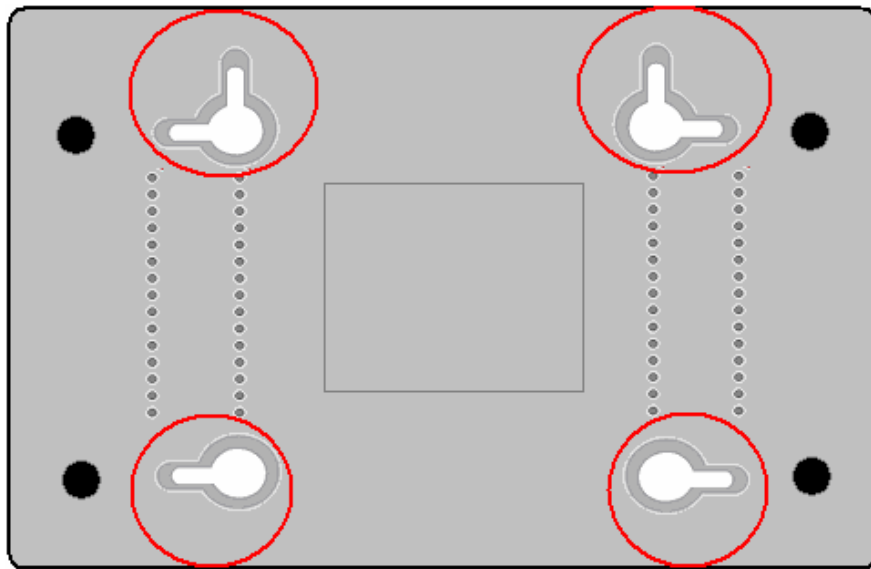
Direction for wall mounting: LED panel upward.

Dimension for the screw: TBD

There are 4 slots on the underside of the EMTA that can be used for wall mounting.

Note: When wall mounting the unit, ensure that it is within reach of the power outlet.

You will need 2 suitable screws which screw diameter would be 4.4 mm to wall mount the Cable Modem or the Battery Pack. Two different wall mount directions could be chosen for the Battery Pack.



To do this:

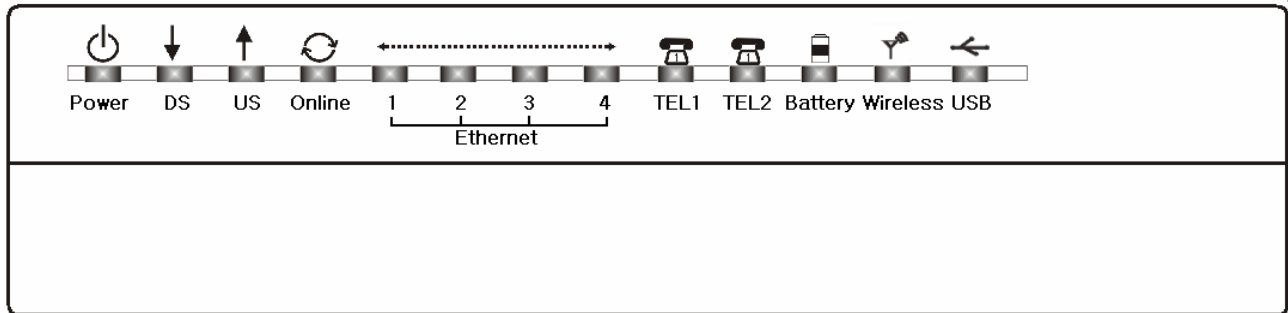
1. Ensure that the wall you use is smooth, flat, dry and sturdy and use the 4 screw holes which are 101.6 mm apart from each other.
2. Fix the screws into wall, leaving their heads 3 mm (0.12 inch) clear of the wall surface.
3. Remove any connections to the unit and locate it over the screw heads. When in line, gently push the unit on to the wall and move it downwards to secure.

Chapter 1: Connections and Setup

EMTA Gateway Overview

Front Panel

The following illustration shows the front panel of the EMTA machine:



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

	Power	Internet			Ethernet				Tel 1	Tel 2	Battery	Wireless	USB	Description
		DS	US	Online	1	2	3	4						
Boot-up Operation	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	X	ON	ON	Power on 0.25 sec
	ON	0.25 second												
	ON	FLASH	FLASH	FLASH	X	X	X	X	X	X	X	X	X	From power ON to system initialization complete
	ON	ON	ON	ON	X	X	X	X	X	X	X	X	X	Following system initialization complete to (before) DS scanning
1 second														
DOCSIS Start-up Operation	ON	FLASH	OFF	OFF	X	X	X	X	X	X	X	X	X	During DS scanning and acquiring SYNC
	ON	ON	FLASH	OFF	X	X	X	X	X	X	X	X	X	From SYNC completed, receiving UCD to ranging completed
	ON	ON	ON	FLASH	X	X	X	X	X	X	X	X	X	During DHCP, configuration file download, registration, and Baseline Privacy initialization
	ON	ON	ON	ON	X	X	X	X	X	X	X	X	X	Operational (NACO=ON)
	ON	FLASH	FLASH	OFF	X	X	X	X	X	X	X	X	X	Operational(NACO=OFF)
MTA initialization	ON	ON	ON	ON	X	X	X	X	FLASH	OFF	OFF	X	X	MTA DHCP
	ON	ON	ON	ON	X	X	X	X	OFF	FLASH	OFF	X	X	MTA SNMP/TFTP
	ON	ON	ON	ON	X	X	X	X	FLASH	FLASH	OFF	X	X	RSIP
CPE Operation	ON	X	X	X	OFF ON FLASH ON	OFF ON FLASH ON	OFF ON FLASH ON	OFF ON FLASH ON	X	X	X	X	X	No Ethernet Link Ethernet Link TX/RX Ethernet Traffic Ethernet Collision
	ON	X	X	X	X	X	X	X	X	X	X	X	OFF ON FLASH ON	No USB Link USB Link TX/RX USB Traffic USB driver is not ready
	Power	Internet			Ethernet				Tel1	Tel2	Battery	Wireless	USB	Description
		DS	US	Online	1	2	3	4						
CPE	ON	X	X	X	X	X	X	X	X	X	X	OFF	X	No Wireless Link

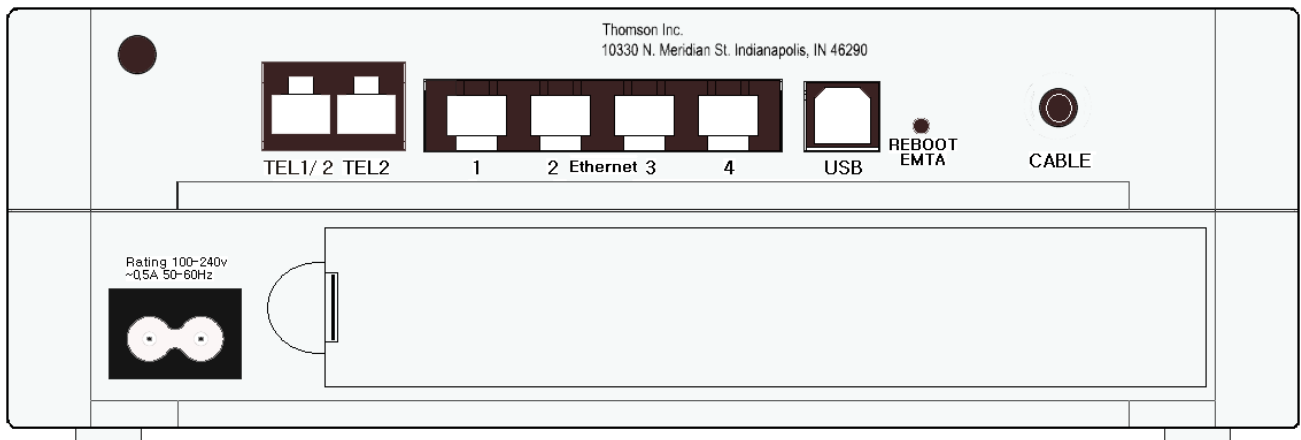
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Operation												ON FLASH ON		Wireless Link TX/RX Wireless Traffic Wireless is not installed or disable							
AC Good Battery Good	ON	<CM Normal Operation>							ON	ON	ON	<CM Normal Operation>	Both Lines On-Hook								
	ON								FLASH	ON			Tel1 Off-hook, Tel2 On-hook								
	ON								ON	FLASH			Tel1 On-hook, Tel2 Off-hook								
	ON								FLASH	FLASH			Both Lines Off-Hook								
AC Good Battery Low	ON								ON	ON	ON		ON	ON	ON	ON	ON	ON	ON	Both Lines On-Hook	
	ON								FLASH	ON	Tel1 Off-hook, Tel2 On-hook										
	ON								ON	FLASH	Tel1 On-hook, Tel2 Off-hook										
	ON								FLASH	FLASH	Both Lines Off-Hook										
AC Good Battery Bad	ON								ON	ON	ON		ON	ON	ON	ON	ON	ON	ON	Both Lines On-Hook	
	ON								FLASH	ON	Tel1 Off-hook, Tel2 On-hook										
	ON								ON	FLASH	Tel1 On-hook, Tel2 Off-hook										
	ON								FLASH	FLASH	Both Lines Off-Hook										
AC Fail Battery Good	FLASH	OFF							ON	OFF	OFF	OFF	Both Lines On-Hook								
									FLASH				Tel1 Off-hook, Tel2 On-hook								
									ON				Tel1 On-hook, Tel2 Off-hook								
									FLASH				Both Lines Off-Hook								
AC Fail Battery Low									ON		ON		ON	ON	ON	ON	ON	ON	ON	ON	Both Lines On-Hook
									FLASH		Tel1 Off-hook, Tel2 On-hook										
									ON		Tel1 On-hook, Tel2 Off-hook										
									FLASH		Both Lines Off-Hook										
AC Fail Battery Bad	< All LEDs may be unlit due to lack of battery power>									OFF	< All LEDs may be unlit due to lack of battery power>		Both Lines On-Hook								
													Tel1 Off-hook, Tel2 On-hook								
													Tel1 On-hook, Tel2 Off-hook								
													Both Lines Off-Hook								
SW Download Operation	ON	FLASH	FLASH	ON	X	X	X	X	X	X	X	X	X	A software download and while updating the FLASH memory							

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Rear Panel

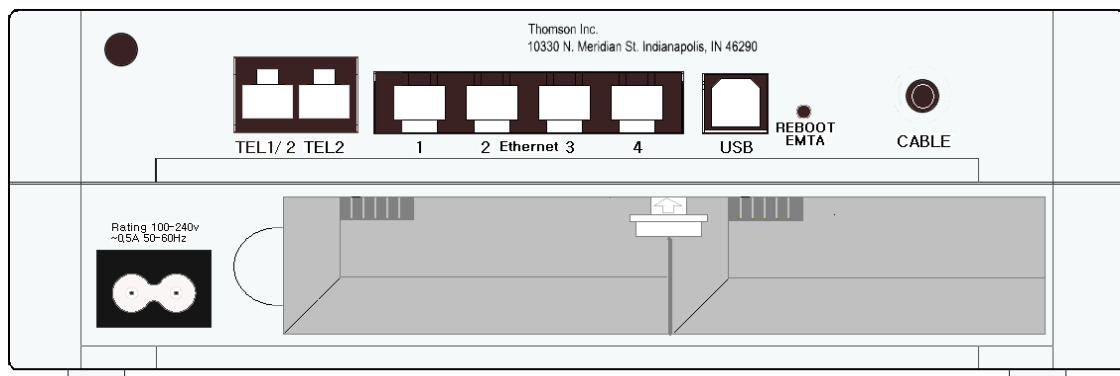


TEL1/2 & TEL2	Telephony RJ-11 connector
ETHERNET 1-4:	Ethernet 10/100BaseT RJ-45 connector
USB:	USB Connector
REBOOT EMTA:	Reboot this EMTA Gateway
CABLE:	F-Connector
Rating 100-240V:	Power connector

Installing the Battery

This section provides information on installing batteries into the modem. Follow the steps below:

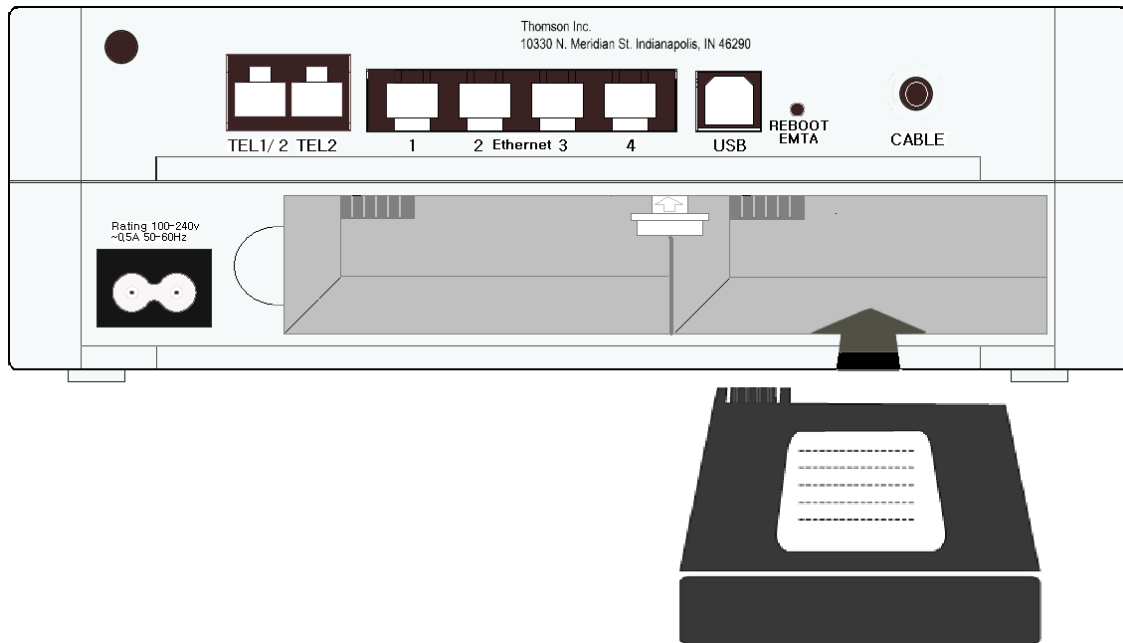
1. Ensure the power cord is unplugged.
2. Remove the battery cover on the rear panel. There are two battery compartments. You may install a single battery into either compartment.



3. Insert the battery into one of the rear battery compartments, as shown below.

Illustrations contained in this document are for representation only.

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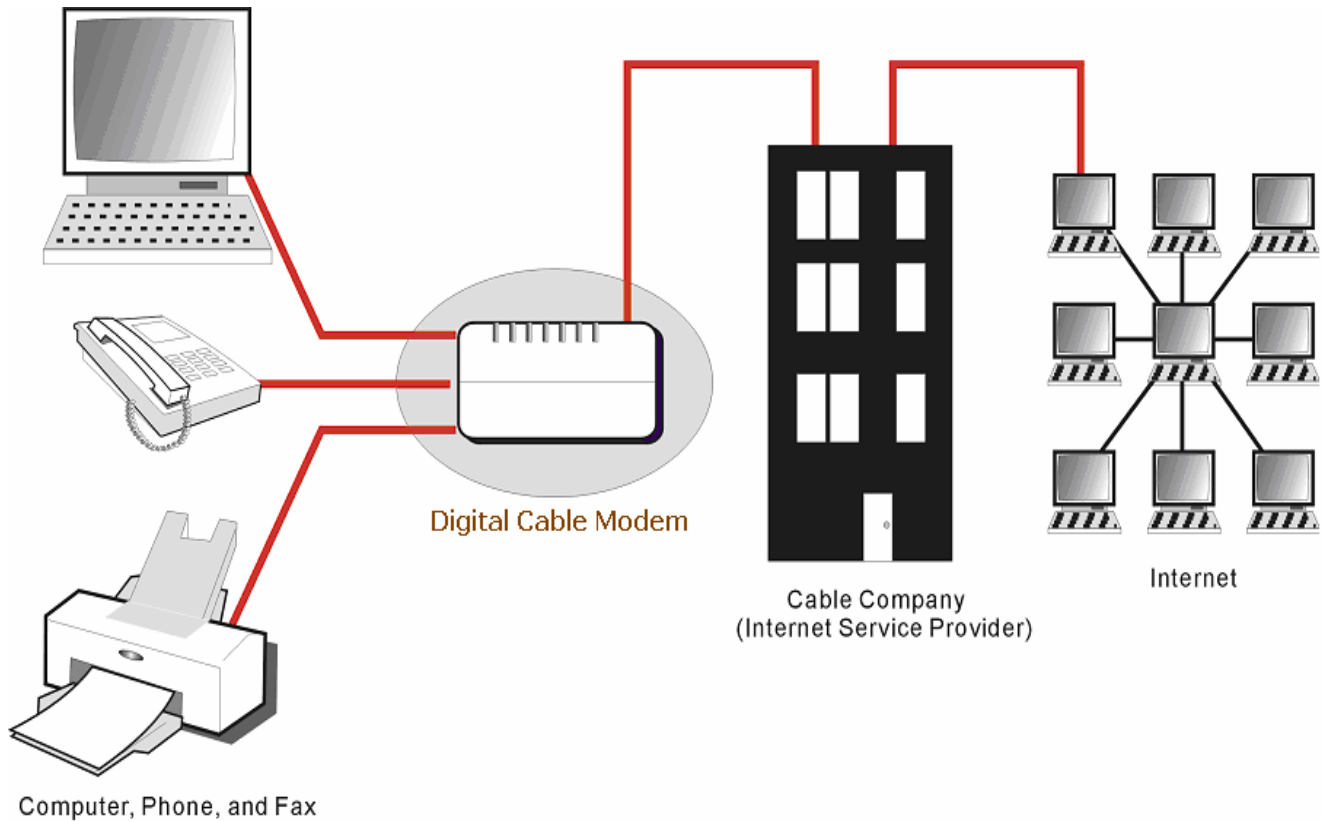
4. Re-attach the battery cover.

5. Plug the power cord into an AC-recepticle that is always ON (non-switchable). It's best to secure the plug to the wall plate using an extended wall plate screw. The battery will fully charge within 4 hours.

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Relationship among the Devices

This illustration shows a cable company that offers DOCSIS- and PacketCable-compliant voice/data services.



What the Modem Does

THOMSON DWG855 is an integrated telephony and wireless gateway that is CableLabs DOCSIS 1.0/1.1/2.0, CableHome1.1 and PacketCable 1.0/1.1 compliant product that provides high-speed Internet access as well as primary line telephony, and fax/modem services via an existing CATV infrastructure. The DWG855 is equipped with 2-RJ-11 POTS interfaces, 4-port Ethernet switch, USB, and IEEE802.11b/g Wireless interfaces. The DWG855 can inter-operate with the PacketCable compliant headend equipment and provide the IP-based voice communications.

What the Modem Needs to Do Its Job

- **The Right Cable Company:** Make sure your local cable company provides data services that use cable TV industry-standard DOCSIS-compliant and PacketCable-compliant technology.
- **The Internet/Telephony Service Provider (ISP/TSP):** Your cable company provides you access to an Internet Service Provider (ISP) and Telephony Service Provider (TSP). The ISP is your gateway to the Internet and provides you with a pipeline to access Internet content on

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the World Wide Web (WWW). The TSP provides you with telephony access to other modems or other telephony services over the Public Switched Telephone Network (PSTN).

Check with your cable company to make sure you have everything you need to begin; they'll know if you need to install special software or re-configure your computer to make your cable internet service work for you.

Contact Your Local Cable Company

You will need to contact your cable company to establish an internet account before you can use your modem. You should have the following information (which you will find on the sticker on the modem) ready:

- ☐ The serial number
- ☐ The model number of the modem
- ☐ The Digital Cable Modem (CM) Media Access Control (MAC) address
- ☐ The Media Terminal Adapter (MTA) MAC address

Record your information here:_____

Serial Number: _____

Model Number: _____

CM MAC Address: _____

MTA MAC Address: _____

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Please verify the following with the cable company

- The cable service to your home supports DOCSIS-compliant and PacketCable-compliant two-way modem access.
- Your internet account has been set up. (The Media Terminal Adapter will provide data service if the cable account is set up but no telephony service is available.)
- You have a cable outlet near your PC and it is ready for Cable Modem service.

Note: It is important to supply power to the modem at all times. Keeping your modem plugged in will keep it connected to the Internet. This means that it will always be ready whenever you need.

Important Information

Your cable company should always be consulted before installing a new cable outlet. Do not attempt any rewiring without contacting your cable company first.

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Connecting the EMTA Gateway to a Single Computer

This section of the manual explains how to connect your EMTA Gateway to the USB or Ethernet port on your computer and install the necessary software. Please refer to Figure 1 to help you connect your Digital Cable Modem for the best possible connection.

Attaching the Cable TV Wire to the EMTA Gateway

1. Locate the Cable TV wire. You may find it one of three ways:
 - a. Connected directly to a TV, a Cable TV converter box, or VCR. The line will be connected to the jack which should be labeled either IN, CABLE IN, CATV, CATV IN, etc.
 - b. Connected to a wall-mounted cable outlet.
 - c. Coming out from under a baseboard heater or other location. See Figure 1 for the wiring example.

Notes: For optimum performance, be sure to connect your EMTA Gateway to the first point the cable enters your home. The splitter must be rated for at least 1GHz.

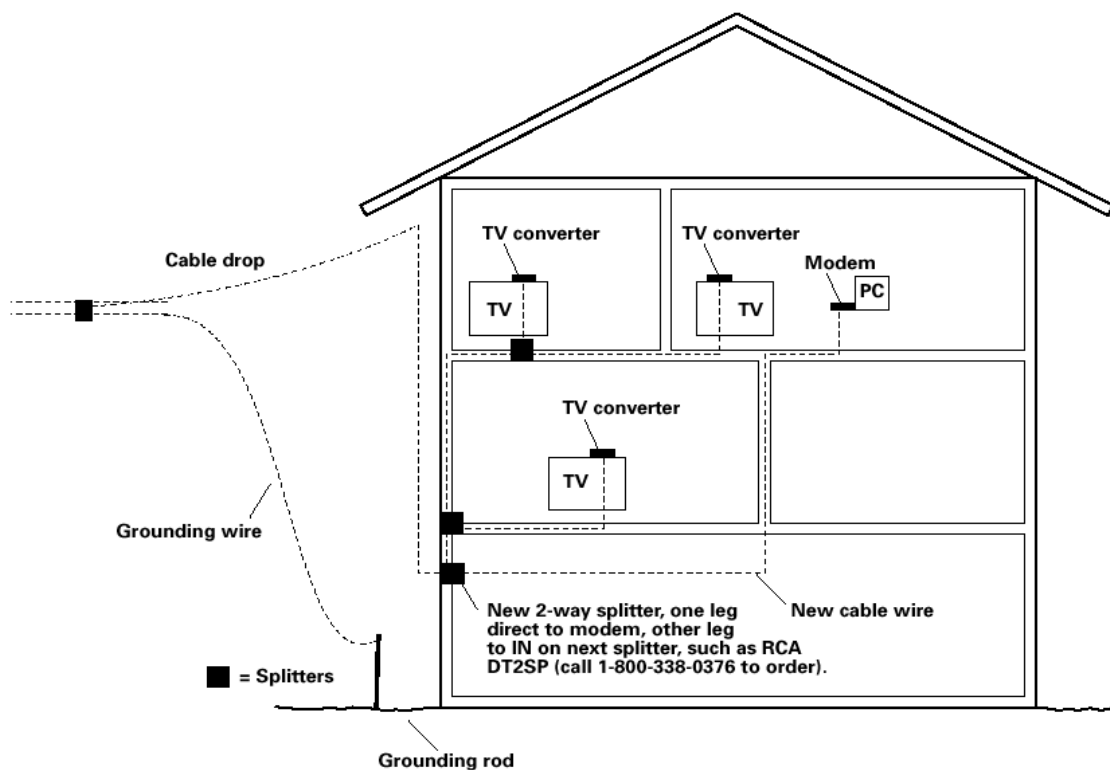


Fig. 1: Basic Home Wiring

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Important Connection Information

The EMTA Gateway supports Ethernet and USB connections simultaneously.

USB Connection to One Computer

Note: Only use the power supply provided with this unit. Using other power supplies may damage the unit.

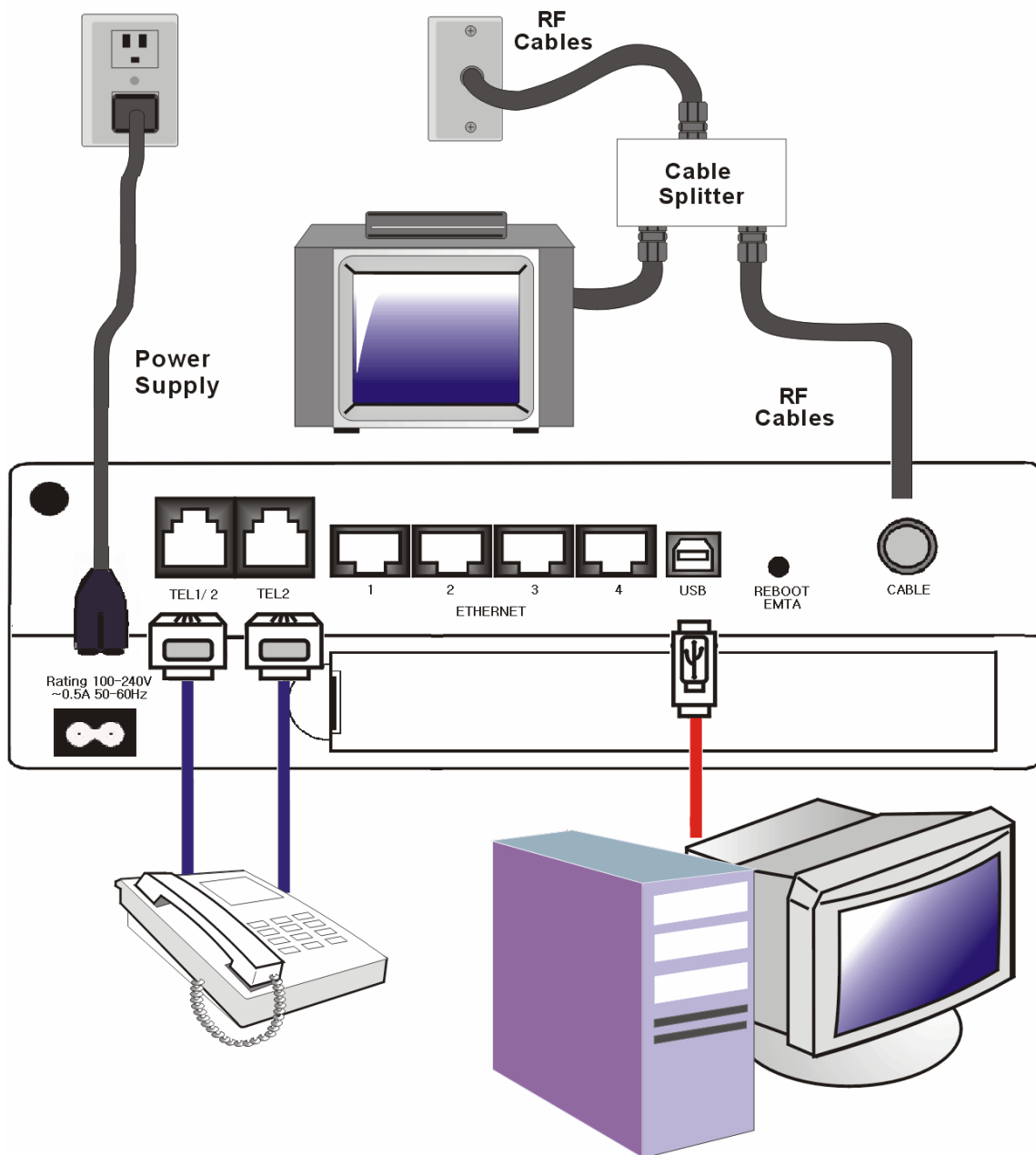


Fig. 2: USB Connection

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USB Connection - Using the Installation Wizard

If you received an Installation/Quick Start kit with the purchase of your modem, you should use the software provided in that kit. If not, the Digital Cable Modem CD included with your modem contains the drivers, Installation Wizard, and other information you need to install your EMTA Gateway. The Installation Wizard serves as your step-by-step guide to connecting and configuring your device.

1. Before you begin, close all open applications and dialog boxes as they may interfere with your EMTA Gateway installation.
2. Insert the CD into the CD-ROM drive of your computer. A menu of options appears.



3. Click "Install RCA Cable Modem." If the options menu does not automatically appear:
 - A. Go to the "Start" menu on the Windows menu bar, then click "Run."
 - B. Type the location of the CD-ROM drive followed by ":\Thomson.exe". (E.g., if your CD-ROM is located on the E: drive, type *E:\ Thomson.exe*)
 - C. Click "OK" to begin installation.
4. The Installation Wizard checks your computer to make sure you have the minimum configuration specifications required to install the EMTA Gateway.
5. The Installation Wizard prompts you to attach a coaxial cable to the connector labeled CABLE on your EMTA Gateway, and to the wall connection for your cable service.

If you're using a splitter, click on "Installing a splitter." The splitter diagram appears. When you're finished, hit the "Back" button.
6. Click "Next" to go to the next screen.
7. The Installation Wizard prompts you to attach the power supply. Use only the power supply that accompanied this unit. Using other power supplies may damage the unit.
 - A. Insert the plug from the AC power supply into the POWER AC ADAPTER jack on your EMTA Gateway.

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- B. Plug the other end of the power supply into the AC outlet.
 - C. Click “Next” when you have finished connecting the power supply.
8. The next step begins an automated installation of the USB drivers. This installation may require Windows system files that are not currently located on your hard drive. If the Installation Wizard needs those files, you will be asked to insert your Windows Operating System CD-ROM. Click “OK” to continue.
 9. Connect one end of the USB cable to the USB port on your computer. Connect the other end of the USB cable to the USB port on the EMTA Gateway.
 10. If the modem is detected, the “Windows Found New Hardware” window appears and the “Installation Complete” screen appears.

USB Connection - Without Using the Installation Wizard

If you do not want to use the CD-ROM, follow instructions 1 through 5 to connect the EMTA Gateway to the USB port on your computer. **Instructions must be followed in the order they appear.**

1. Connect one end of the coaxial cable to the cable connection in the wall, and the other end to the CABLE jack on the EMTA Gateway.
2. Connect the plug from the AC power supply into the POWER AC ADAPTER jack on the EMTA Gateway and plug the power supply into an AC outlet.
3. Insert the supplied EMTA Gateway CD-ROM. Wait momentarily for the CD window display.
4. Close **all** open applications and dialog boxes, including the CD window.

Note: Open applications may interfere with your EMTA Gateway installation.

5. Connect one end of the USB cable to the USB port located on the back of your computer. Connect the other end of the USB cable to the USB port on the EMTA Gateway.

Note: Use only the power supply that accompanied this unit. Using other power supplies may damage the unit.

Next, you need to install the USB driver for your operating system.

Using Windows 2000 for USB Connection

Follow steps 6 through 14 if you have a Windows 2000 operating system:

6. When the “Found New Hardware Wizard” appears, click “Next” to initiate the search for drivers for your USB device.

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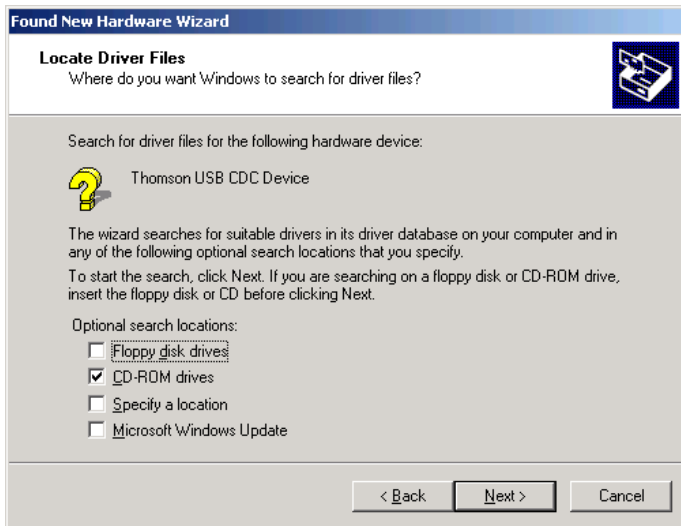
Note: If Windows 2000 does not recognize the presence of the EMTA Gateway, your BIOS settings may not permit USB and/or Plug-and-Play devices. Please contact your computer's customer service department.

7. Choose the "Search for a suitable driver for my device (recommended)" option, and click "Next".

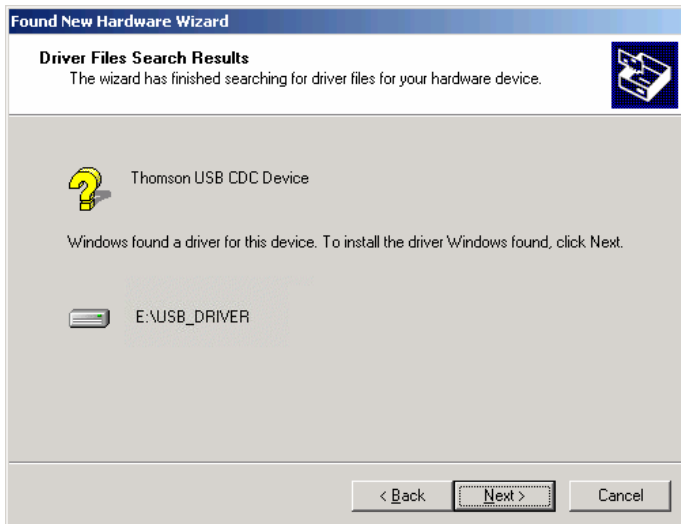


8. Choose **ONLY** the "CD-ROM drives" option and click "Next".

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9. The search should find the driver for the “Thomson USB CDC Devices”. To confirm that this is the case, click “Next” to continue and proceed to step 11. Otherwise, see step 10.



Important: Do NOT continue if the search finds “USB Composite Device” driver. Proceed to step 10.

10. Follow these instructions **ONLY** if the driver found was NOT the “Thomson USB CDC Devices.”
- A. Click “Back” to return to the previous window.
 - B. Ensure that you have selected the “CD-ROM” option.
 - C. In **addition** to the CD-ROM option, choose “Specify a location.” Click on “Next” to continue.
 - D. In the location box, type in your CD-ROM drive. For example, if your CD-ROM is located on the E: drive, type “E:\.” Click on “Ok” to continue.
 - E. Click “Next” to continue.
 - F. The search should find either “RCA or Thomson Digital Cable Modem” or “RCA or Thomson DCM 3xx Cable Modem.”
11. Windows should now prompt you to install the “Thomson USB CDC Devices”. Click “Next” to install the driver.

Illustrations contained in this document are for representation only.

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At this point your PC needs to copy Windows 2000 specific files. If these files are not located on your hard drive, you may need to insert your Windows 2000 installation media (i.e., Windows 2000 CD-ROM), but first remove the EMTA Gateway CD-ROM.

12. After the Windows specific files are copied, you may be asked for another USB driver file named “NETRCACM.SYS,” located on the EMTA Gateway CD-ROM. Remove the Windows 2000 CD-ROM (if necessary), and reinsert the EMTA Gateway CD-ROM that accompanied your EMTA Gateway.
13. Click on “Finish” to complete the process.



14. The EMTA Gateway installation is now complete. To validate a proper installation, perform the following instructions:
 - A. Click on the “Start” icon in the lower left-hand corner of your screen.
 - B. Select “Settings,” followed by “Control Panel.” The “Control Panel” window appears.
 - C. Double-click on the “System” icon, select the “Hardware” tab, and choose “Device Manager.”
 - D. Scroll down the list until you come to “Network Adapters.” Double-click on “Network Adapters.”
 - E. The “RCA Digital Cable Modem” should exist. If the “RCA or Thomson Digital Cable Modem” does not exist, the EMTA Gateway was **NOT** installed correctly. Please install again.

Using Windows Me for USB Connection

Follow steps 6 through 9 if you have a Windows Me operating system:

6. Windows Me will briefly display the “Found New Hardware Wizard,” and automatically proceed to the “Add New Hardware Wizard”.

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Choose the “Automatic search for a better driver (Recommended)” option, and click “Next.”

Note: If Windows Me does not recognize the presence of the EMTA Gateway, i.e., the “Add New Hardware Wizard” did not automatically appear, your BIOS settings may not permit USB and/or Plug-and-Play devices. Please contact your computer’s customer service department.

7. The automatic search should find and install the driver for the “RCA or Thomson Digital Cable Modem”. Click on “Finish” to complete the process.



8. When the “System Settings Change” window appears, click “Yes” to restart your computer.



9. The Thomson Digital Cable Modem installation is now complete. To validate a proper installation, perform the following instructions:
 - A. Click on the “Start” icon in the lower left-hand corner of your screen.
 - B. Select “Settings,” followed by “Control Panel.” The “Control Panel” window will appear.
 - C. Double-click on the “System” icon, and select the “Device Manager.”
 - D. Scroll down the list until you come to “Network Adapters.” Double-click on “Network Adapters.”
 - E. The “RCA or Thomson Digital Cable Modem” should exist. If “RCA or Thomson Digital Cable Modem” does not exist, the Digital Cable Modem was **NOT** installed correctly.

Using Windows XP for USB Connection

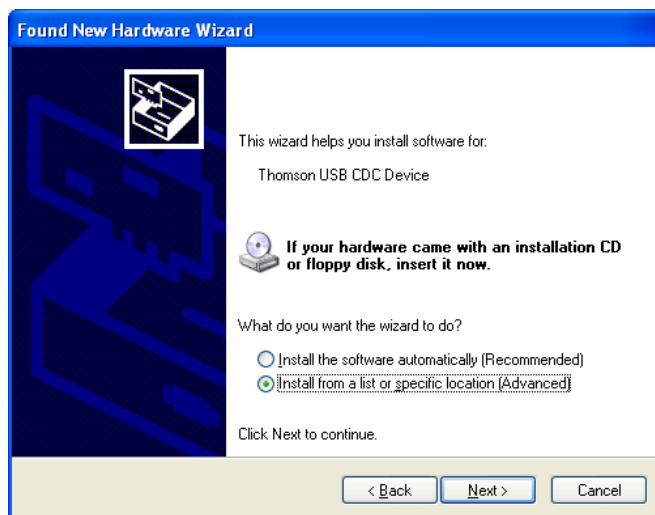
Follow steps 6 through 9 if you have a Windows XP operating system:

6. Windows XP will display the “Welcome to the Found New Hardware Wizard,” and ask whether you would like the Windows to connect to Windows Update to search for software, Choose “No, not this time” and click “Next”.

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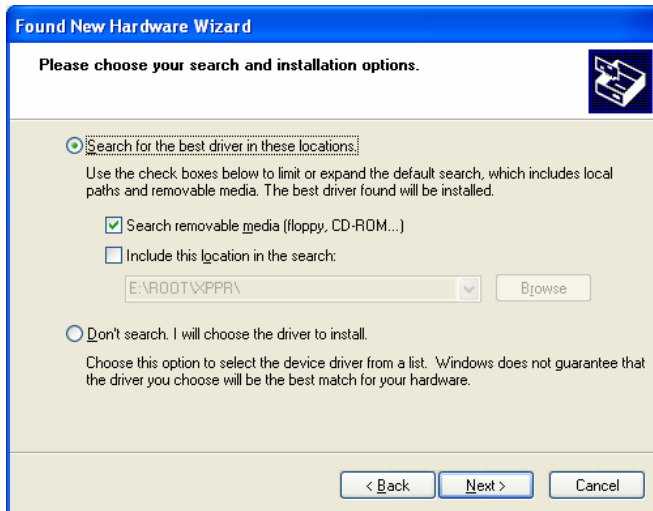
7. The “Found New Hardware Wizard” will then display the device name and ask you to insert the installation CD-ROM that came with the unit. Choose the “Install from a list or specific location (Advanced)” option, and click “Next.”



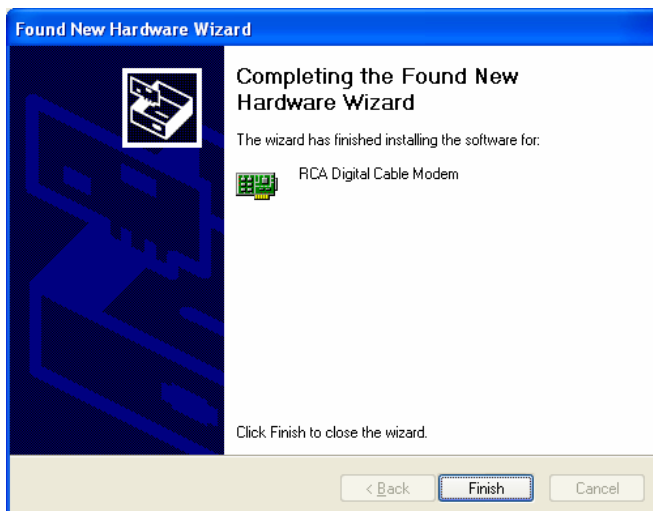
Note: If Windows XP does not recognize the presence of the EMTA Gateway, i.e., the “Welcome to the New Hardware Wizard” did not automatically appear, your BIOS settings may not permit USB and/or Plug-and-Play devices. Please contact your computer’s customer service department.

8. Select “Search Removable Media (floppy, CD-ROM...)” and click on “Next”, then your computer will install the drivers for the “RCA or Thomson Digital Cable Modem”.

Chapter 1: Connections and Setup



9. When the “Completing the Found New Hardware Wizard” window appears, click “Finish” to complete the process.



10. The EMTA Gateway installation is now complete. To validate a proper installation, perform the following instructions:
- Click on the “Start” icon in the lower left-hand corner of your screen.
 - Select “Settings,” followed by “Control Panel.” The “Control Panel” window will appear.
 - Double-click on the “System” icon, and select the “Device Manager.”
 - Scroll down the list until you come to “Network Adapters.” Double-click on “Network Adapters.”
 - The “RCA or Thomson Digital Cable Modem” should exist. If “RCA or Thomson Digital Cable Modem” does not exist, the EMTA Gateway was **NOT** installed correctly.

Below are important points to remember before you connect the EMTA Gateway:

- For Ethernet connections, go to page 23.

Illustrations contained in this document are for representation only.

Chapter 1: Connections and Setup

- For telephone and fax connections, go to page 25.

Chapter 1: Connections and Setup

Ethernet Connection to One Computer

Make the connections to the modem in the following sequence:

1. Connect one end of the coaxial cable to the cable connection in the wall, and the other end to the CABLE jack on the EMTA Gateway.
2. Connect the plug from the AC power supply into the POWER AC ADAPTER jack on the EMTA Gateway, and plug the power supply into an AC outlet.

Note: Use only the power supply that accompanied this unit. Using other adapters may damage the unit.

3. Connect one end of the Ethernet cable (straight-wired, see below) to the Ethernet port on the back of your computer, and the other end to one of the ETHERNET port on the EMTA Gateway.

Make sure that the Ethernet cable is straight-wired (not “null” or crossover-wired). However, you will need a crossover-type cable if you are connecting the modem to a hub, or a hub within a port switch that provides the same function.

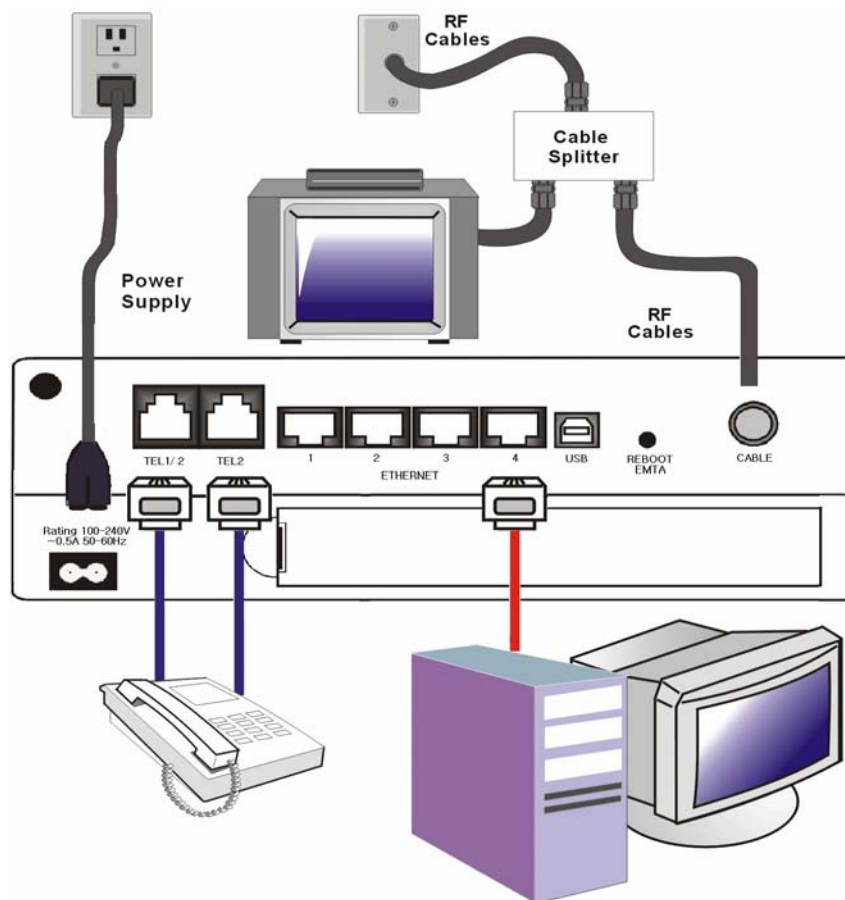


Fig.3: Ethernet Connection

Connecting More Than Two Computers to the EMTA Gateway

If you need to connect more than two computers or if you need to connect two computers, but
Illustrations contained in this document are for representation only.

Chapter 1: Connections and Setup

USB is not available, you'll need the following additional equipment:

- Crossover-wired, or "null," category 5 Ethernet cable for the EMTA Gateway to be connected to the hub
- 10BaseT or 100BaseT Hub or Switch
- Straight through, or standard, category 5 Ethernet cable (one for each computer to be connected)

If you have a hub with an uplink port*, a straight through cable can be used in combination with that port in lieu of the crossover cable.

*An uplink port has a small switch on it to change the polarity of the connection. It can accept either a crossover or a straight cable, depending on the setting.

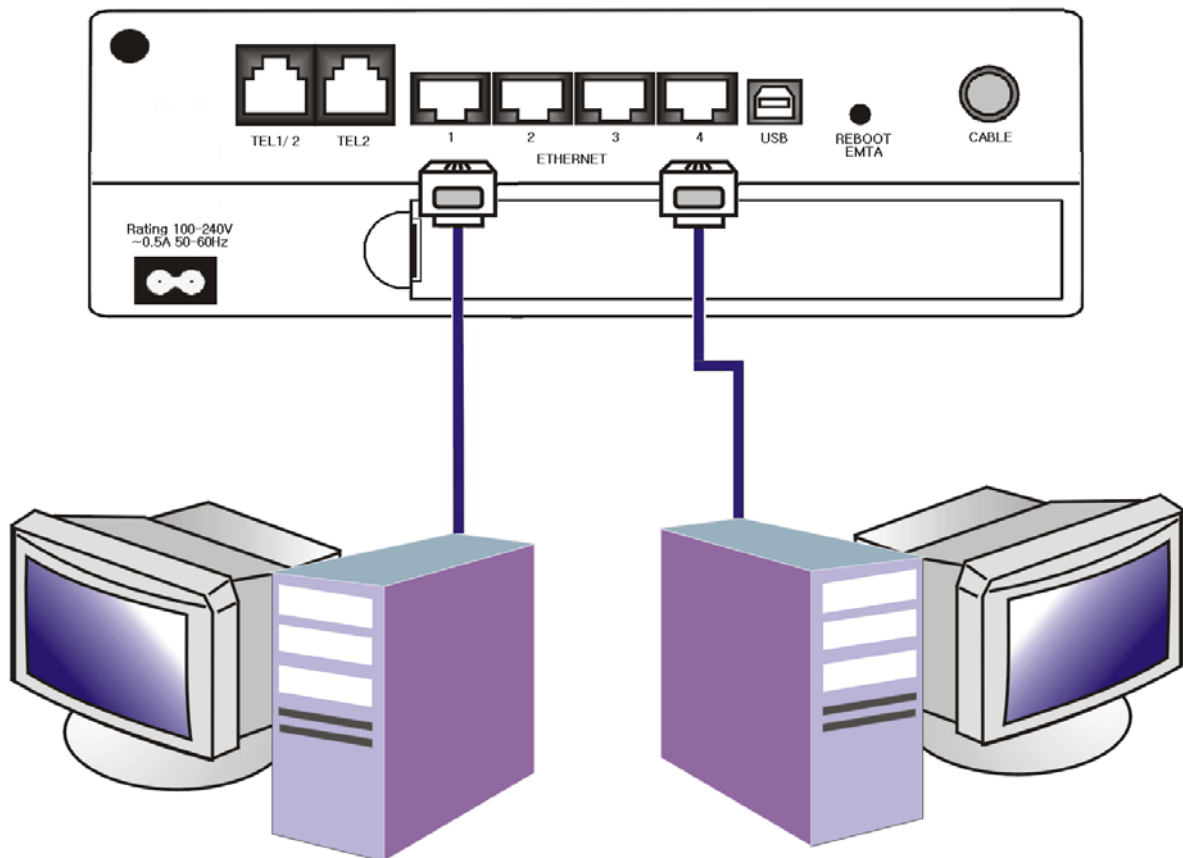


Fig.4: Ethernet Hub Connection

Note: You may need to check with your service provider in order to connect multiple computers.

Telephone or Fax Connection

When properly connected, most telephony devices can be used with the EMTA Gateway just as with conventional telephone service. To make a normal telephone call, pick up the handset; listen for a dial tone, then dial the desired number. For services such as call waiting, use the hook

Chapter 1: Connections and Setup

switch (or FLASH button) to change calls. The following procedures describe some of the possible connection schemes for using telephony devices with the EMTA Gateway.

1. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to one of the LINE jacks on the EMTA Gateway.
2. If there is a phone line in your home which is NOT connected to another telephone service provider, connect a standard phone line cord from a jack on this line to one of the LINE jacks of the EMTA Gateway. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to one of the other jacks in the house that uses that line.
3. If you have a multi-line telephone, connect a standard phone line cord (not an RJ-14 type line cord) from the phone to the LINE jacks on the EMTA Gateway. (Other phones can be added to each line by using standard phone line splitters.)

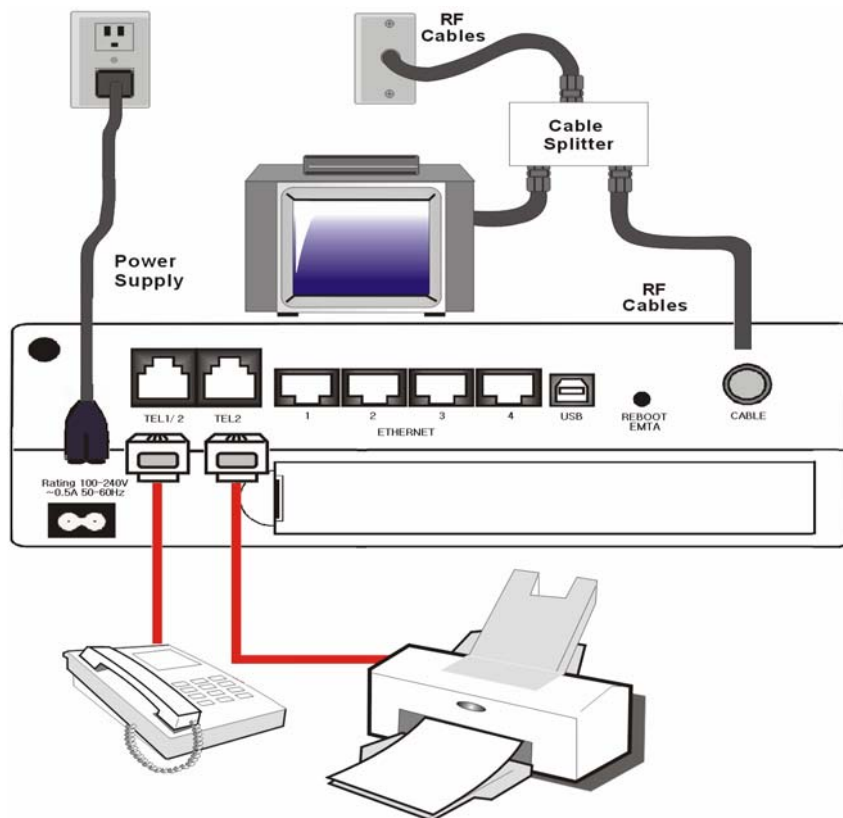


Fig. 5: Phone/Fax Connection

Chapter 1: Connections and Setup

Activating the EMTA Gateway

After you install the EMTA Gateway and turn it on for the first time (and each time the modem is reconnected to the power), it goes through several steps before it can be used. Each of these steps is represented by a different pattern of flashing lights on the front of the modem.

Note: All indicators flash once before the initialization sequence.

If all of the lights are flashing sequentially, it means the EMTA Gateway is automatically updating its system software. Please wait for the lights to stop flashing. You cannot use your modem during this time. Do not remove the power supply or reset the EMTA Gateway during this process.

Chapter 2: Web Configuration

To make sure that you can access the Internet successfully, please check the following first.

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

Accessing the Internet

Once your host PC is properly configured, please proceed as follows:

1. Start your web browser and type the private IP address of the EMTA Gateway on the URL field: **192.168.0.1**.
2. After connecting to the device, you will be prompted to enter username and password. By default, the username is **cablelabs** and the password is **admin**.



If you login successfully, the main page will appear. From now on this EMTA Gateway acts as a web server sending HTML pages/forms on your request. You can configure the settings on the webpage and apply them to the device.

Outline of Web Manager

The main screen will be shown as below.

Illustrations contained in this document are for representation only.

Chapter 2: Web Configuration

The screenshot displays the Thomson web management interface. At the top, a red header bar contains the tabs 'Status' (highlighted in yellow) and 'Wireless'. On the left, a blue sidebar features the Thomson logo and a menu with buttons for 'Software' (highlighted in yellow), 'Connection', 'Security', and 'Diagnostics'. The main content area is titled 'Status' and includes a 'Software' section with the text: 'This page displays information on the current system software.' Below this, there are two tables. The first table, titled 'Information', lists system details. The second table, titled 'Status', shows operational metrics.

Information	
Standard Specification Compliant	DOCSIS 2.0
Hardware Version	1.0
Software Version	ST78.01.00
Cable Modem MAC Address	00:10:95:de:ad:01
Cable Modem Serial Number	
CM certificate	Not Installed

Status	
System Up Time	0 days 00h:01m:35s
Network Access	Denied
Cable Modem IP Address	0.0.0.0

Title: It indicates the title of this management interface.

Main Menu: It includes Status and Wireless.

Main Window: It is the current workspace of the web management, containing configuration or status information.

Chapter 2: Web Configuration

Status

Software

This page shows the software and hardware information and the status of the EMTA Gateway.

Status

Wireless

**THOMSON**

Software

Connection

Security

Diagnostics

Status

Software

This page displays information on the current system software.

Information

Standard Specification Compliant	DOCSIS 2.0
Hardware Version	1.0
Software Version	ST78.01.00
Cable Modem MAC Address	00:10:95:de:ad:01
Cable Modem Serial Number	
CM certificate	Installed

Status

System Up Time	0 days 00h:01m:35s
Network Access	Denied
Cable Modem IP Address	0.0.0.0

Connection

This page shows current connection status containing startup procedures, downstream status, upstream status, CM online information, and so on.

Status

Wireless

**THOMSON**

Software

Connection

Security

Diagnostics

Status

Connection

This page displays information on the status of the cable modem's HFC and IP network connectivity.

Startup Procedure

Procedure	Status	Comment
Acquire Downstream Channel	In Progress	
Connectivity State	In Progress	Not Synchronized
Boot State	In Progress	Unknown
Configuration File		
Security	Disabled	Disabled

Downstream Channel

Lock Status	Not Locked	Modulation	unknown
Channel ID	0	Symbol rate	Unknown
Downstream Frequency		Downstream Power	12.0 dBmV
SNR	23.0 dB		

Upstream Channel

Lock Status	Not Locked	Modulation	QPSK
Channel ID	0	Symbol rate	0 Ksym/sec
Upstream Frequency		Upstream Power	8.3 dBmV

CM IP Address

Duration	Expires
D: -- H: -- M: -- S: --	

Current System Time: --:--:--

Security

This page allows you to change the user name and password for accessing this web page.

Chapter 2: Web Configuration

StatusWireless

THOMSON

Software

Connection

Security

Diagnostics

Status

Security

This page allows configuration of administration access privileges and the ability to restore factory defaults to the system.

Password Change User ID

New Password

Re-Enter New Password

Current User ID Password

Restore Factory Defaults ☐ Yes ☒ No

Apply

- Password Change User ID: Key in the user ID in this field.
- New Password: Enter the new password in this box.
- Re-Enter New Password: Enter the new password again for confirmation.
- Current User ID Password: Key in the original password.
- Restore Factory Defaults: If you want to restore the factory settings, click **Yes** and **Apply**. If not, click **No** and **Apply**.

Diagnostics

This page offers basic diagnostic tools for you to utilize when connectivity problems occur. You may use the ping diagnostics or traceroute, just enter the information needed and press **Start Test**; the Result will be displayed in the lower part of the window. Press **Abort Test** to stop, and **Clear Results** to clear the result contents.

StatusWireless

THOMSON

Software

Connection

Security

Diagnostics

Status

Diagnostics

This page provides ping diagnostics (LAN) and traceroute (WAN) to help with IP connectivity problems.

Utility Ping

Ping Test Parameters

Target 19216801

Ping Size 64 bytes

No. of Pings 3

Ping Interval 1000 ms

Start Test

Abort Test

Clear Results

Results

Waiting for input...

Wireless

Basic

To set the basic configuration for the wireless features, click **Basic** from the **Wireless** menu.

Chapter 2: Web Configuration

Wireless Mac Address: Displays the Wireless Mac Address information.

Network Name (SSID):

The SSID is the identification of this device; the system will detect the SSID and display it in this field for your reference. You may modify it.

Network Type:

If you choose **Open**, the EMTA will periodically broadcast its SSID to allow the wireless clients within the range to recognize its presence. You may choose **Closed** to hide the SSID.

Country:

Please select a proper location from the drop down menu.

Channel:

There are 11 channels that you can choose. Choose the one that is suitable for this device. The channel that you currently use will be displayed after **Current**.

Interface:

Choose **Enabled** to enable the wireless settings. Choose **Disabled** to close the wireless function.

Apply:

After proper configuration, click Apply to invoke the settings.

Restore Wireless Defaults:

Click this button to restore the device to the factory defaults for wireless settings.

SecureEasySetup:

It radically simplifies Wi-Fi® wireless LAN configuration, allowing even first-time Wi-Fi users to setup and secure their wireless networks with the push of a button.

Security

This page allows you to configure the Network Authentication. Here provides several different modes of wireless security. You will have to enter proper information according to the mode you select.

Chapter 2: Web Configuration

The screenshot shows the Thomson Wireless configuration interface. On the left is a navigation menu with buttons for Basic, Security, Access Control, Advanced, and Bridging. The main area is titled 'Wireless' and contains a sub-section '802.11b/g Privacy' with the text 'This page allows configuration of the WEP keys and/or passphrase.' Below this, there are several configuration fields: WPA (Disabled), WPA-PSK (Disabled), WPA2 (Disabled), and WPA2-PSK (Disabled). WPA/WPA2 Encryption is set to TKIP. WPA Pre-Shared Key is an empty text field. RADIUS Server is 0.0.0.0, RADIUS Port is 1812, and RADIUS Key is an empty text field. Group Key Rotation Interval is 0, and WPA/WPA2 Re-auth Interval is 3600. WEP Encryption is Disabled. Shared Key Authentication is Optional, and 802.1x Authentication is Disabled. There are four empty text fields for Network Key 1, Network Key 2, Network Key 3, and Network Key 4. Current Network Key is set to 2. There is a PassPhrase text field, a 'Generate WEP Keys' button, and an 'Apply' button at the bottom.

WPA/WPA2: (Wi-Fi Protected Access)

It must be used in conjunction with an authentication server such as RADIUS to provide centralized access control and management. It can provide stronger encryption and authentication solution than none WPA modes. **WPA2** is the second generation of **WPA** security

WPA-PSK (WPA-Pre-Shared Key) /WPA2-PSK (WPA2-Pre-Shared Key):

It is useful for small places without authentication servers such as the network at home. It allows the use of manually-entered keys or passwords and is designed to be easily set up for home users.

WEP Encryption:

You can choose **64-bit** or **128-bit** according to your needs. If you choose **Disabled**, the Network Keys will not be shown on this page. If selected, the data is encrypted using the key before being transmitted. For example, if you set 128-bit in this field, then the receiving station must be set to use the 128 Bit Encryption, and have the same Key value too. Otherwise, it will not be able to decrypt the data.

WEP Encryption

Chapter 2: Web Configuration

WEP Encryption: WEP (64-bit) ▼
Shared Key Authentication: Optional ▼
802.1x Authentication: Disabled ▼
Network Key 1:
Network Key 2:
Network Key 3:
Network Key 4:
Current Network Key: 2 ▼
PassPhrase: Generate WEP Keys
Apply

If you select WEP (64-bit or 128-bit), you can adjust the following settings–

Shared Key Authentication:

Decide whether to set the shared key **Optional** or **Required** by selecting from the drop-down menu.

Network Key 1 to 4:

The system allows you to enter four sets of the WEP key. For **64-bit** WEP mode, the key length is 5 characters or 10 hexadecimal digits. As for **128-bit** WEP mode, the key length is 13 characters or 26 hexadecimal digits.

Current Network Key:

Select one set of the network key (from 1 to 4) as the default one.

PassPhrase:

You can enter ASCII codes into this field. The range is from 8 characters to 64 characters. For **ASCII characters**, you can key in **63** characters in this field. If you want to key in **64** characters, only **hexadecimal characters** can be used.

Generate WEP Keys:

Click this button to generate the PassPhrase.

802.1x Authentication

WPA/WPA2 Encryption: Disabled ▼
WPA Pre-Shared Key:
RADIUS Server: 0.0.0.0
RADIUS Port: 1812
RADIUS Key:
Group Key Rotation Interval:
WPA/WPA2 Re-auth Interval: 3600
WEP Encryption: WEP (128-bit) ▼
Shared Key Authentication: Optional ▼
802.1x Authentication: Enabled ▼
Network Key 1:
Network Key 2:
Network Key 3:
Network Key 4:
Current Network Key: 1 ▼
PassPhrase: Generate WEP Keys
Apply

If you enable the **802.1x authentication** function, you will have to offer the following information–

RADIUS Server:

RADIUS Server is a protocol for carrying authentication, authorization, and configuration information between a Network Access Server which desires to authenticate its links and a shared Authentication Server. Please key in the IP Address for the RADIUS Server.

RADIUS Port:

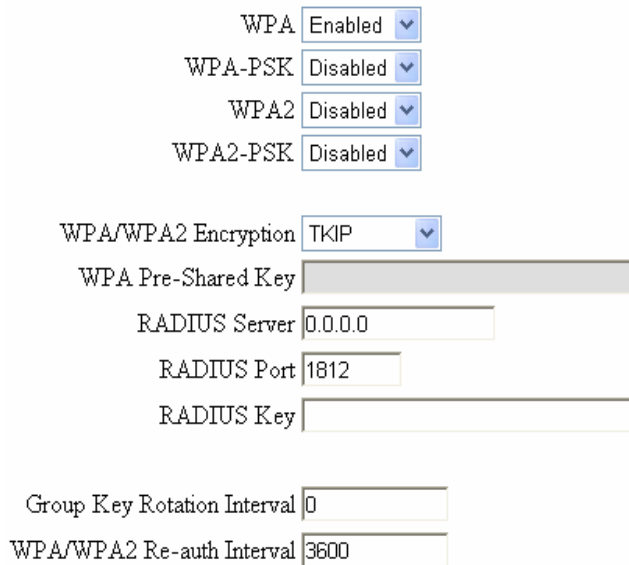
Besides the IP address of the RADIUS Server, you have to enter the port number for the server. Port 1812 is the reserved RADIUS-authentication port described in RFC 2138. Earlier AP (RADIUS clients) use port 1945. The default value will be shown on this box. You can keep and use it.

RADIUS Key:

A RADIUS Key is like a password, which is used between IAS and the specific RADIUS client to verify identity. Both IAS and the RADIUS client must be use the same RADIUS Key for successful communication to occur. Enter the the RADIUS Key.

WPA/WPA2

Chapter 2: Web Configuration



WPA Enabled

WPA-PSK Disabled

WPA2 Disabled

WPA2-PSK Disabled

WPA/WPA2 Encryption TKIP

WPA Pre-Shared Key

RADIUS Server 0.0.0.0

RADIUS Port 1812

RADIUS Key

Group Key Rotation Interval 0

WPA/WPA2 Re-auth Interval 3600

For the WPA/WPA2 network Authentication, the settings that you can adjust including WPA/WPA2 Encryption, RADIUS Server, RADIUS Port, RADIUS Key, Group Key Rotation Interval, and WPA/WPA2 Re-auth Interval.

WPA/WPA2 Encryption:

There are three types that you can choose, TKIP, AES, TKIP+AES.

TKIP takes the original master key only as a starting point and derives its encryption keys mathematically from this master key. Then it regularly changes and rotates the encryption keys so that the same encryption key will never be used twice

AES provides security between client workstations operating in ad hoc mode. It uses a mathematical ciphering algorithm that employs variable key sizes of 128, 192 or 256 bits.

RADIUS Server/RADIUS Port/RADIUS Key:

Please refer to the previous page.

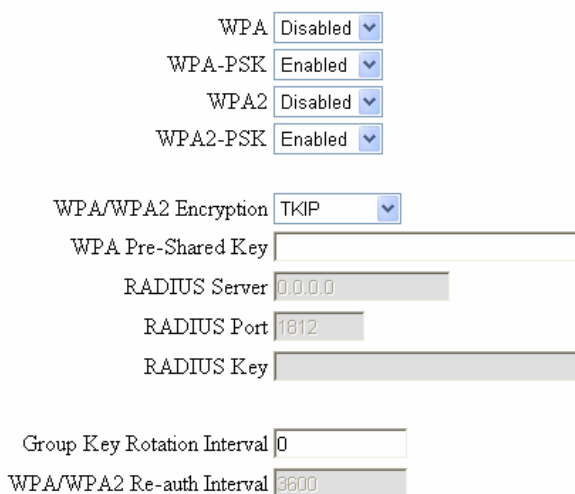
Group Key Rotation Interval:

Key in the time for the WAP group key rotation interval. The unit is second. With increasing rekey interval, user bandwidth requirement is reduced.

WPA/WPA2 Re-auth Interval:

When a wireless client has associated with the EMTA Gateway for a period of time longer than the setting here, it would be disconnected and the authentication will be executed again. The default value is 3600, you may modify it.

WPA-PSK/ WPA2-PSK



WPA Disabled

WPA-PSK Enabled

WPA2 Disabled

WPA2-PSK Enabled

WPA/WPA2 Encryption TKIP

WPA Pre-Shared Key

RADIUS Server 0.0.0.0

RADIUS Port 1812

RADIUS Key

Group Key Rotation Interval 0

WPA/WPA2 Re-auth Interval 3600

For the WPA-PSK/WPA2-PSK network Authentication, the settings that you can adjust including WPA/WPA2 Encryption, WPA Pre-Shared Key, and Group key Rotation Interval.

WPA Pre-Shared Key:

Please type the key to be between 8 and 63 characters, or 64 hexadecimal digits. Only the devices with a matching key that you set here can join this network.

WPA/WPA2 Encryption & WPA Group Rekey Interval:

Please refer to the WPA/WPA2 part.

Access Control

This page allows you to make access control to the AP or connected clients by offering the MAC Addresses of the clients.

Chapter 2: Web Configuration

The screenshot shows the Thomson Wireless web configuration interface. At the top, there is a red header bar with 'Status' and 'Wireless' tabs. Below this is a blue sidebar with the Thomson logo and a list of configuration tabs: Basic, Security, Access Control (highlighted), Advanced, and Bridging. The main content area is titled 'Wireless' and contains the '802.11b/g Access Control' section. This section includes a description: 'This page allows configuration of the Access Control to the AP as well as status on the connected clients.' Below the description, there is a 'MAC Restrict Mode' dropdown menu set to 'Disabled'. Underneath, there is a 'MAC Addresses' section with a table of eight empty input fields for MAC addresses. An 'Apply' button is located below the table. At the bottom, there is a 'Connected Clients' section with a table header: 'MAC Address', 'Age(s)', 'RSSI(dBm)', 'IP Addr', and 'Host Name'. The table body shows the message 'No wireless clients are connected.'

Status Wireless

THOMSON

Basic
Security
Access Control
Advanced
Bridging

Wireless

802.11b/g Access Control
This page allows configuration of the Access Control to the AP as well as status on the connected clients.

MAC Restrict Mode: Disabled

MAC Addresses

Apply

Connected Clients

MAC Address	Age(s)	RSSI(dBm)	IP Addr	Host Name
No wireless clients are connected.				

MAC Restrict Mode:

Click **Disabled** to welcome all of the clients on the network; select **Allow** to permit only the clients on the list to access the cable modem; or choose **Deny** to prevent the clients on the list to access this device.

MAC Address:

Enter the MAC addresses of the connected clients into the fields, then click Apply to add them to the list for access control.

Connected Clients:

The information of current connected clients will be displayed in this field.

Chapter 2: Web Configuration

Advanced

This page allows you to configure the data rates and WiFi thresholds.

Status **Wireless**

THOMSON

Basic
Security
Access Control
Advanced
Bridging

Wireless

802.11b/g Advanced
This page allows configuration of data rates and WiFi thresholds.

54g™ Network Mode

54g™ Protection

XPress™ Technology

Afterburner™ Technology

Rate

Output Power

Beacon Interval

DTIM Interval

Fragmentation Threshold

RTS Threshold

54g™ Network Mode:

There are three modes for you to choose, please check the specification of your wireless card and choose a proper setting.

54g™ Protection:

Select **Auto** to turn on the 54g™ protection; select **Off** to turn down the protection.

Xpress™ Technology:

Click **Enabled** to start this function; choose **Disabled** to close this function.

Afterburner™ Technology:

When enabled, the data transmission will be faster for the clients. Yet, the clients must support 125Mbps throughput, then you can choose Enabled. Otherwise, choose Disabled.

Rate:

It decides the speed of data transmission. There are several rates provided here for you to choose. Choose any one of it according to your needs by using the drop-down menu.

Output Power:

This setting decides the output power of this device. You may use it to economize on electricity by selecting lower percentage of power output.

Beacon Interval:

Set the period of beacon transmissions to allow mobile stations to locate and identify a BSS. The measure unit is “time units” (TU) of 1024 microseconds.

DTIM Interval:

The value you set here is used to inform mobile stations when multicast frames that have been buffered at the EMTA gateway will be delivered and how often that delivery occurs.

Fragmentation Threshold:

Set the number of the fragmenting frames to make the data to be delivered without errors induced by the interference. Frames longer than the value you set here are fragmented before the initial transmission into fragments no longer than the value of the threshold.

RTS Threshold:

Set the value for sending a request to the destination. All the frames of a length greater

Chapter 2: Web Configuration

than the threshold that you set here will be sent with the four-way frame exchange. And, a length less than or equal to the value that you set will not be proceeded by RTS.

Bridging

This page allows you to configure the WDS features.

WDS (**Wireless Distribution System**) is a system that enables the interconnection of access points wirelessly. It may also be referred to as repeater mode because it appears to bridge and accept wireless clients at the same time (unlike traditional bridging).

The screenshot shows the Thomson web configuration interface. At the top, there is a red navigation bar with 'Status' and 'Wireless' tabs. Below this, on the left, is a blue sidebar with the Thomson logo and a list of configuration categories: Basic, Security, Access Control, Advanced, and Bridging (which is highlighted in yellow). The main content area is titled 'Wireless' and contains a sub-section 'Bridging' with the text 'This page allows configuration of WDS features.' Below this, there is a 'Wireless Bridging' dropdown menu set to 'Disabled', followed by four empty text input fields for 'Remote Bridges'. An 'Apply' button is located at the bottom of the form.

Wireless Bridging:

Choose **Disabled** to shutdown this function; select **Enabled** to act as a repeater.

Remote Bridges:

Enter the MAC Addresses of the remote Bridges to relay the signals for each other.

Chapter 2: Web Configuration

Chapter 3: Additional Information

Frequently Asked Questions

Q. What if I don't subscribe to cable TV?

A. If cable TV is available in your area, data and voice service may be made available with or without cable TV service. Contact your local cable company for complete information on cable services, including high-speed internet access.

Q. How do I get the system installed?

A. Professional installation from your cable provider is strongly recommended. They will ensure proper cable connection to the modem and your computer. However, your retailer may have offered a self installation kit, including the necessary software to communicate with your cable ISP.

Q. Once my EMTA Gateway is connected, how do I get access to the Internet?

A. Your local cable company provides your internet service*, offering a wide range of services including email, chat, and news and information services, and a connection to the World Wide Web.

Q. Can I watch TV, surf the Internet, and talk to my friends through the EMTA Gateway at the same time?

A. Absolutely!

Q. What do you mean by "Broadband?"

A. Simply put, it means you'll be getting information through a "bigger pipe," with more bandwidth, than a standard phone line can offer. A wider, "broader" band means more information, more quickly.

Q. What is DOCSIS and what does it mean?

A. "Data Over Cable Service Interface Specifications" is the industry standard that most cable companies are adopting as they upgrade their systems. Should you ever decide to move, the EMTA Gateway will work with all upgraded cable systems that are DOCSIS-compliant.

* Monthly subscription fee applies.

** Additional equipment required. Contact your cable company and ISP for any restrictions or additional fees.

Q. What is PacketCable and what does it mean?

A. Like DOCSIS, PacketCable is the industry standard for telephony services that most cable
Illustrations contained in this document are for representation only.

Chapter 3: Additional Information

companies are adopting as they upgrade their systems. Should you ever decide to move, the EMTA Gateway will work with all upgraded cable systems that are PacketCable-compliant.

Chapter 3: Additional Information

General Troubleshooting

You can correct most problems you have with your product by consulting the troubleshooting list that follows.

I can't access the internet.

- Check all of the connections to your EMTA Gateway.
- Your Ethernet card or USB port may not be working. Check each product's documentation for more information.
- The Network Properties of your operating system may not be installed correctly or the settings may be incorrect. Check with your ISP or cable company.

All of the lights are flashing in sequence.

- This means the EMTA Gateway is automatically updating its system software. Please wait for the lights to stop flashing. The updating process typically lasts less than one minute.
- Do not remove the power supply or reset the EMTA Gateway during this process.

I can't get the modem to establish an Ethernet connection.

- Even new computers don't always have Ethernet capabilities – be sure to verify that your computer has a properly installed Ethernet card and the driver software to support it.
- Check to see that you are using the right type of Ethernet cable.

The modem won't register a cable connection (CABLE LINK light not on continuously).

- If the modem is in Initialization Mode, the INTERNET light will be flashing. Call your Cable Company if it has not completed this 5-step process within 30 minutes, and note which step it is getting stuck on. (See page 24 for details.)
- The modem should work with a standard RG-6 coaxial cable, but if you're using a cable other than one your Cable Company recommends, or if the terminal connections are loose, it may not work. Check with your Cable Company to determine whether you're using the correct cable.
- If you subscribe to video service over cable, the cable signal may not be reaching the modem. Confirm that good quality cable television pictures are available to the coaxial connector you are using by connecting a television to it. If your cable outlet is "dead",

Chapter 3: Additional Information

call your Cable company.

- Verify that the Cable Modem service is DOCSIS-compliant and PacketCable-compliant by calling your cable provider.

I don't hear a dial tone when I use a telephone.

- Telephone service is not activated. If the rightmost light on the EMTA Gateway stays on while others flash, check with your TSP or cable company.
- If the EMTA Gateway is connected to existing house telephone wiring, make sure that another telephone service is not connected. The other service can normally be disconnected at the Network Interface Device located on the outside of the house.
- If using the second line on a two-line telephone, use a 2-line to 1-line adapter cable.

For more Usage and Troubleshooting Tips use the web site links provided on the CD-ROM:

<http://www.cable-modem.rca.com/help>

Chapter 3: Additional Information

FCC Declaration of Conformity and Industry Canada Information

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.

Trade Name:	RCA Model: DWG855
Equipment Classification:	Computing Device Accessory
Responsible Party:	Thomson Inc.
	10330 N. Meridian Street
	Indianapolis, IN 46290
	Telephone 317-415-4151

This equipment has been tested and found to comply with the limits 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 and correct the interference by one or more of the following measures:

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

FCC regulations state that unauthorized changes or modifications to this equipment may void the user's authority to operate it.

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

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Service Information

If you purchased or leased your EMTA Gateway directly from your cable company, then warranty service for the Digital Cable Modem may be provided through your cable provider or its authorized representative. For information on 1) Ordering Service, 2) Obtaining Customer Support, or 3) Additional Service Information, please contact your cable company. If you purchased your EMTA Gateway from a retailer, see the enclosed warranty card.

For the US market this equipment is restricted, by the use of special firmware, to operate in the 2.4 GHz band on channels 1~11 only.

Caution: Exposure to Radio Frequency Radiation.

The antenna used for this transmitter must be positioned to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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Glossary

10BaseT – Unshielded, twisted pair cable with an RJ-45 connector, used with Ethernet LAN (Local Area Network). “10” indicates speed (10 Mbps), “Base” refers to baseband technology, and “T” means twisted pair cable.

Authentication - The process of verifying the identity of an entity on a network.

DHCP (Dynamic Host Control Protocol) – A protocol which allows a server to dynamically assign IP addresses to workstations on the fly.

DOCSIS (Data Over Cable Service Interface Specifications) – A project with the objective of developing a set of necessary specifications and operations support interface specifications for Voice Over IP Cable Modems and associated equipment.

Ethernet card – A plug-in circuit board installed in an expansion slot of a personal computer. The Ethernet card (sometimes called a Network Interface Card or NIC) takes parallel data from the computer, converts it to serial data, puts it into a packet format, and sends it over the 10BaseT or 100BaseT LAN cable.

F Connector – A type of coaxial connector, labeled CABLE IN on the rear of the EMTA Gateway, that connects the modem to the cable system.

HTTP (HyperText Transfer Protocol) – Invisible to the user, HTTP is used by servers and clients to communicate and display information on a client browser.

Hub – A device used to connect multiple computers to the EMTA Gateway.

IP Address – A unique, 32-bit address assigned to every device in a network. An IP (Internet Protocol) address has two parts: a network address and a host address. This modem receives a new IP address from your cable operator via DHCP each time it goes through Initialization Mode.

Key exchange - The swapping of mathematical values between entities on a network in order to allow encrypted communication between them.

MAC Address – The permanent “identity” for a device programmed into the Media Access Control layer in the network architecture during the modem’s manufacture.

Network Driver – A file that is loaded on the computer to allow the computer to recognize the Ethernet card or USB port.

NID - Network Interface Device, the interconnection between the internal house telephone wiring and a conventional telephone service provider’s equipment. These wiring connections are

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normally housed in a small plastic box located on an outer wall of the house. It is the legal demarcation between the subscriber's property and the service provider's property.

PacketCable – A project with the objective of developing a set of necessary telephony specifications and operations support interface specifications for EMTA Gateways and associated equipment used over the DOCSIS-based cable network.

PSTN (Public Switched Telephone Network) – The worldwide voice telephone network which provides dial tone, ringing, full-duplex voice band audio and optional services using standard telephones.

Provisioning - The process of enabling the Media Terminal Adapter (MTA) to register and provide services over the network.

TCP/IP (Transmission Control Protocol/Internet Protocol) – A networking protocol that provides communication across interconnected networks, between computers with diverse hardware architectures and various operating systems.

TFTP - Trivial File Transfer Protocol, the system by which the Media Terminal Adapter's configuration data file is downloaded.

TSP - Telephony Service Provider, an organization that provides telephone services such as dial tone, local service, long distance, billing and records, and maintenance.

Universal Serial Bus (USB) – USB is a “plug-and-play” interface between a computer and add-on devices, such as an EMTA Gateway.

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Please do not send any products to the Indianapolis address listed in this manual or on the carton. This will only add delays in service for your product.

Thomson Inc.

10330 North Meridian Street

Indianapolis, IN 46290

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