Security

Security secures or scrambles messages traveling through the air between your wireless PCs and the gateway, so they can't be observed by others.

The following minimum security setting changes to factory defaults are recommended.

- Change the default Network name of SSID
- Enable mac address filtering by using the Access control list features
- Choose WPA/WPA2 encryption

See the 802.11b/g Security Web Page discussion below for details.

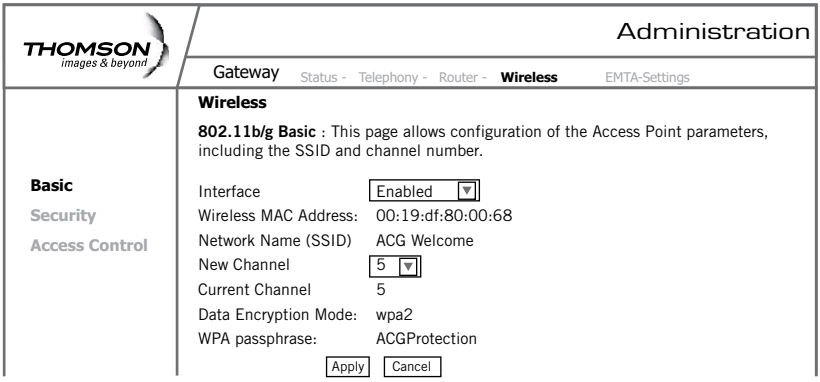
1. 802.11b/g Basic

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

Note: These must match the settings you make on your wireless-equipped PC on the LAN side.

The SSID is your Network Name.

- Change the default to a name of your choice up to 32 characters long.
- The wireless radio in your Gateway can be completely de-activated by changing Interface to Disabled).
- Click the **Apply** button to save your settings.



The Gateway WiFi radio frequently transmits a beacon signal which can contain this network name (SSID).

The network Type is **Open***, so your SSID is included in that beacon, and is therefore detectable by any nearby wireless equipped PCs in the area.*

Setting	Description	Value List or Range	Default
Interface	Enable or disable the wireless interface.	Enabled, Disabled	Disabled
Wireless Mac Address	The Mac address of the wireless card installed is displayed		
Network Name (SSID)	Set the Network Name (also known as SSID) of this network.	Up to 32-character string containing ASCII characters with codes between 0x20 and 0x7e	ACG-"last 4 digits of the wireless card Mac address"
New Channel	Select a particular channel on which to operate.	1-13	11
Data Encryption Mode	The data encryption mode currently used is displayed		WPA-PSK (TKIP)

2. 802.11b/g Security

This page allows you to configure the Network Authentication.

This page provides several different modes of wireless security.

You will have to enter proper information according to the mode you select.

A network encrypted with WPA/WPA2 is more secure than a network encrypted with WEP, because WPA/WPA2 uses dynamic key encryption. To protect the information as it traveling through the air, you should enable the highest level of encryption supported by the ACG: WPA2-PSK (AES)

WPA2-PSK (AES)

To enable WPA2

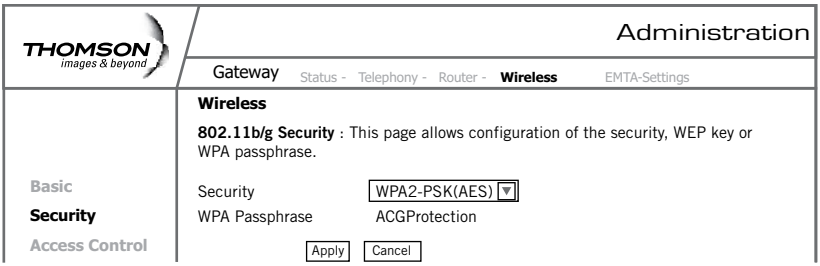
(Make sure that your wireless client and client manager are compatible with it.)

choose WPA2-PSK (AES) in the security drop down menu.

Select a passphrase: the passphrase is composed of more than 8 alphanumerical characters. Uper and lower case characters can be used.

Use a strong passphrase which combines letters and numbers.

(The alphanumeric character set consists of the numbers 0 to 9 and letters A to Z.)



Click on apply

WPA2-PSK (AES) authentication and encryption

The authentication uses a 4-way handshake to check wether the Pre shared Keys (PSKs) are identical.

Advanced Encryption Standard (AES) is the state of the art encryption mechanism which provides the highest form of security for home users.

Other security modes available:

WPA-PSK (TKIP)

This is the default security mode.

Temporal Key Integrity Protocol (TKIP) is used for dynamic encryption of the data.

WEP-Open and **WEP-Shared**

If one of these security modes is chosen, you have to enter a 128 bits encryption key

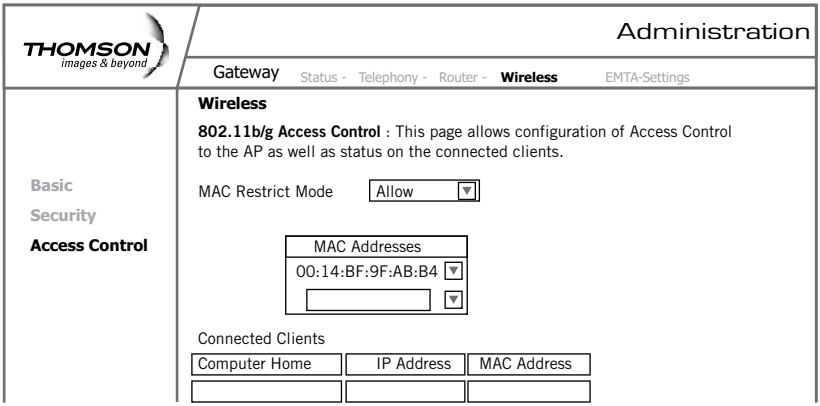
Encryption Key 128 bits

The key used for WEP is a 128 bit hexadecimal ([0-9] [A-F]) key.

The key is composed of 26 hexadecimal characters.

3. Access Control

This page allows you to ensure security by setting an access control to the Access Point (AP). Access control is done on client's mac addresses



MAC Restrict Mode: Click **Disabled** to welcome all of the clients on the network (*default setting*).
Click **Allow** to permit only the clients on the list to access the cable modem.
Click **Deny** to prevent the clients on the list to access this device.

MAC Address: Your Gateway identifies wireless PCs by their WiFi MAC Address.
This address consists of a string of 6 pairs of numbers 0-9 and letters A-F, such as 00 90 4B F0 FF 50.
It is usually printed on the WiFi card of the device (e.g. the PCMCIA card in a laptop).

Enter the MAC addresses of the connected clients into the fields, and then click Apply to add them to the list for access control. A maximum of 9 MAC addresses can be entered.

+ : After proper configuration, click on the + button to invoke the settings.

Connected Clients: The information of currently connected clients will be displayed here.

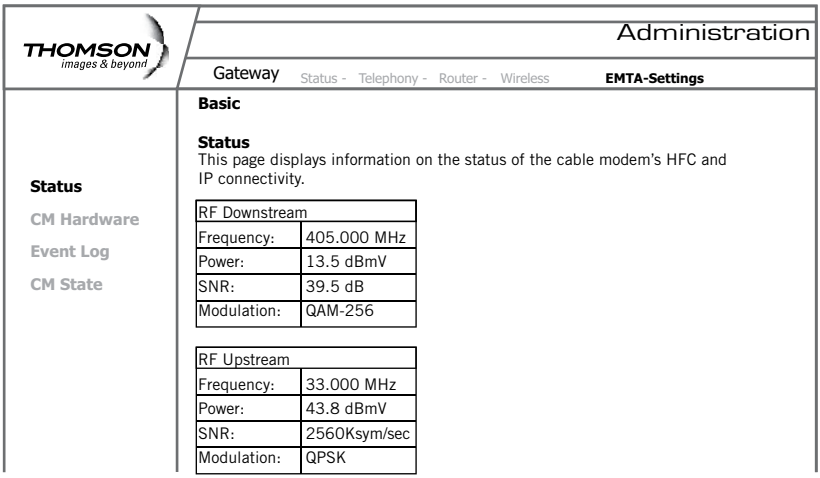
EMTA settings – Basic Web Page Group

This group of pages gives information on the hardware and the state of your cable connection. The access to this groupof pages is protected by a static password: no username, password:Thomson

1. Status

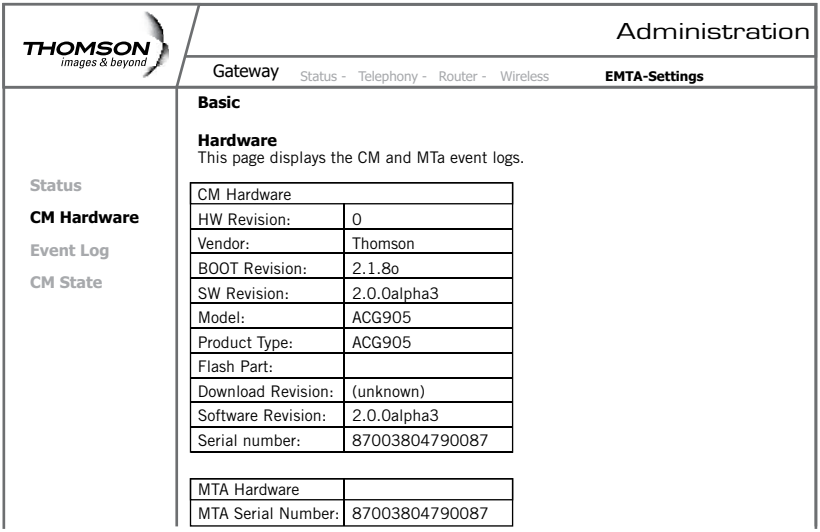
This page displays:

- Basic LAN Status of This Device
  (including the downstream and upstream status)
- Device Information
- Interface Parameters



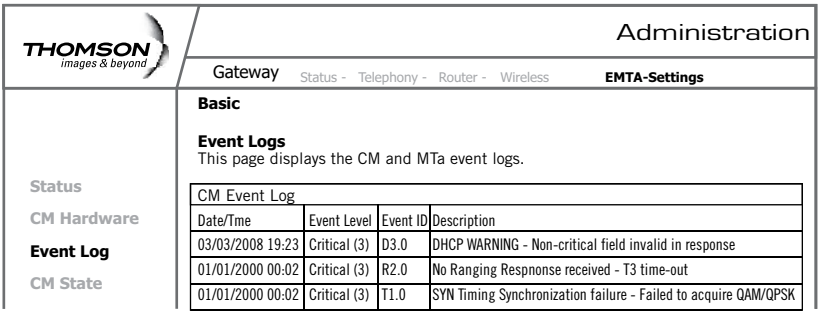
2. CM Hardware

The CM hardware is displayed on this page.



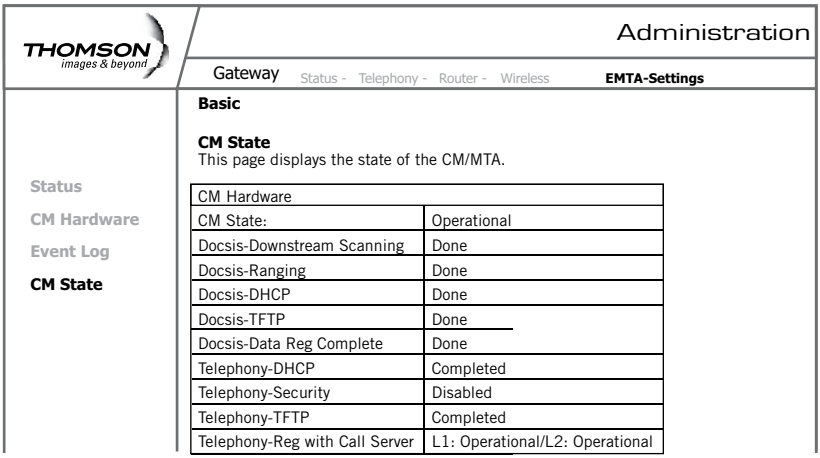
3. Event Log

The CM event log is displayed on this web page.



4. CM State

This page shows the current state of the cable modem.

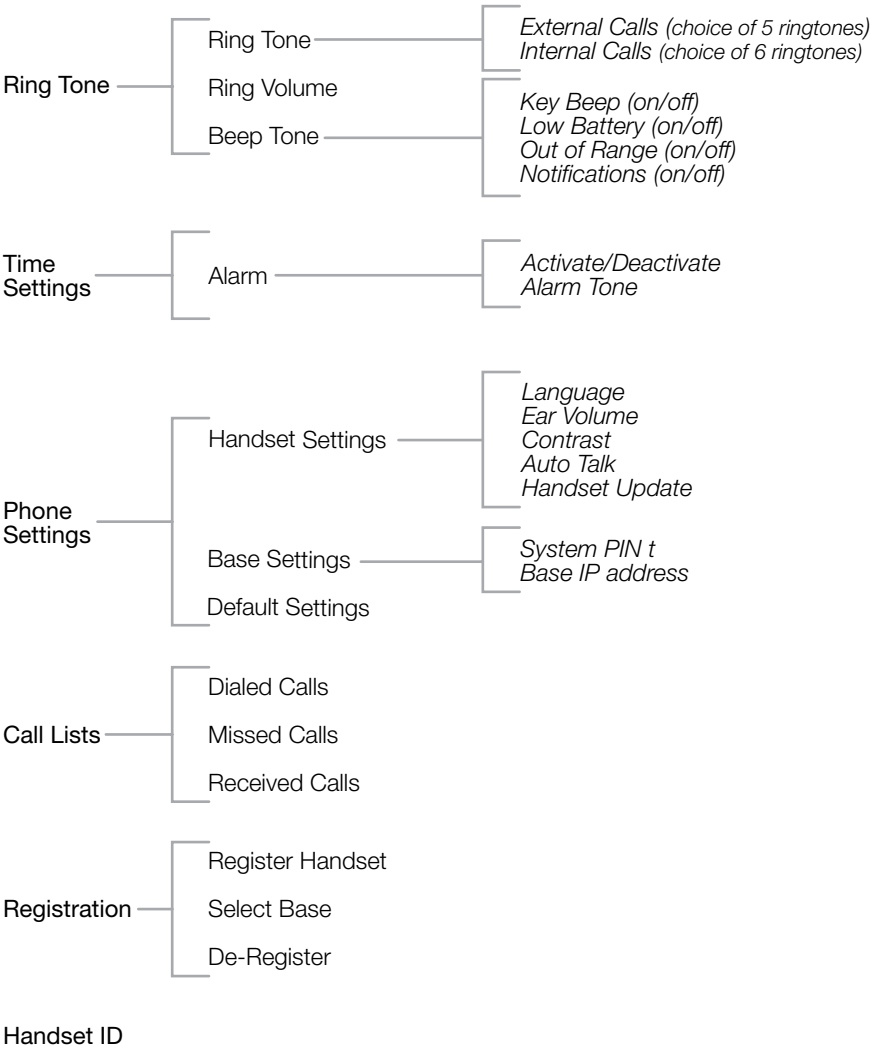


Customizing Your Handset

1. Charts of the Menus

By pressing the softkey menu from the idle screen you select the icon to access the setting menu of the phone.

The menu structure is as follows:



2. Ring Tone

a. Selecting a Ring Tone

- In the idle screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Ringtone” and confirm.
- Select “External Calls” or “Internal Calls” and confirm.
- Select the ringtone you want and confirm by pressing the softkey for “Use”.

b. Adjusting the Ringer Volume

- In the Idle screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Ring Volume” and confirm.
- Use the up and down key to adjust the volume then confirm.

c. Changing the Beep Tones Settings

To turn beep tones on (*or off*):

Key Beep:

- In the Idle screen, select “Menu” by pressing the softkey.
- Select the (settings) icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Beep Tones” and confirm.
- Select “Key Beep” and confirm.
- Select “Off” or “On” and confirm.

Low Battery:

- In the Idle screen, select “Menu” by pressing the softkey.
- Select the (settings) icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Beep Tones” and confirm.
- Select “Low Battery” and confirm.
- Select “Off” or “On” and confirm.

CONFIRM - When working in the screens on your handset, there are two ways to confirm your selections. In most screens you will use a softkey for “OK”; but, if that is not available, use the “Select” key located in the center of the navigation key.

Out of Range:

- In the Idle screen, select “Menu” by pressing the softkey.
- Select the (settings) icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Beep Tones” and confirm.
- Select “Out Of Range” and confirm.
- Select “Off” or “On” and confirm.

Notifications:

- In the Idle screen, select “Menu” by pressing the softkey.
- Select the (settings) icon and confirm.
- Select “Ring Tone” and confirm.
- Select “Beep Tones” and confirm.
- Select “Notify” and confirm”.
- Select “Off” or “On” and confirm.

3. Time

a. Customizing the Alarm Ringer

- In the idle screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Time Settings” and confirm.
- Select “Alarm” and confirm.
- Select “Alarm Tone” and confirm.
- Select the ringer type (radio or ringtone) and confirm.

  Note: *If you select a radio channel that proves to be unavailable, a ringtone will be played instead.*

4. Phone Settings

a. Changing the Display Contrast

- In the idle screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Handset” and confirm.
- Select “Contrast” and confirm.
- Use the up and down keys to adjust the contrast and confirm.

b. Auto Talk

Auto Talk “ON”- If you pick up the handset from the dock when the phone is ringing, the handset will automatically give you that ringing line without the need to press the green (talk) button.

Auto Talk “OFF” - In the same situation, you will have to press the talk button to answer the ringing phonecall.

- In the idle screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Handset” and confirm.
- Select “Auto Talk” and confirm.
- Select “Off” (or “On”) and confirm.

c. Restoring the Default Settings

This option allows you to restore the Handset to its original default settings. This procedure will reset the base PIN *(0000 by default)*. However, all the numbers stored in the phonebook, the call log and the most recently-dialed numbers list will be retained.

- In the welcome screen, select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Default Settings” and confirm.
- Enter the PIN *(0000 by default)* and confirm.

5. Call Lists

a. Understanding Caller Identification Data

If you subscribe to your network provider's "Caller Identification" (caller ID) service, you can see who is calling you before you take the call.
If you subscribe to the "Call Waiting" service as well, the same identification process applies to calls received when you are already on a call.
The last 50 calls made and received are logged automatically, together with number, date and time.

The following messages may be displayed on-screen during the call:

- Caller's name and number - *if the caller's number is forwarded by the network,*
- "Withheld" if the caller is using the secrecy function, or "Unavailable" if the network does not forward the name or number,
- "External Call" will display if you do not subscribe to the "Caller Identification" service.

b. Viewing the Call List

If you subscribe to your network provider's "Caller Identification" service, your TH58 Handset will store details of the last 50 calls made and received, together with their date and time.

CONFIRM - When working in the screens on your handset, there are two ways to confirm your selections. In most screens you will use a softkey for "OK"; but, if that is not available, use the "Select" key located in the center of the navigation key.

6. Using Your Phone With Multiple Handsets

a. Registering/Re-Registering an Extra Handset

You can have up to 5 handsets registered to your ACG TH58 base. Refer to page ?? to see how addtional Handsets may be purchased.

If you already have 5 handsets registered and you want to swap one of them, you must remove that handset from your list of registered phones (**uninstall** it) before installing the replacement handset.

On the base:

- Switch the base to registration mode.

On the handset:

- Select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Registration” and confirm.
- Select “Register Handset” and confirm.
- Select the base to be associated with this handset *(1 to 4)* and confirm.
- Enter the system PIN *(0000 by default)* and confirm.
- Wait 3 to 4 minutes for the confirmation screen.
- Your Handset is now registered.

b. Selecting a Base

Each Handset may be registered to **4** different ACG bases.

If you register your TH58 with a non-ACG base, you will not be able to access the data functions.

To change base:

- Select “Menu” by pressing the softkey.
- Select the (settings) icon and confirm.
- Select “Registration” and confirm.
- Select “Select Base” and confirm.
- Select the number of the base using the up and down *(navigation)* keys *(1 to 4)* and confirm.
- The bases to which the handset is registered are identified by the [ ] symbol.

c. Un-Registering a Handset

Handsets can only be un-registered from another Handset.

- Select “Menu” by pressing the softkey.
- Select the *(settings)* icon and confirm.
- Select “Registration” and confirm.
- Select “De-Register” and confirm.
- Enter the secret system PIN *(0000 by default)* and confirm.
- Using the up and down (navigation) keys, select the Handset to be un-registered and confirm.

d. Making/Taking an Internal Call

Making an internal call

- On the keypad, press the number of the internal Handset you want to call *(1 to 5)* then press the *(green)* talk key.

Taking an internal call

When you receive an internal call, the screen displays the number of the calling Handset and “Internal Call”.

- Press the number of the Handset displayed then press the *(green)* talk key to answer the call.

To hang up at the end of the call, press the number of the handset displayed then press the *(red)* OFF key.

CONFIRM - When working in the screens on your handset, there are two ways to confirm your selections. In most screens you will use a softkey for “OK”; but, if that is not available, use the “Select” key located in the center of the navigation key.

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 Advanced Cable 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, news & 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 Advanced Cable 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 Advanced Cable Gateway will work with all upgraded cable systems that are DOCSIS-compliant.

Q. What is PacketCable and what does it mean?

A. PacketCable is the industry standard for telephony services that most cable companies are adopting as they upgrade their systems. Should you ever decide to move, the Advanced Cable Gateway will work with all upgraded cable systems that are PacketCable compliant.

Q. ***What is Xpress Technology and what does it mean?***

A. This is one of the popular performance-enhancing WiFi technologies, designed to improve wireless network efficiency and boost throughput. It is more efficient in mixed environments, and it can work with 802.11a/b/g networks. When Xpress is turned on, aggregate throughput (the sum of the individual throughput speeds of each client on the network) can improve by up to 27% in 802.11g-only networks, and up to 75% in mixed networks comprised of 802.11g and 802.11b standard equipment. The technology achieves higher throughput by re-packaging data, reducing the number of overhead control packets, so that more useful data can be sent during a given amount of time.

Troubleshooting

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

I can't access the internet.

Check all of the connections to your Advanced Cable Gateway.

Your PC is connected to the USB port or your Ethernet card may not be working. Check if 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 Advanced Cable 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 Advanced Cable 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.

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.

The modem should work with a standard RG-6 coaxial cable, but if you are using a cable other than the 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", 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 Advanced Cable Gateway stays on while others flash, check with your TSP or cable company.

If the Advanced Cable 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.

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:	Model: ACG905
Equipment Classification:	Computing Device Accessory
Responsible Party:	Thomson Inc. 101 W. 103rd St. Indianapolis, IN 46290 U.S.A.

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.

Additional Headsets

Follow these items to order additional headsets

Service Information

If you purchased or leased your Advanced Cable Gateway directly from your cable company, then warranty service 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 Advanced Cable Gateway from a retailer, see the enclosed warranty card.

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.*

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.*

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 Cable Modems and associated equipment.*

F Connector *A type of coaxial connector, labeled CABLE IN on the rear of the Advanced Cable 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 Advanced Cable 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 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 Advanced Cable 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 Advanced Cable Gateway.

Xpress Technology

One of the popular performance-enhancing WiFi technologies, designed to improve wireless network efficiency and boost throughput. It is more efficient in mixed environments, and it can work with 802.11a/b/g networks.

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