

Copyrights

© 2008 Thomson SA. All rights reserved. Republication or redistribution of Thomson content, including by framing or similar means, is prohibited without the prior written consent of Thomson SA. 'THOMSON' and the Thomson logo are registered trademarks and trademarks of Thomson SA.

Other trademarks and technology protection

The following trademarks may be used in this document:

- DECT is a trademark of ETSI.
- Ethernet™ is a trademark of Xerox Corporation.
- Wi-Fi® and the Wi-Fi Logo are registered trademarks of the Wi-Fi Alliance.
- Microsoft®, MS-DOS®, Windows® and the are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Adobe®, the Adobe logo, Acrobat and Acrobat Reader are trademarks or registered trademarks of Adobe Systems, Incorporated, registered in the United States and/or other countries.
- DOCSIS and PacketCable are trademarks of Cable Television Laboratories, Inc.
- Macintosh and the Mac OS are trademarks of Apple Computer, Inc.

All other company or product names are either trademarks or registered trademarks of their respective owners.

This product contains free software code released under the GNU General Public License (GPL), Version 2 (available at <http://www.gnu.org/licenses/gpl.txt>). Anyone may obtain from us a copy of the source code for the Linux packages. The full text of the GPL is included on these materials. The source packages for these programs are available for download at <http://www.thomson.net/open-software>. Those individuals without Internet access may request that a CD-ROM or DVD containing the source code be sent to them by mail. To reimburse the expenses incurred by creation, handling and postage, we will charge a €12 fee. To request a CD ROM or DVD of the source code, send an e-mail to sylvie.cottret@thomson.net or mail the request, with payment, to Sylvie Cottret, Thomson Telecom 46 Quai Alphonse Le Gallo 92100 Boulogne-Billancourt, France.

Disclaimer

Thomson reserves the right to modify the specifications and pictures mentioned in this document at any time and without prior notice. Therefore the information in these instructions is not contractual. For an updated description, see <http://www.thomson.net>.

SAFETY RECOMMENDATION	1
ABOUT YOUR ADVANCED CABLE GATEWAY	4
KEY FEATURES.....	4
BEFORE YOU START	5
1. <i>Box contents</i>	5
2. <i>Computer requirements</i>	6
GATEWAY OVERVIEW	7
1. <i>Front panel</i>	7
2. <i>Rear panel</i>	8
3. <i>Inserting batteries</i>	9
4. <i>Plugging the handset</i>	1
HANDSET USER GUIDE	2
TECHNICAL SPECIFICATION	2
HANDSET OVERVIEW	3
1. <i>Handset layout</i>	3
2. <i>Using the keys</i>	4
INSTALLATION OF THE TELEPHONE LINE	5
1. <i>Installing the handset</i>	5
2. <i>Installing the charger</i>	5
DAY-TO-DAY USE.....	6
CUSTOMIZING YOUR HANDSET	8
1. <i>Charts of the menus</i>	8
2. <i>Ring Tone</i>	9
a. <i>Selecting a ring tone</i>	9
b. <i>Adjusting the ringer volume</i>	9
c. <i>Changing the Beep tones settings</i>	9
3. <i>Time</i>	11
a. <i>Setting the time and date</i>	11
b. <i>Setting an alarm</i>	11
c. <i>Customizing the alarm ringer</i>	11
4. <i>Phone Settings</i>	12
a. <i>Selecting the display language</i>	12
b. <i>Changing the display Contrast</i>	12
c. <i>Auto Talk</i>	12
d. <i>Restoring the default settings</i>	13
5. <i>Call lists</i>	13
a. <i>Understanding caller identification data</i>	13
b. <i>Viewing the call list</i>	13
6. <i>Using your phone with multiple handsets</i>	14
a. <i>Registering/Re-registering an extra handset</i>	14
b. <i>Selecting a base</i>	14
c. <i>Un-registering a handset</i>	15
d. <i>Making/Taking an internal call</i>	15
SET-UP	16
CONNECTIONS TO COMPUTERS AND OTHER DEVICES	16
CONNECTION BETWEEN DEVICES	17
1. <i>How does the gateway work?</i>	17
2. <i>What do you need to enjoy all services?</i>	17
3. <i>Contact Your Local Cable Company</i>	18
CONNECTING THE ADVANCED CABLE GATEWAY TO A SINGLE COMPUTER	19
1. <i>Attaching the Cable TV Wire to the Advanced Cable Gateway</i>	19
2. <i>Important Connection Information</i>	20

ETHERNET CONNECTION TO ONE OR TWO COMPUTERS	20
CONNECTING MORE THAN TWO COMPUTERS TO THE ADVANCED CABLE GATEWAY	21
TELEPHONE OR FAX CONNECTION	23
USB CONNECTION	24
OPTION: WI-FI CONNECTION	26
ACTIVATING THE ADVANCED CABLE GATEWAY	28
LIGHTS GUIDE	28
SELF INSTALLATION.....	30
WEB CONFIGURATION	31
ACCESSING THE WEB CONFIGURATION	31
OUTLINE OF WEB MANAGER	32
GATEWAY – STATUS WEB PAGE GROUP	33
1. <i>Software</i>	33
2. <i>Connection</i>	34
3. <i>Password</i>	35
GATEWAY – VOIP WEB PAGE GROUP	36
1. <i>Base</i>	36
2. <i>Handsets</i>	37
GATEWAY – ROUTER WEB PAGE GROUP	38
1. <i>LAN</i>	38
2. <i>WAN</i>	39
3. <i>Computers</i>	40
4. <i>Firewall</i>	41
a. Minimum level of security	41
b. Medium level of security	42
c. High Security Level	42
d. Custom Security Level	43
5. <i>Forwarding</i>	46
6. <i>DMZ Host</i>	47
GATEWAY – WIRELESS WEB PAGE GROUP	48
1. <i>802.11b/g Basic</i>	49
2. <i>802.11b/g Security</i>	51
3. <i>Access Control</i>	52
EMTA SETTINGS – BASIC WEB PAGE GROUP	54
1. <i>Status</i>	54
2. <i>CM Hardware</i>	55
3. <i>Event Log</i>	56
4. <i>CM State</i>	57
ADDITIONAL INFORMATION.....	58
FREQUENTLY ASKED QUESTIONS	58
GENERAL TROUBLESHOOTING	60
FCC DECLARATION OF CONFORMITY AND INDUSTRY CANADA INFORMATION	62
SERVICE INFORMATION	63
GLOSSARY	64

Safety recommendation

Using equipment safely

Your gateway has been manufactured to meet American safety standards, but care must be taken to ensure proper performance.

It is important that you read this booklet completely, especially the safety instructions below. If you have any doubts about the installation, operation or safety of gateway, please contact your Customer Service.

Avoiding the risk of electric shock

- Disconnect the gateway from the mains supply before you connect the gateway to (or disconnect it from) any other equipment. Avoid any contact with the mains, which can be lethal or cause severe electric shock.
- Do not remove the cover of the gateway. Should the gateway fail, contact the Customer Service for repair or service.
- Do not insert anything into any opening of the case.
- Do not block the gateway's ventilation slots; do not place it on unstable surfaces like carpets.
- Do not put anything on the gateway which might spill or drip into it (eg. Lighted candles or liquids containers). Do not splash it with a liquid. If an object or liquid enters inside the gateway, unplug it immediately and contact the Customer Service.
- Do not store the gateway in excessively hot, cold or damp conditions. The gateway is intended to operate at an ambient temperature of less than 45 degrees Celsius and a maximum humidity level of 75%.
- In case of a thunderstorm, it is recommended that you unplug the gateway from the mains and the antenna from the TV set.
- Leave the mains socket accessible so that you can unplug the set quickly.

Connecting to the mains supply

- This gateway is designed to operate at 120VAC, 60Hz.
- If you are in any doubt about the mains lead, the plug or connection, please consult the Customer Service.

Ensuring optimum performance

- Leave 7 cm to 10 cm around the gateway to ensure proper ventilation to the gateway.
- Always place your gateway vertically.
- To clean the gateway, use a dry, clean soft cloth with no cleaning solvent or abrasive products. Clean the ventilation openings regularly.

Safety recommendation

Environmental Information

- The batteries use some hazardous substances which pollute the environment. Do not dispose them out with other articles. Take care to dispose them at special collecting points.

Technical specifications

Model type	ACG905 -- C
Operating voltage	120V AC / 60 Hz / 0.5A
Typical Power consumption	25W max
Weight	0.872 lb / 0,395 kg
Dimensions (W x H x D)	7.79 x 7.68 x 3.94 Inch
Operating temperature range	59 to 95° F / 15 to 35°C
Storage temperature range	-4 to 158°F / -20 to 70°C
Remote Control battery Type	Li-Ion 11.1V 2,150 mAh

FCC Compliance Statement



This device complies with part 15 of the FCC rules. Operation is subject to the following 2 conditions: 1. This device may not cause harmful interference; 2. This device must accept any interference received, including interference that may cause undesired operation. Responsible party (contact for FCC matter only):

THOMSON Inc.
101 W. 103rd St.
Indianapolis, IN 46290 U.S.A.

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

Base Station:

This device should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Portable Part (Phone):

For hand held operation, this phone has been tested and meets the FCC RF exposure guidelines.

For body worn operation, this phone has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1millimeter from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines

North American 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.

Meaning of symbols



This symbol is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product housing that may be of sufficient magnitude to constitute a risk of shock.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions accompanying the product.

About your Advanced Cable Gateway

About your Advanced Cable Gateway

Key Features

Thank you for choosing the ACG905, the new generation of Thomson gateways with enhanced functionalities. The Advanced Cable Gateway offers the following services:

- Multi-line capability, up to 5 handsets.
- Data services via RSS.
- HD sound.
- Access to address book, news, weather...
- Built-in router functionality for home networking.

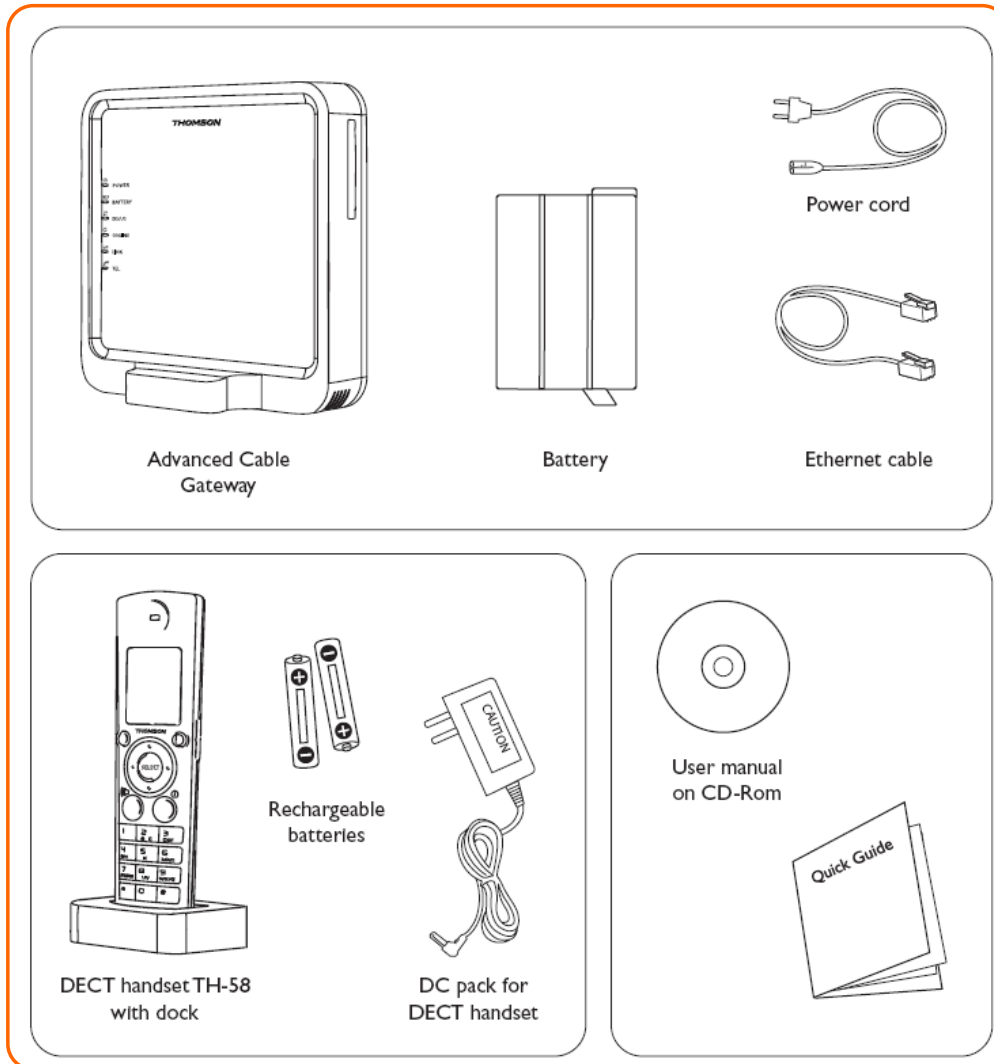
Main technical characteristics

- DOCSIS 2.0 and PacketCable 1.5 compliant.
- Built-in DECT technology and wireless with optional add-on Pc card.
- 2 Ethernet ports, 1 USB2.0 and 1 RJ11 telephony line.
- Battery back-up.
- Security through built-in firewall and WEP, WPA, WPA2, BPI+ protocols.
- Easy access to advanced diagnostics web pages.

About your Advanced Cable Gateway

Before you start

1. Box contents



What's on the CD-Rom?

- User manual (PDF format).
- Adobe Acrobat Reader – application you can load to read PDF format, if you don't have it loaded already.
- Link to Thomson website.

About your Advanced Cable Gateway

2. Computer requirements

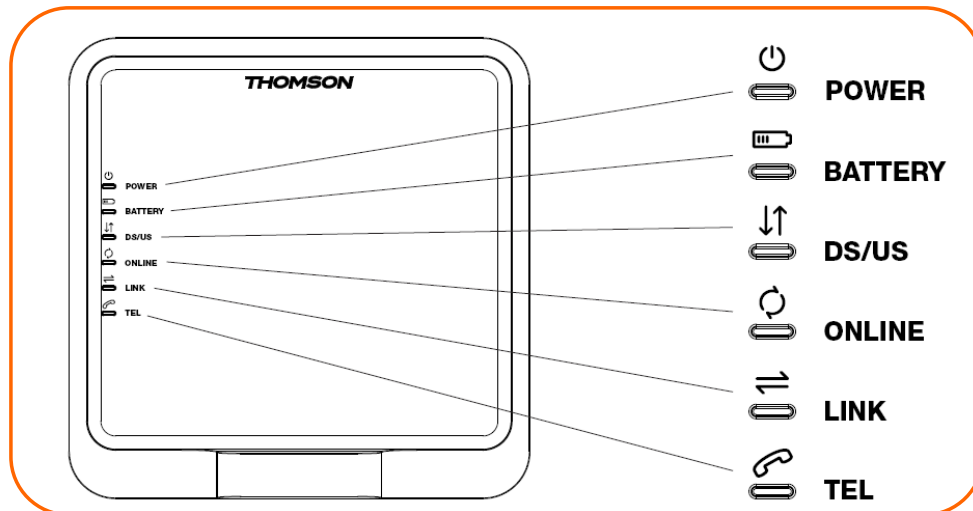
For the best possible performance from your Advanced Gateway, your personal computer must meet the following minimum system requirements (note that the minimum requirements may vary according to cable companies):

	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/Vista, 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	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 Advanced Cable Gateway.	
Software	A TCP/IP network protocol for each machine Microsoft Internet Explorer 4.0 or later or Netscape Navigator 4.0 or later. (5.0 and 4.7 or later, respectively, are strongly recommended.)	

About your Advanced Cable Gateway

Gateway overview

1. Front panel



POWER

Power.

BATTERY

Battery back-up level (low/full/empty or not detected battery).

DS/US

Cable Docsis state. LED On during start-up operation.

LINK

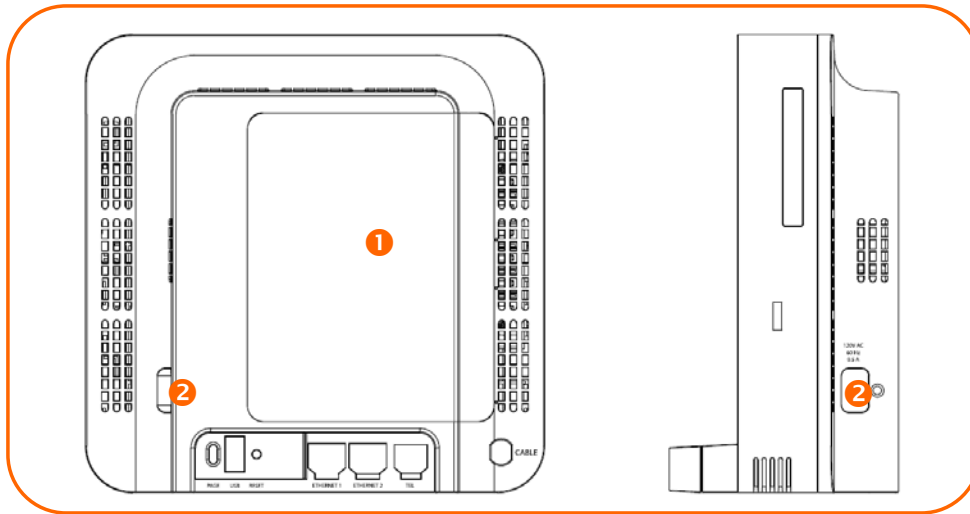
CPE activity. LED On when a PC is connected to the Ethernet port.

TEL

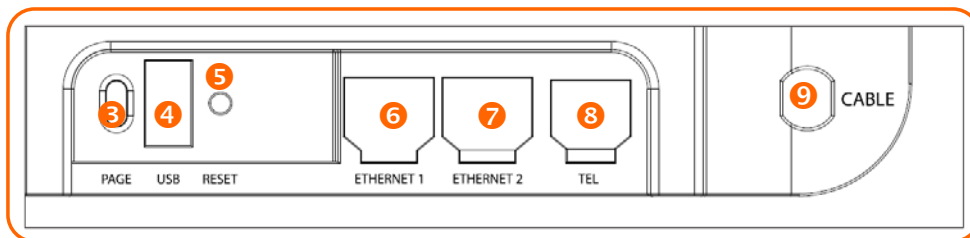
Voice over IP information.

About your Advanced Cable Gateway

2. Rear panel



- ① Back-up Battery cover
- ② 120V AC, 60Hz, 0.5A Mains input

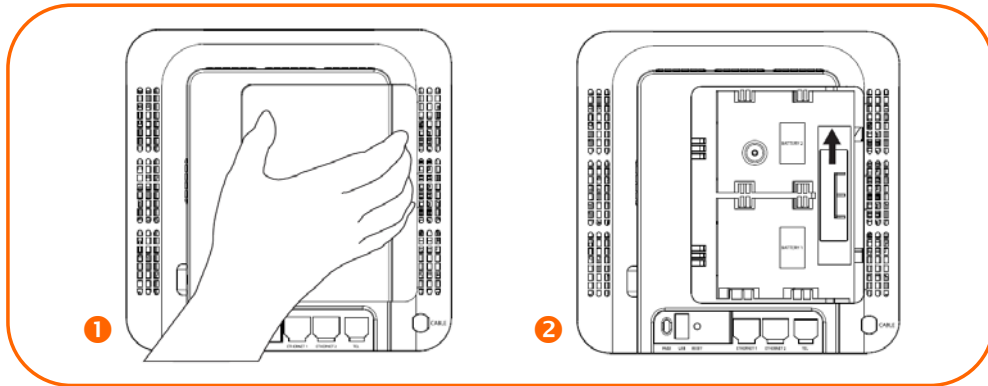


- ③ PAGE To ring all connected handsets (short press) or combine another DECT to the gateway (long press).
- ④ USB USB connector (master)
- ⑤ RESET Reset (short press) or Reset to factory settings (long press).
- ⑥ ETHERNET 1 Ethernet 10/100 BaseT RJ-45 connector
- ⑦ ETHERNET 2 Ethernet 10/100 BaseT RJ-45 connector
- ⑧ TEL Telephony RJ-11 connector
- ⑨ CABLE Cable Input, F-Connector

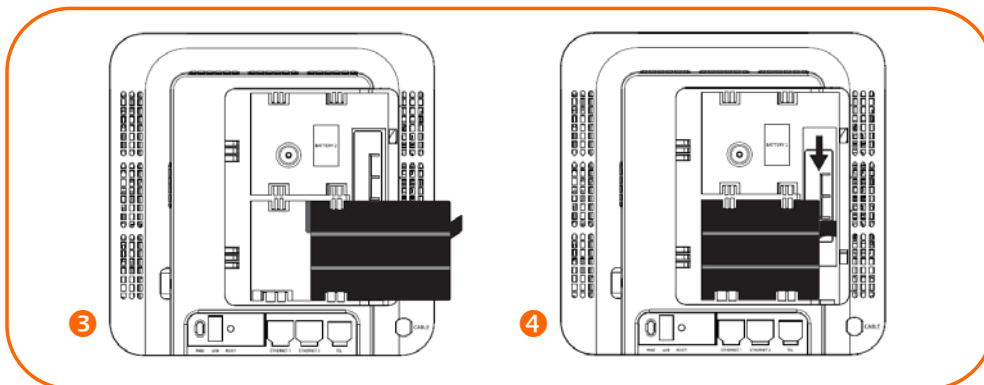
About your Advanced Cable Gateway

3. Inserting batteries

To install batteries into the ACG905:



1. Ensure the power cord is unplugged. Remove the battery cover on the rear panel. There are two battery compartments. One battery is at your disposal in your box content. For an additional battery please contact your local operator.
2. Push the slider up/down to allow the battery insertion.



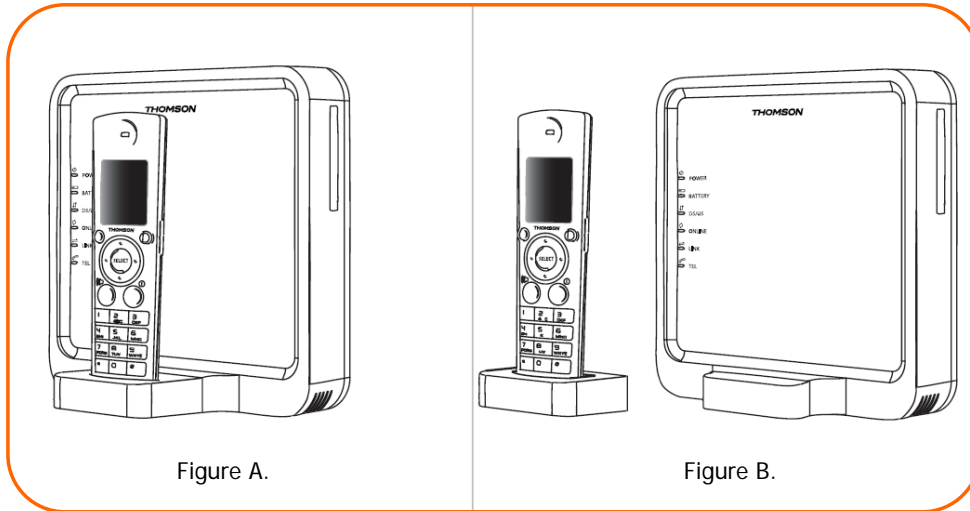
3. Insert the delivered battery into the compartment marked "Battery 1".
4. Readjust the slider to prevent the battery from moving and reattach the battery cover.

Plug the power cord into an AC-receptacle that is always ON (non-switchable). The battery will fully charge within 4 hours.

About your Advanced Cable Gateway

4. Plugging the handset

Your TH58 DECT handset can be either plugged on the ACG905 gateway (figure A) or separated from it (figure B). If the second configuration (figure B) is your preferred one, do not forget to plug the handset dock to the mains using the delivered DC Pack.



To plug your DECT on the gateway, follow the indications below:



1. Ensure the power cord is unplugged and remove the little cover on the front panel of your ACG905.
2. Place the DECT handset dock.
3. Install the DECT on top of the dock. The DECT will receive power from the ACG905. Do not forget to plug the power cord back into an AC-receptacle.

Handset user guide

In order to understand the key features of your TH58, we recommend that you read this guide carefully, including all the safety instructions, before using the product. We also recommend that you inform other members of your family (and especially your children) of the detailed warnings given in this guide.

Parents and other adults with responsibility for very young children should ensure that these children do not put unsuitable or dangerous metal or plastic objects or items into their mouths.

Note: If your TH58 is connected to the Internet, you may download software updates for the base and handset.

Applying these updates and the improvements they contain may slightly modify the menus shown in this user's guide.

As with any radio link, the quality of communication depends on the position of the equipment and the environment in which it is used.

Your TH58 must be kept away from sources of excessive heat (radiators, direct sunlight, etc.) and protected against vibration and dust. Never allow your phone to come into contact with water, other liquids or aerosols. To reduce the risk of interference and maximise reception, take particular care not to install the base in the immediate vicinity of windows, large metal objects, reinforced concrete, televisions, music centres, halogen lamps, other heat sources, fluorescent lighting, burglar alarms, microwave ovens, computers, etc.

To clean your phone, use an antistatic cloth lightly moistened with water.

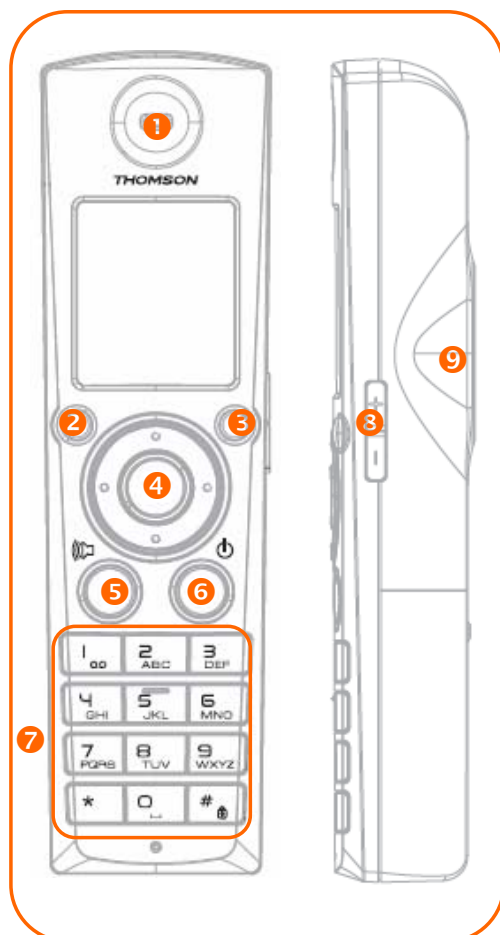
Technical specification

Free field range	Up to 300 metres*
Indoor range	Up to 50 metres*
Number of handsets	1 supplied. The base may be used with up to 5 handsets
Electrical connection	Powered from charger or direct to handset (white power adapter unit): Input: 100-240V AC 50/60 Hz Output: 5V DC 200 mA
Rechargeable battery	2 x 1,2V / 750 NIMH rechargeable batteries
Operating temperature range	0-50°C

* Varies according to environment.

Handset overview

1. Handset layout



1 Earpiece

Audio output for telephone calls.

2 Left softkey

Press this key to select the action shown on the bottom left of the screen.

3 Right softkey

Press this key to select the action shown on the bottom right of the screen.

4 NavKey (Navigation Key)

Use this key for navigating menu screens and for positioning the cursor when editing text.

While on a call, press the up or down NavKey to adjust the listening volume.

Press the center NavKey/SEL to select the highlighted item.

5 Talk Key

Press this key to get a dial tone. After pre-dialling a number, press this key to make a call.

Press this key to answer call waiting.

Press this key to activate the Hands-free function.

6 OFF

Press this key to end a call. Press this key from any menu or submenu to return to the idle screen.

7 Keypad

These keys are used for dialling phone numbers, or entering text.

8 Side Key

Use the up and down key of the side button to increase or decrease the listening volume

9 Microphone

Audio input for telephone calls.

2. Using the keys

Softkeys

The handset has two soft keys that serve multiple functions. The text shown above the soft key indicates the current function of the key. If no text is shown, then the key has no function.

Basic navigation

Use the NavKey (navigation key) to move around the menu screens.

Press the center NavKey/SELECT/ to select a given option.

Return to the idle screen at anytime by pressing OFF.

Entering text

Use the dial pad to enter characters while in a text entry field. The first key press will display the first character presented on the key. Pressing the key repeatedly will cycle through the characters on the key.

Text entry tips

Pressing the # key in text entry mode alternates between lower case mode, upper case mode, and numeric mode. The upper right corner of the screen will display which mode is activated.

Press 1 to enter a space. If the # key was used to enable numeric mode, then it will enter a 1.

Handset user guide

Installation of the telephone line

1. Installing the handset

- Insert the battery pack into its housing in the handset, ensuring that it is the right way round.
- Check that the screen lights up, then replace the cover.
- Wait for about 1 minute to allow the system to start up.
- When your handset is registered to its base, the screen displays the figure "1" alongside the [] symbol.



Only use rechargeable battery packs with specifications exactly the same as those supplied with the product.

The use of a non- rechargeable or incompatible battery pack may damage the product and may be hazardous to health (please refer to Chapter "Technical specifications").

2. Installing the charger

There are 2 options for connecting the charger of your product.

- Connecting the charger without external power supply directly to the ACG front panel
- Using the provided external power adapter (5V 200 mA)

Once this installation is complete, we recommend that you leave the phone on the charger for 6 hours after the installation and before using it for calls and browsing content in order to maximize battery performance and life.

Day-to-day use

Making calls

To make a standard telephone call, press the green key and then dial the number. If you want to use the speakerphone, press a second time the green key and then dial the number.

For pre-dialing, (preview numbers before dialing) enter the numbers first. If you make a mistake when dialing, press the left or right NavKey or to place the cursor to the right of the number you want to delete and press the soft key remove to delete the number.

After entering the number, press the green key.

Kommentar [T1]: Not completed

While you are on a call, the screen displays the elapsed time of the call (in hours, minutes and seconds) and the telephone number you dial.

Receiving calls

When the telephone is ringing, press the green key to answer the call. Press if you want to answer using the speakerphone press two time the the green key

Ending calls

While you are on a call, press OFF to end the call. After a call ends, the call summary will be displayed, showing the length of the call in hours, minutes and seconds.

Speakerphone operation

Speakerphone provides you a hands-free option while on a call. During a call, press the green key to alternate between speakerphone and normal handset use.

Mute

The mute function is used to silence the microphone during a conversation. You will be able to hear the caller, but the caller will not be able to hear you until you press the UnMute softkey to resume the conversation. When you hang up the telephone, the feature will be canceled.

To mute/unmute the microphone:

During a call, press the Mute softkey to mute the microphone and press the UnMute softkey to resume normal conversation.

Call volume

You can adjust the listening volume from the earpiece or speaker volume during a call.

While on a call using the handset earpiece or speakerphone, press the up or down of the NavKey or on the side keys to adjust the listening volume for the earpiece or speaker respectively and a volume bar will be displayed on the screen.

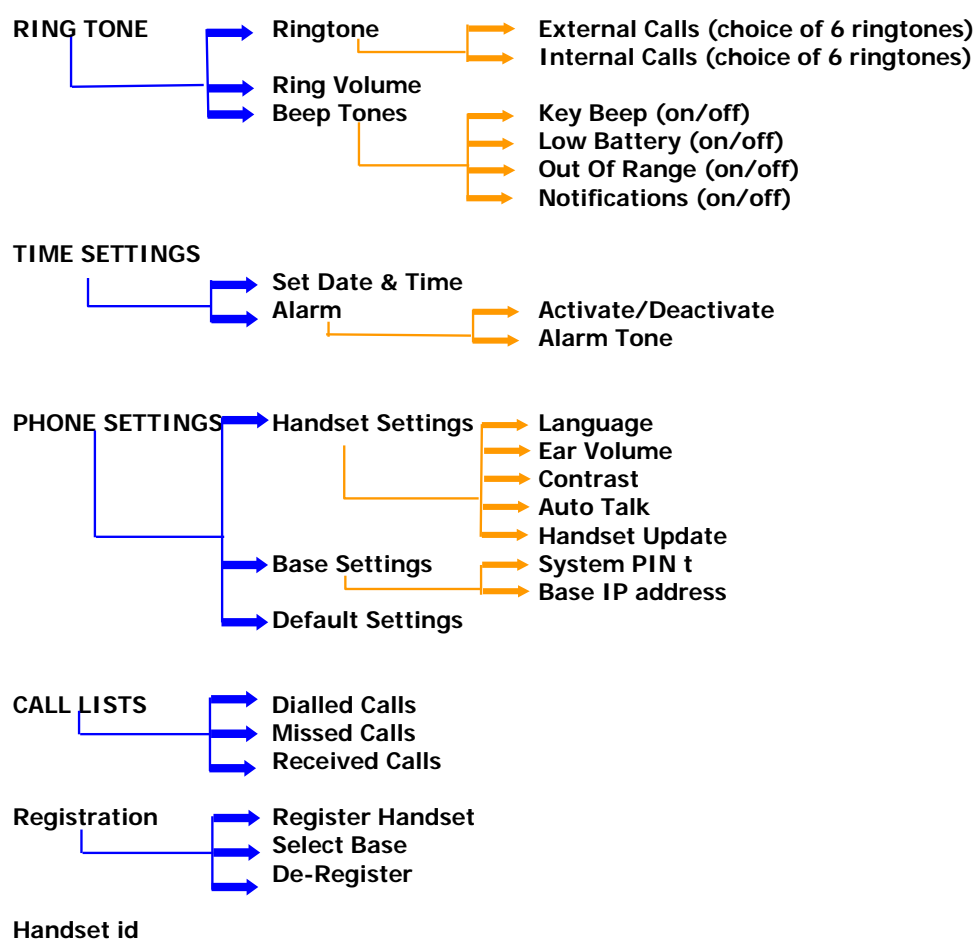
After adjusting of the volume, the volume bar will only be displayed for three seconds and the volume level will be saved automatically.

Customizing your handset

1. Charts of the menus

By pressing the softkey menu from the idle screen you will enter the setting menu of the phone.

The menu structure is as follow:



2. Ring Tone

a. Selecting a ring tone

- In the idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Ringtone" and confirm by pressing "SELECT " or "OK".
- Select "External Calls" or "Internal Calls" and confirm by pressing "SELECT " or "OK".
- Select the ringtone you want and confirm by pressing the key beneath "Use".

b. Adjusting the ringer volume

- In the Comcast Idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Ring Volume" and confirm by pressing "SELECT " or "OK".
- Use the up and down key to adjust the volume and confirm by pressing " SELECT " or "OK".

c. Changing the Beep tones settings

To turn beep tones on (or off):

Key Beep:

- In the Comcast Idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Beep Tones" and confirm by pressing "Ok".
- Select "Key Beep" and confirm by pressing "Ok".
- Select "Off" and confirm by pressing "Ok".

Low battery:

- In the Comcast Idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Beep Tones" and confirm by pressing "Ok".
- Select "Low Battery" and confirm by pressing "Ok".
- Select "Off" and confirm by pressing "Ok".

Out of range:

- In the Comcast Idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Beep Tones" and confirm by pressing "Ok".
- Select "Out Of Range" and confirm by pressing "Ok".
- Select "Off" and confirm by pressing "Ok".

Notifications:

- In the Comcast Idle screen, select "Menu" by pressing the right context key. Select "Ring Tone" and confirm by pressing "SELECT " or "OK".
- Select "Beep Tones" and confirm by pressing "Ok".
- Select "Notify" and confirm by pressing "Ok".
- Select "Off" and confirm by pressing "Ok".

3. Time

a. Setting the time and date

- In the idle screen, select "Menu" by pressing the right context key. Select "Time Settings" and confirm by pressing "Ok".
- Select "Set Date & Time" and confirm by pressing "Ok".
- The date will be displayed first.
- Use the keypad to change the date and confirm by pressing "Ok".
- The time will then be displayed.
- Change the time and confirm by pressing "Ok".

b. Setting an alarm

- In the welcome screen, select "Menu" by pressing the right context key.
- Select "Time" and confirm by pressing "Ok".
- Select "Alarm" and confirm by pressing "Ok".
- Select "Activate/Deactivate" and confirm by pressing "Ok".
- Select the alarm frequency (once or daily...) and confirm by pressing "Ok".
- Enter the alarm time and confirm by pressing "Ok".

c. Customizing the alarm ringer

- In the idle screen, select "Menu" by pressing the right context key.
- Select "Time Settings" and confirm by pressing "Ok".
- Select "Alarm" and confirm by pressing "Ok".
- Select "Alarm Tone" and confirm by pressing "Ok".
- Select the ringer type (radio or ringtone).
- Confirm by pressing "Ok".



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

4. Phone Settings

a. Selecting the display language

- In the idle screen, select "Menu" by pressing the right context key. Select "Phone Settings" and confirm by pressing "Ok".
- Select "Handset" and confirm by pressing "Ok".
- Select "Language" and confirm by pressing "Ok".
- Use the up and down key to select the language you want and confirm by pressing "Ok".

b. Changing the display Contrast

- In the idle screen, select "Menu" by pressing the left context key. Select "Settings" and confirm by pressing "Ok".
- Select "Handset" and confirm by pressing "Ok".
- Select "Contrast" and confirm by pressing "Ok".
- Use the up and down keys to adjust the contrast and confirm by pressing "Ok".

c. Auto Talk

- In the idle screen, select "Menu" by pressing the left context key. Select "Settings" and confirm by pressing "Ok".
- Select "Handset" and confirm by pressing "Ok".
- Select "Auto Talk" and confirm by pressing "Ok".
- Select "Off" (or "On") and confirm by pressing "Ok".

d. 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 right context key. Select "Settings" and confirm by pressing "Ok".
- Select "Default Settings" and confirm by pressing "Ok".
- Enter the PIN (0000 by default) and confirm by pressing "Ok".

5. Call lists

a. Understanding caller identification data

If you subscribe to your network provider's "Caller number identification" 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:

- the caller's name and number, if the caller's number is forwarded by the network,
- the caller's number, where this 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" if you do not subscribe to the "Caller number identification" service.

b. Viewing the call list

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

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. If you already have 5 handsets registered and you want to change one of them, you must uninstall it before installing the replacement handset.

On the base:

- Switch the base to registration mode.

On the handset:

- Select "Menu" by pressing the left soft key.
- Select "Registration" and confirm by pressing the "SELECT" key.
- Select "Register Handset" and confirm by pressing "Ok".
- Select the base to be associated with this handset (1 to 4) and confirm by pressing "Ok".
- Enter the system PIN (0000 by default) and confirm by pressing "Ok"..
- Wait a few seconds until you hear a single beep.
- 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 left soft key.
- Select "Registration" and confirm by pressing "Ok".
- Select "Select Base" and confirm by pressing "Ok".
- Select the number of the base using the up and down key (1 to 4) and confirm by pressing "Ok".
- The bases to which the handset is registered are identified by the [] symbol.

c. Un-registering a handset

Handsets can only be de-registered from another handset.

- Select "Menu" by pressing the left soft key.
- Select "Registration" and confirm by pressing "Ok".
- Select "De-Register" and confirm by pressing "Ok".
- Enter the secret system PIN (0000 by default) and confirm by pressing "Ok".
- Using the up and down key select the handset to be de-registered and confirm by pressing "Ok".

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) and press the [] (green) key.

Taking an internal call

When you receive an internal call, the screen displays the number of the calling handset and "Internal Call".

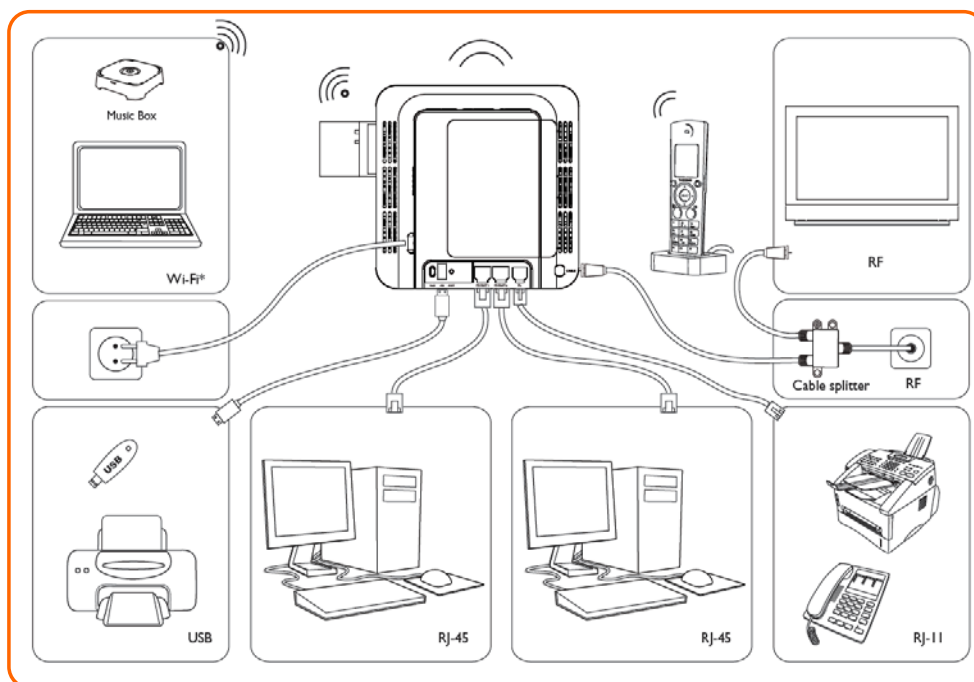
- Press the [] (green) key to take the call.

To hang up at the end of the call, press the [] (red) key.

Set-up

Connections to computers and other devices

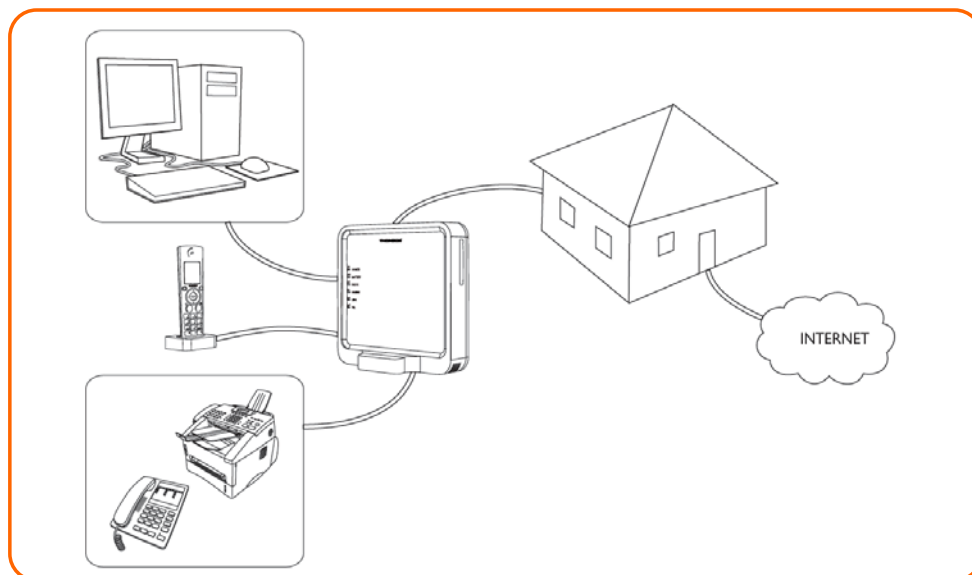
Look at the illustration below to connect your home equipments – PCs, printer, Wi-Fi USB key, analog phone, fax etc... - to your advanced cable gateway.



* Optional Wi-Fi connection. To connect wirelessly devices to your ACG905, a PC card is required (see page 19).

Connection between devices

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



1. How does the gateway work?

The Advanced Cable Gateway provides high-speed Internet access as well as cost-effective, toll-quality telephone voice and fax/modem services over residential, commercial, and education subscribers on public and private networks via an existing CATV infrastructure. It can inter-operate with the PacketCable compliant headend equipment and provide the IP-based voice communications. The IP traffic can transfer between the Advanced Cable Gateway and DOCSIS compliant headend equipment. The data security secures upstream and downstream communications.

2. What do you need to enjoy all services?

- **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 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.

3. Contact Your Local Cable Company

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

- The serial number
- The model number
- The Cable Modem (CM) Media Access Control (MAC) address
- The Terminal Adapter (EMTA) MAC address
- SSID, WPA2-PSK information

Please verify the following with the cable company

- The cable service to your home supports DOCSIS 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.

Connecting the Advanced Cable Gateway to a single computer

This section of the manual explains how to connect your Advanced Cable Gateway to the 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.

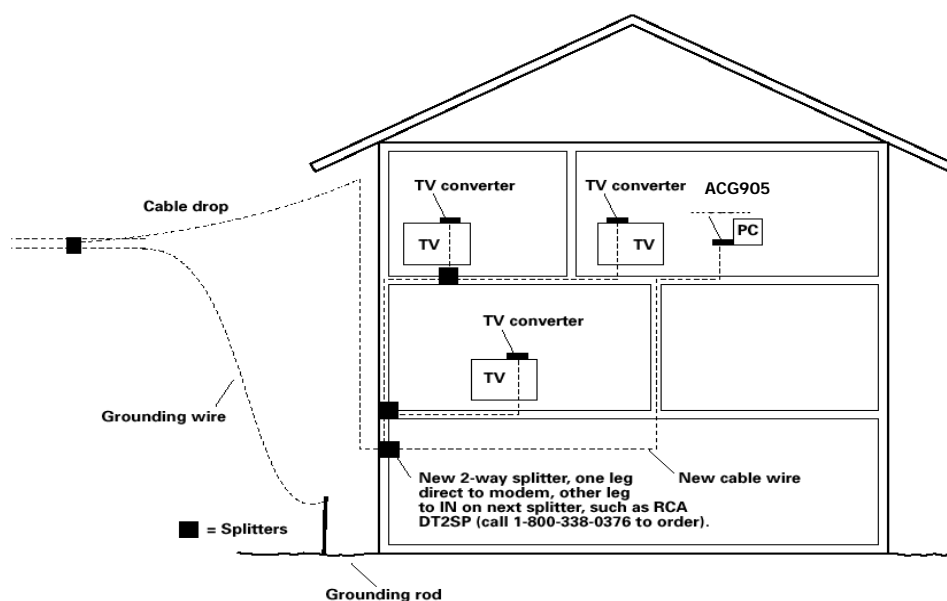
1. Attaching the Cable TV Wire to the Advanced Cable Gateway

Locate the Cable TV wire. You may find it one of three ways:

Connected directly to a TV, a Cable TV converter box, or VCR. The line will be connected to the socket which should be labeled either IN, CABLE IN, CATV, CATV IN, etc.

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 Advanced Cable Gateway to the first point the cable enters your home. The splitter must be rated for at least 1GHz.



2. Important Connection Information

The Advanced Cable Gateway supports Ethernet connections.

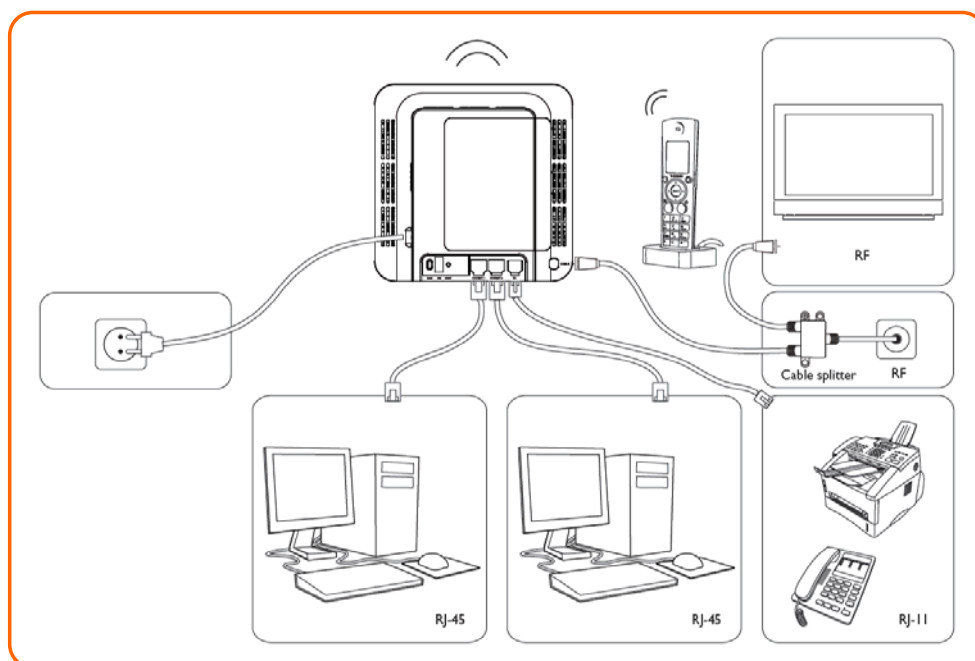
Below are important points to remember before you connect the Advanced Cable Gateway.

- For Ethernet connections, go to page 20.
- For telephone and fax connections, go to page 23.

Ethernet Connection to one or two Computers

Make the connections to the modem in the following sequence:

1. Connect one end of the coaxial cable to the cable connection on the wall, and the other end to the CABLE connector on the Advanced Cable Gateway.
2. Connect one end of the power cord into the 120V, 60Hz, 0.5A socket on the Advanced Cable Gateway, and the other end into the mains plug.
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 the ETHERNET port on the Advanced Cable Gateway.

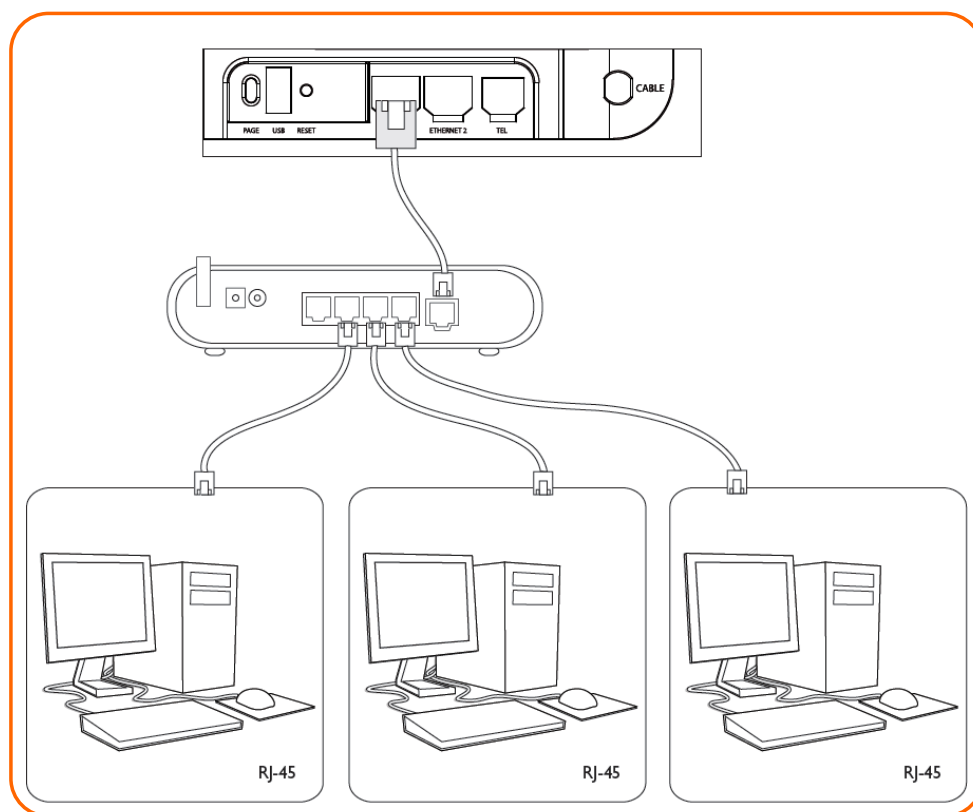


Make sure that the Ethernet cable is straight-wired (not “null” or crossover-wired). However, you will need a crossover-type cable if you are connecting the gateway to a hub, or a hub within a port switch that provides the same function.

Connecting More Than Two Computers to the Advanced Cable Gateway

If you need to connect more than two computers or if you need to connect two computers, but Wi-Fi is not accessible, you'll need the following additional equipment:

- Crossover-wired, or “null,” category 5 Ethernet cable for the 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 port¹, a straight through cable can be used in combination with that port in lieu of the crossover cable.

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

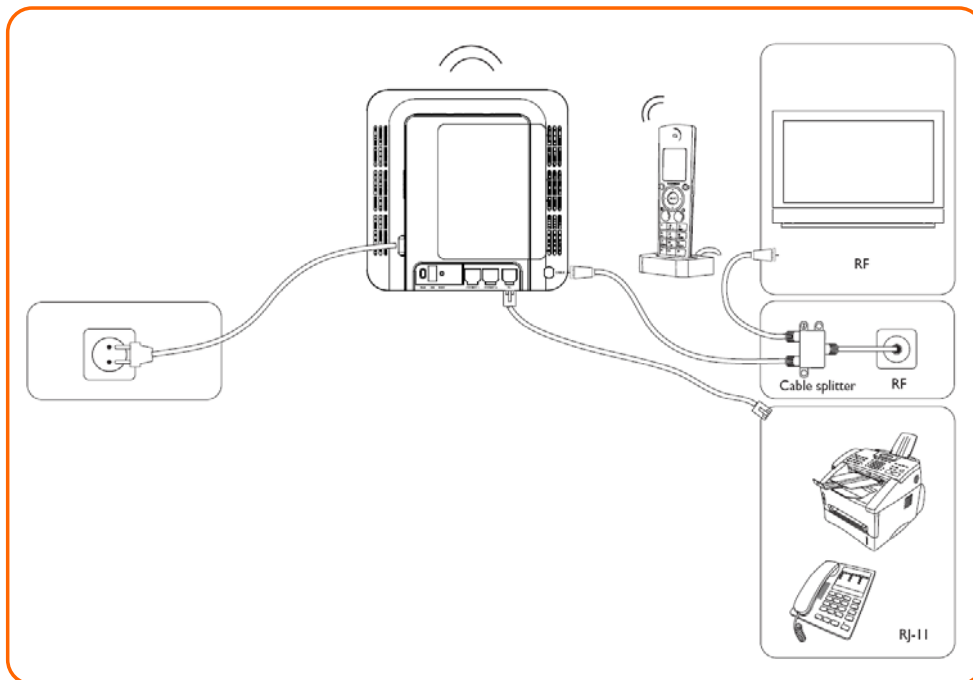
¹ An uplink port has a small switch on it to change the polarity of the connection. It can accept either a crossover or a straight cable, depending on the setting.

Telephone or Fax Connection

When properly connected, most telephony devices can be used with the Advanced Cable 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 switch (or FLASH button) to change calls. The following procedures describe some of the possible connection schemes for using telephony devices with the Advanced Cable Gateway.

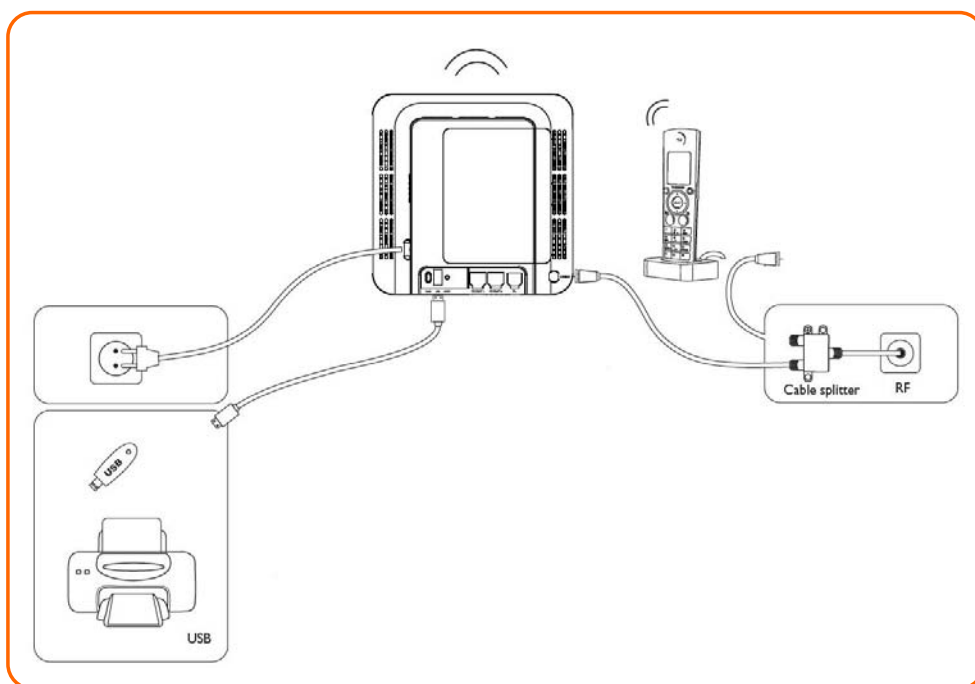
1. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to the TEL port on the Advanced Cable Gateway.
2. If there is a phone line in your home which is NOT connected to another telephone service provider, connect a standard phone line cord RJ-11 to the TEL port of the Advanced Cable Gateway. Connect a standard phone line cord directly from the phone (fax machine, answering machine, caller ID box, etc.) to one of the other sockets 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 TEL port on the Advanced Cable Gateway (other phones can be added to the line by using a standard phone line splitter).

Kommentar [T2]: To be checked by the US team.



USB Connection

Your ACG905 has 1 master USB connector on the rear panel to allow you to connect peripherals such as PDAs, digital cameras, printers or USB keys.



How it works?

When a USB mass storage is plugged on the USB host port of the ACG905, it is automatically detected and mounted by the ACG905 OS (Operating System).

A FTP server runs on the ACG905 and contents of the USB mass storage are accessible under the directory "sda1".

Browsing and uploading contents of the USB mass storage are available.

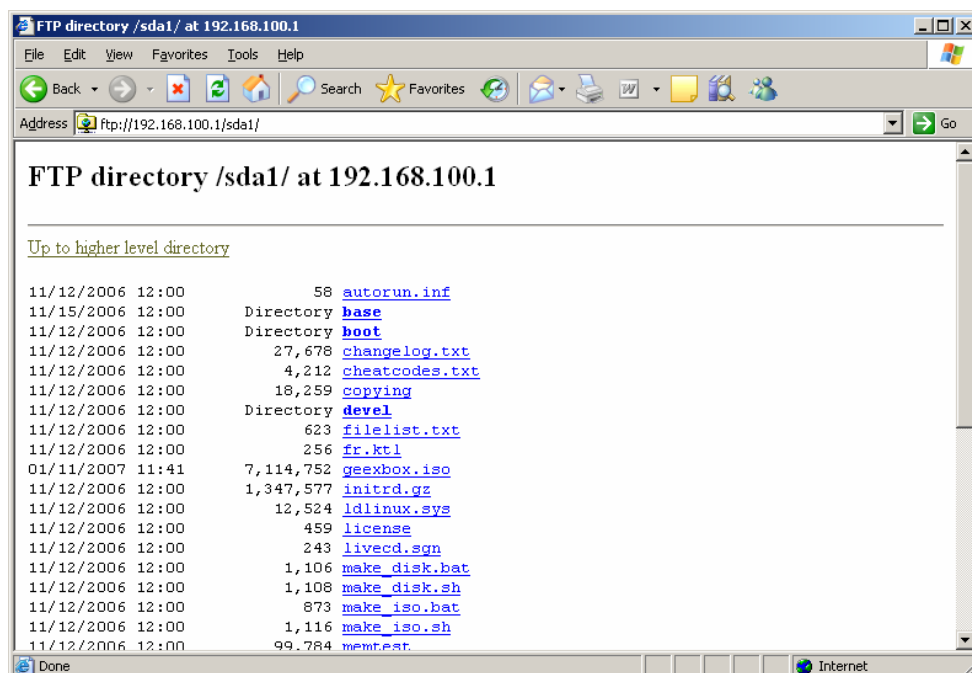
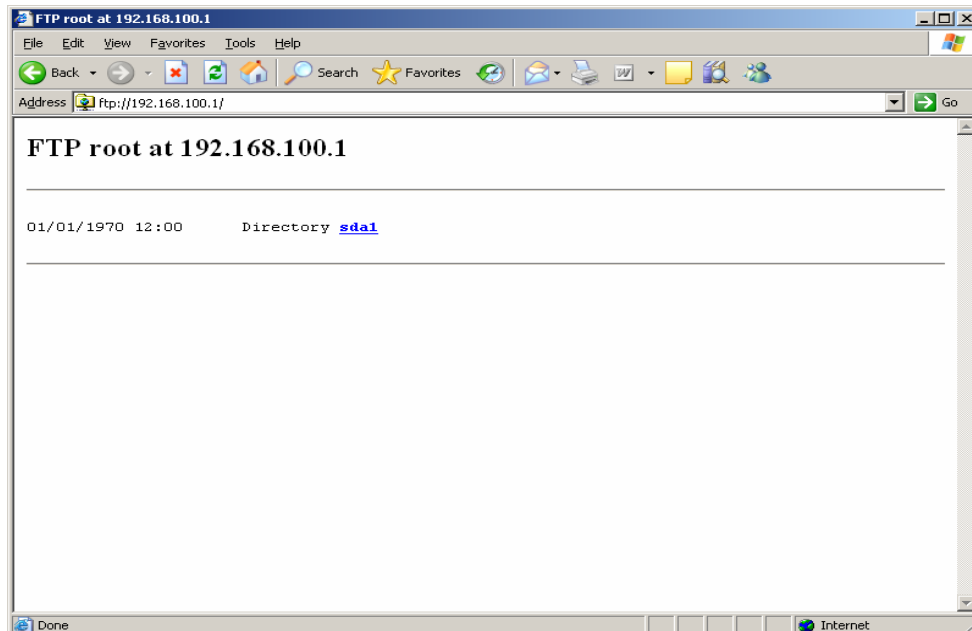
Example

Example of access of a USB mass storage contents by a ftp client running on a PC.

The PC is connected by Ethernet to the ACG905.

The PC has received its IP address by the DHCP server located in the network (behind the cmts). For this example, the FTP client is “Internet Explorer” from windows.

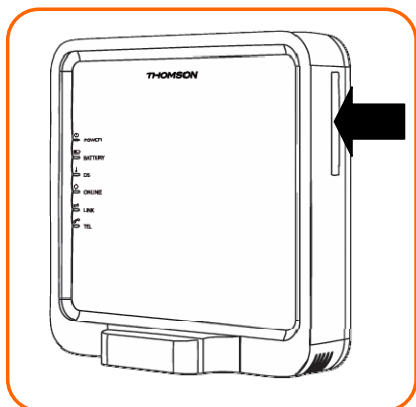
Address of the FTP server: 192.168.100.1



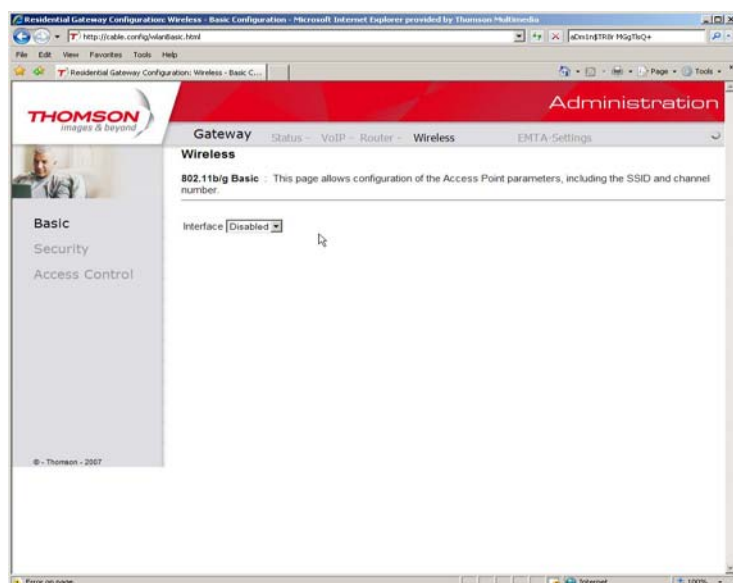
Option: Wi-Fi Connection

The Advanced Cable Gateway is ready to support Wi-Fi. To enjoy wireless connection to your PC or other equipments that can be linked to the gateway, your ACG905 requires a PC Card (PCMCIA or PCI norm 802.11 b/g). Only the recommended cards can be used.

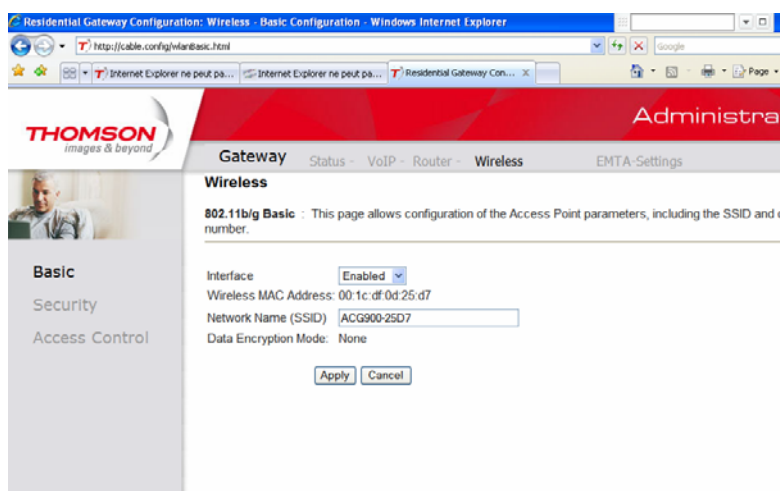
To set up the Wi-Fi connection, please follow the steps below:



1. Ensure the power cord is unplugged.
2. Remove the rubber protection on the right-upper-hand side of the gateway.
3. Insert the PC card in the slot as far as it will go without forcing it.
4. Plug the power cord into an AC-receptacle.
5. The Wi-Fi PCMCIA card is disabled by default; it MUST be activated and configured on the regular Wireless Settings webpage.
 - a. Connect your PC to the ACG by Ethernet.
 - b. type <http://cable.config/wlanBasic.html> in your internet browser to access the Wi-Fi settings to access the following page.



6. Click on enabled in the interface field



The wireless mac address of the Wifi PCMCIA card is displayed, the default SSID is ACG-
"4 last digits of the Wifi PCMCIA card".

By default the data encryption mode is set to none.

For more information on security settings, please refer to the "Gateway – Wireless Web
Page Group" part of this manual.

Activating the Advanced Cable Gateway

After installing the Advanced Cable 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 Advanced Cable 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 Advanced Cable Gateway during this process.

Lights guide

Legend

ON	LED is on.	SLOW	LED is blinking slowly.
OFF	LED is off.	QUICK	LED is blinking quickly.
X	LED can be in any state (on, off or blinking).	BLINKING	LED is blinking (for LINK LED only). All other LEDs have four possible states except the LINK on, which has only one blinking state.

		ON	BATTERY	DS	ONLINE	LINK	TEL
Boot-up Operation		OFF	ON	OFF	OFF	X	OFF
Docsis Start-up Operation²	Step 1 During Downstream Scanning and acquiring synchronization.	OFF	ON	QUICK	OFF	X	OFF
	Step 2 From synchronization completed, receiving upstream channel descriptor to ranging completed	OFF	ON	SLOW	OFF	X	OFF
	Step 3 During DHCP	OFF	ON	OFF	QUICK	X	OFF
	Step 4 Configuration file download, registration and Baseline Privacy initialization	OFF	ON	OFF	SLOW	X	OFF
	CM is registered	OFF	ON	OFF	ON	X	OFF
MTA Initialization							
DHCP		OFF	ON	OFF	ON	X	SLOW
Registration		OFF	ON	OFF	ON	X	QUICK
Registered		OFF	ON	OFF	ON	X	ON
CPE Normal Operation							
No Ethernet link		X	X	X	X	OFF	X
Ethernet Link		X	X	X	X	ON	X
Transmission/Reception of Ethernet Traffic		X	X	X	X	BLINKING	X
MTA Normal Operation							
Both Lines On-Hook		X	X	OFF	ON	X	ON
Tel 1 or/and DECT handset Off-hook		X	X	OFF	ON	X	SLOW
Battery	AC GOOD						
	Battery Good	ON	ON	OFF	ON	X	X
	Battery Low	ON	SLOW	OFF	ON	X	X
	Battery Bad	ON	OFF	OFF	ON	X	X
	AC FAIL						
	Battery Good	SLOW	OFF	OFF	ON	X	X
SW Download							

² If your ACG905 is stuck in one of the steps described in the start-up operation, please check the followings:

- **Step 1** Check if your RF cable is connected the right way.
- **Step 2** Another device (like a set-top box) may be connected in between your ACG905 and a cable feed. Check that your advanced gateway is the first device connected to your wall cable input.
- **Step 3** Your ACG905 may not be registered to your local operator. Contact your local operator to check your registration/subscription.

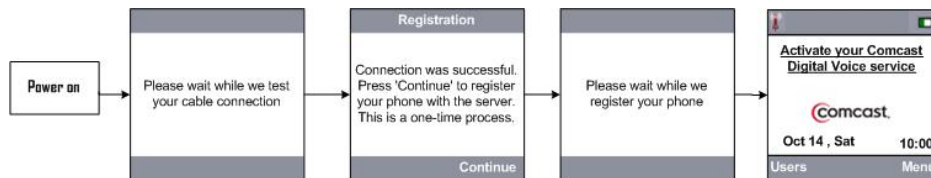
Self installation

To enjoy all gateway services (multi-line capability, RSS data, HD sound, access to address book etc...), you must set up your gateway first.

To ease the installation, your DECT handset is provided with a self installation guide, which will lead you step-by-step through the whole installation process.

Starting the self installation

- 1 – Check all connections (ACG905 and DECT) and turn the handset ON.
- 2 – Wait until you see instructions on the handset. The standard message flows is described in the figure below. If you are having troubles with this installation, please refer to the handset user guide pages xx to xx.



- 3 – You are now ready to use the advanced cable gateway. Enjoy!

Web configuration

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

- Make sure the connection through Ethernet between the Advanced Cable Gateway and your computer is OK.

For wireless networking (see page 26), you will need a WiFi-certified wireless client adapter for each computer you want to connect wirelessly. If your computer does not dispose of the WiFi function, you should equip it with one of the following WiFi accessories (norm 802.11b/g) : WiFi USB key, PCMCIA WiFi cards, PCI WiFi cards.

- Make sure the TCP/IP protocol is set properly.

Accessing the Web Configuration

The **Advanced Cable Gateway** offers local management capability through a built in HTTP server and a number of diagnostic and configuration web pages. You can configure the settings on the webpage and apply them to the device.

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

1. Start your web browser and type <http://cable.config/>.
2. After connecting to the device, you will be asked to enter username and password. By default, the username is " " and the password is "**admin**".

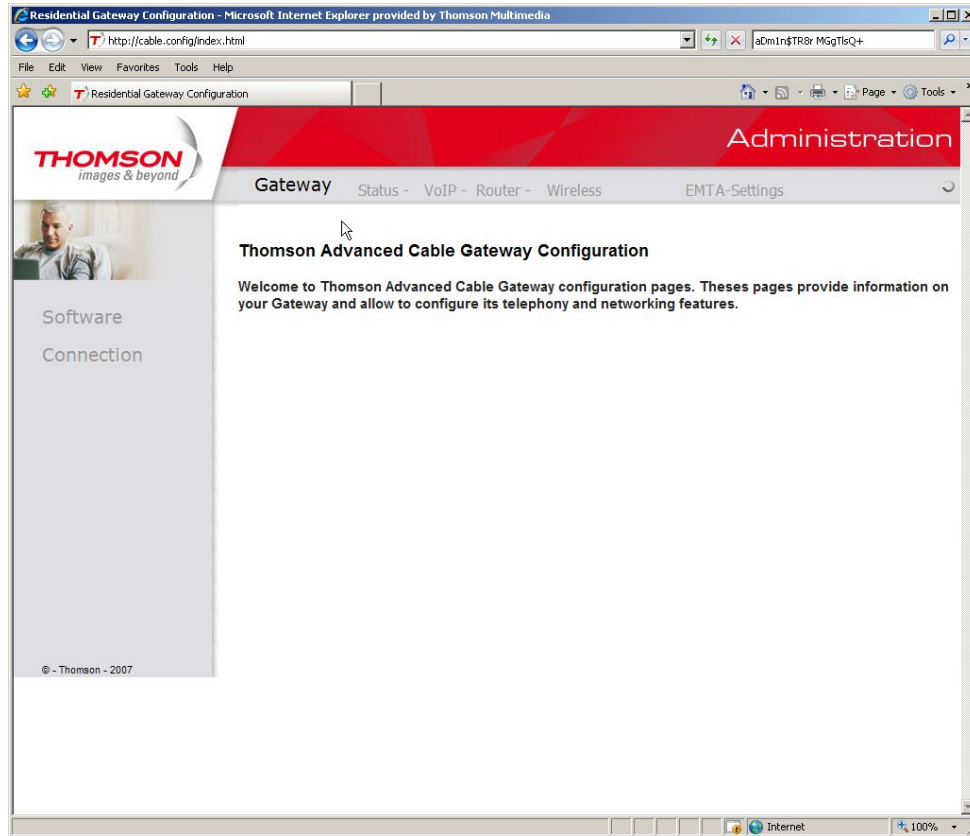


If you log in successfully, the main page will appear.

Web configuration

Outline of Web Manager

The main screen will be shown as below.



- **Main Menu:** the hyperlinks on the top of the page, including Gateway, VoIP, Router, Wireless, EMTA-Settings and several sub-menu items.
- **Title:** the sidebar on the left side of the page indicates the title of this management interface.
- **Main Window:** the current workspace of the web management, containing configuration or status information.

For easy navigation, the pages are organized in groups, with group names main menu, individual page names within each group are provided in the sidebar. To navigate to a page, click the group hyperlink at the top, then the page title on the sidebar.

Gateway – Status Web Page Group

1. Software

The information section shows the hardware and software information about your gateway.

The status section of this page shows how long your gateway has operated since last time being powered up, and some key information the Cable Modem received during the initialization process with your cable company.

The screenshot shows a web browser window displaying the Thomson Residential Gateway Configuration: Status - Software page. The page has a red header with the Thomson logo and the word 'Administration'. Below the header, there are tabs for Gateway, Status (selected), VoIP, Router, Wireless, and EMTA-Settings. The main content area is titled 'Status' and contains a section for 'Software' with a description: 'This page displays information on the current system software.' Below this, there are two tables: 'Information' and 'Status'.

Information	
Standard Specification Compliant	DOCSIS 2.0
Hardware Version	ACG90x rev 0
Software Version	cable-ACG900-1.3.3
DOCSIS Software Version	2.0.0alpha3
DECT Software Version	1249.64
Cable Modem MAC Address	00:18:9B:F8:19:0C
Cable Modem Serial Number	8700377290171

Status	
System Up Time	0 days 1h:21m:29s
eCM IP Address	10.22.15.58
Router IP Address	10.22.15.7

2. Connection

This page reports current connection status containing startup procedures, downstream and upstream status and so on. The information can be useful to your cable company's support technician if you're having problems.

The screenshot shows a web browser window displaying the Thomson Residential Gateway Configuration interface. The page title is "Residential Gateway Configuration: Status - Connection". The browser address bar shows "http://cable.config/RgConnect.html". The page has a red header with the Thomson logo and the word "Administration". Below the header, there are tabs for "Gateway", "Status -", "VoIP -", "Router -", "Wireless", and "EMTA-Settings". The "Status" tab is selected, and the "Connection" sub-tab is active. The page content includes a "Status" section with a description: "Connection : This page displays information on the status of the cable modem's HFC and IP network connectivity." Below this, there are three tables: "Startup Procedure", "Downstream Channel", and "Upstream Channel". The "Startup Procedure" table shows four rows with "Procedure" and "Status" columns. The "Downstream Channel" table shows four rows with "Lock Status", "Channel ID", "Downstream Frequency", and "SNR" columns. The "Upstream Channel" table shows four rows with "Lock Status", "Channel ID", "Upstream Frequency", and "Upstream Power" columns. At the bottom, there is a table for "CM IP Address" with columns for "Duration" and "Expires". The current system time is displayed as "Thu Mar 13 2008 16:46:12".

Procedure	Status
Acquire Downstream Channel	Complete
Connectivity State	Complete
Boot State	Complete
Configuration File	Complete

Lock Status	Channel ID	Downstream Frequency	SNR
Locked	11	405000000 Hz	38.900000 dB

Modulation	Symbol rate	Downstream Power
QAM-256	Unknown	16.300000 dBmV

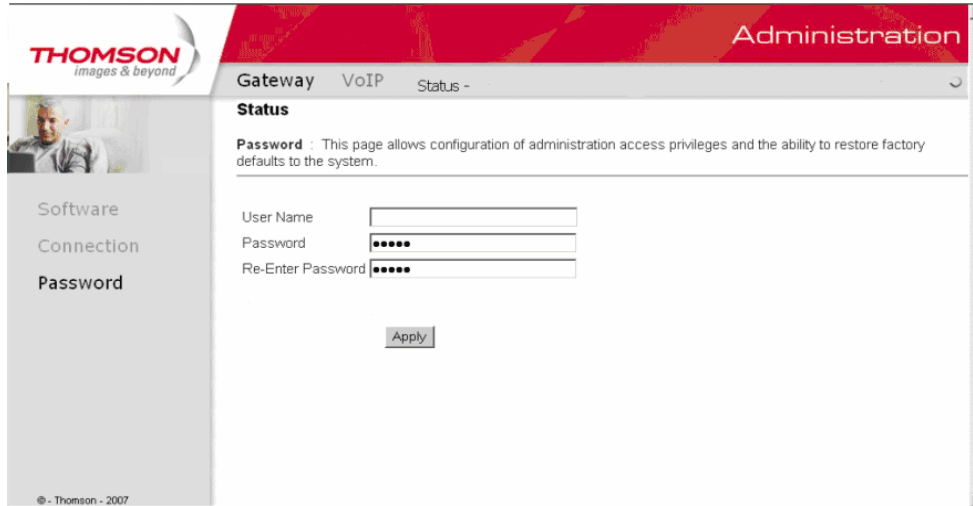
Lock Status	Channel ID	Upstream Frequency	Upstream Power
Locked	1	33000000 Hz	42.500000 dBmV

CM IP Address	Duration	Expires
10.22.15.58	D: 04 H: 17 M: 13 S: 19	Tue Mar 18 09:50:08 2008

Current System Time: Thu Mar 13 2008 16:46:12

3. Password

This page is used to change the password that enables you to access the gateway web pages next time. The default User ID is " "(EMPTY), and the password is "admin". The password can be a maximum of 8 characters and is case sensitive.



The screenshot displays the Thomson Gateway Administration web interface. The top navigation bar includes 'Gateway', 'VoIP', and 'Status'. The left sidebar contains links for 'Software', 'Connection', and 'Password'. The main content area is titled 'Status' and contains a description of the password configuration page. Below the description are three input fields: 'User Name', 'Password', and 'Re-Enter Password'. An 'Apply' button is located at the bottom of the form. The Thomson logo and copyright notice '© Thomson - 2007' are visible in the bottom left corner.

THOMSON
images & beyond

Administration

Gateway VoIP Status -

Status

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

User Name

Password

Re-Enter Password

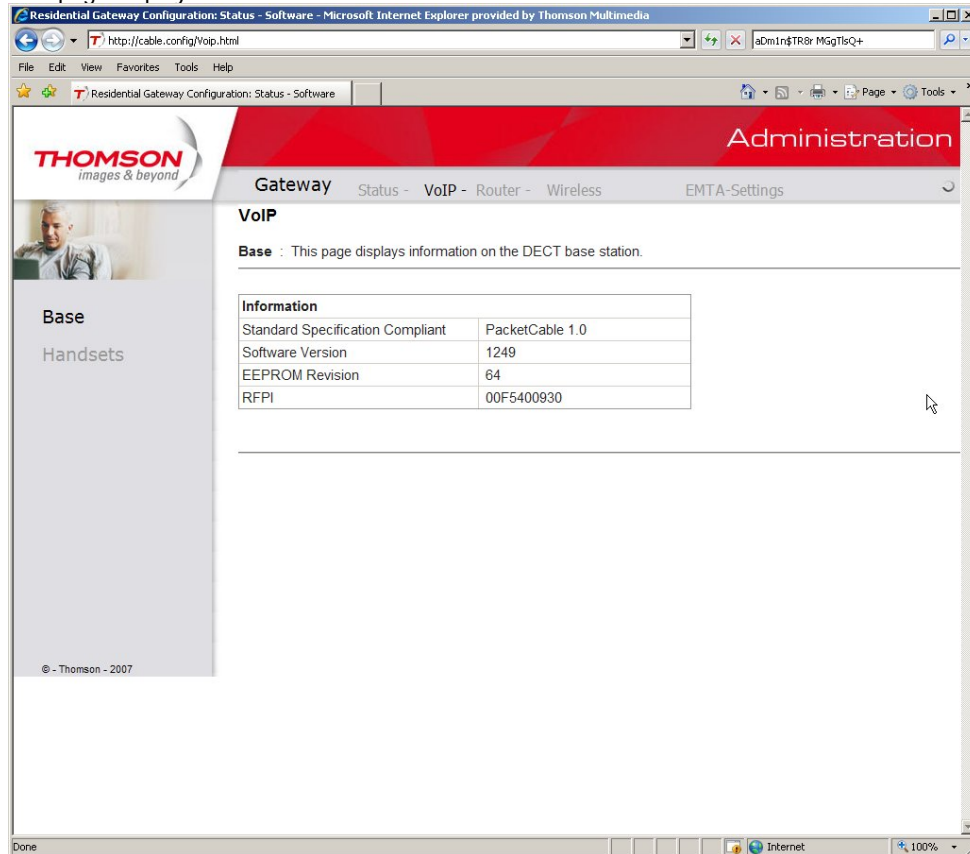
Apply

© Thomson - 2007

Gateway – VoIP Web Page Group

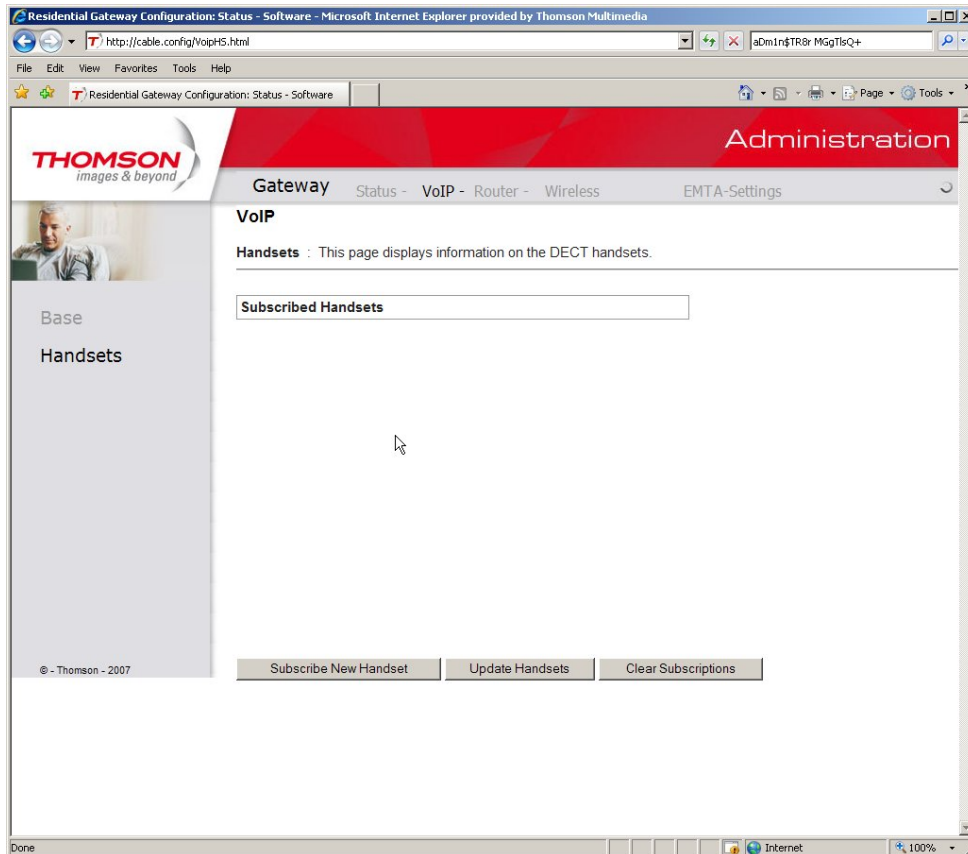
1. Base

This page displays information on the DECT base station



2. Handsets

This page displays information on the DECT handsets subscribed to the ACG



Gateway – Router Web Page Group

1. LAN

By default the DHCP server function for the LAN is activated. LAN settings can be modified on this page.

With this function activated, your cable company's DHCP server provides one IP address for your gateway, and your gateway's DHCP server provides IP addresses, starting at the address you set in IP Address on the LAN page, to your PCs. A DHCP server leases an IP address with an expiration time.

For example, to change the lowest IP address that your gateway will issue to your PCs, enter it into the **DHCP Range Start Address** box and then click **Apply**.

The screenshot shows a web browser window titled "Residential Gateway Configuration: Network - LAN - Microsoft Internet Explorer provided by Thomson Multimedia". The address bar shows "http://cable.config/Router.html". The page has a red header with "Administration" and a navigation menu with "Gateway", "Status", "VoIP", "Router", "Wireless", and "EMTA-Settings". The "Router" section is active, and the "LAN" sub-section is selected. The "LAN" section contains a description: "This page allows configuration and status of the optional internal DHCP server for the LAN." Below this, the "Network Configuration" section includes fields for "IP Address" (192.168.0.1), "Subnet Mask" (255.255.255.0), "DHCP Server" (Yes), "DHCP Range Start Address" (192.168.0.10), "DHCP Range Stop Address" (192.168.0.99), and "DHCP Lease time" (24h). "Apply" and "Cancel" buttons are at the bottom.

THOMSON
images & beyond

Administration

Gateway Status - VoIP - Router - Wireless EMTA-Settings

Router

LAN : This page allows configuration and status of the optional internal DHCP server for the LAN.

Network Configuration

IP Address : 192.168.0.1

Subnet Mask : 255.255.255.0

DHCP Server ☒ Yes ☐ No

DHCP Range Start Address : 192.168.0.10

DHCP Range Stop Address : 192.168.0.99

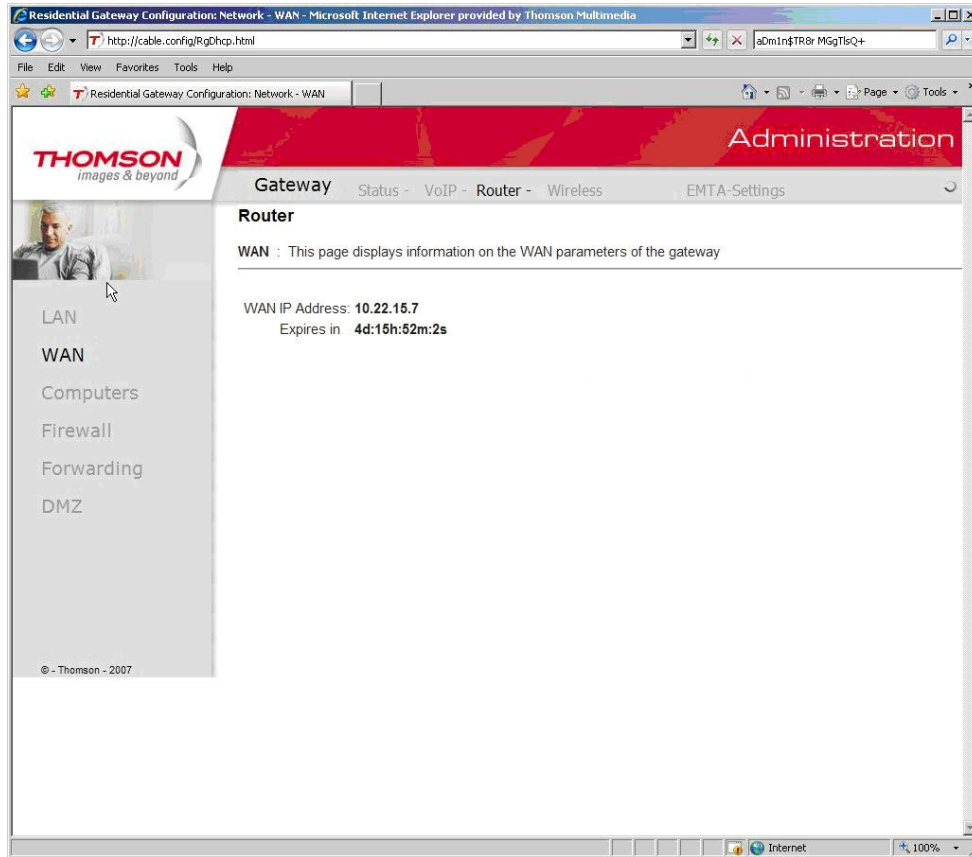
DHCP Lease time : 24h

Apply Cancel

© - Thomson - 2007

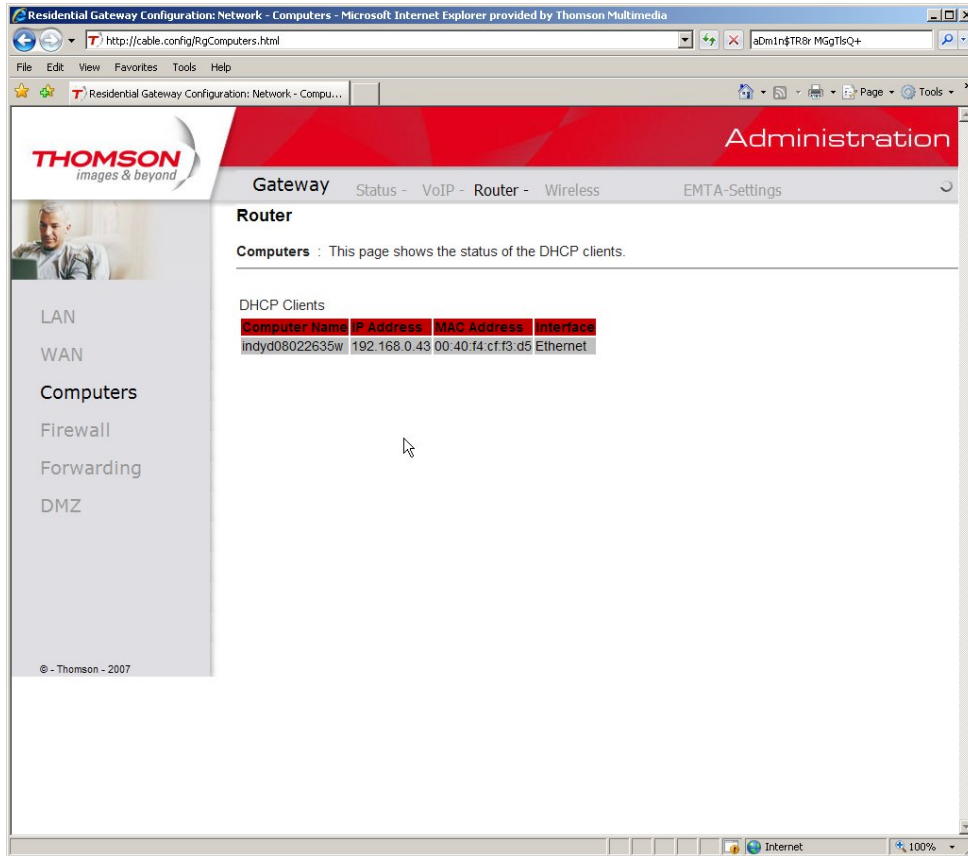
2. WAN

This page displays information on the WAN parameters of the gateway.



3. Computers

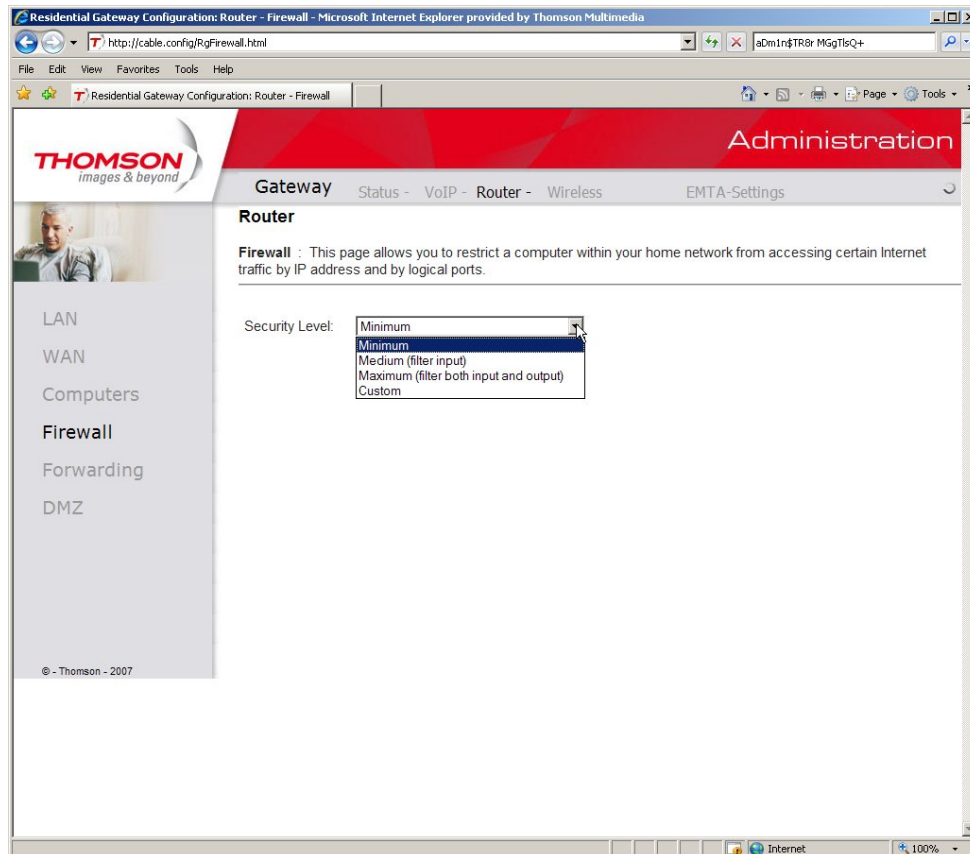
This page displays the status of the DHCP clients.



4. Firewall

This page allows you to restrict a computer within your home network from accessing certain Internet traffic by IP address and by logical ports.

4 security levels are proposed: minimum, medium, maximum and custom. Minimum is set by default.



a. Minimum level of security

The minimum level allows all the incoming and outgoing traffic, except for:

- Windows Ports: 137, 138, 139. These ports are used for local network.
- Incoming http, ftp and telnet services.

So, the Firewall allows a minimum level of security.

b. Medium level of security

This level of security blocks all the incoming traffic and allows all the outgoing one.

All new connections, established or not valid are rejected.

There are some exceptions for the incoming traffic:

- FTP 20 Port : Incoming : Only an already established or related connection is accepted
- FTP 21 Port : Incoming : Only an already established connection is accepted
- All the incoming established connections are accepted.

c. High Security Level

This level blocks all the incoming and outgoing traffic.

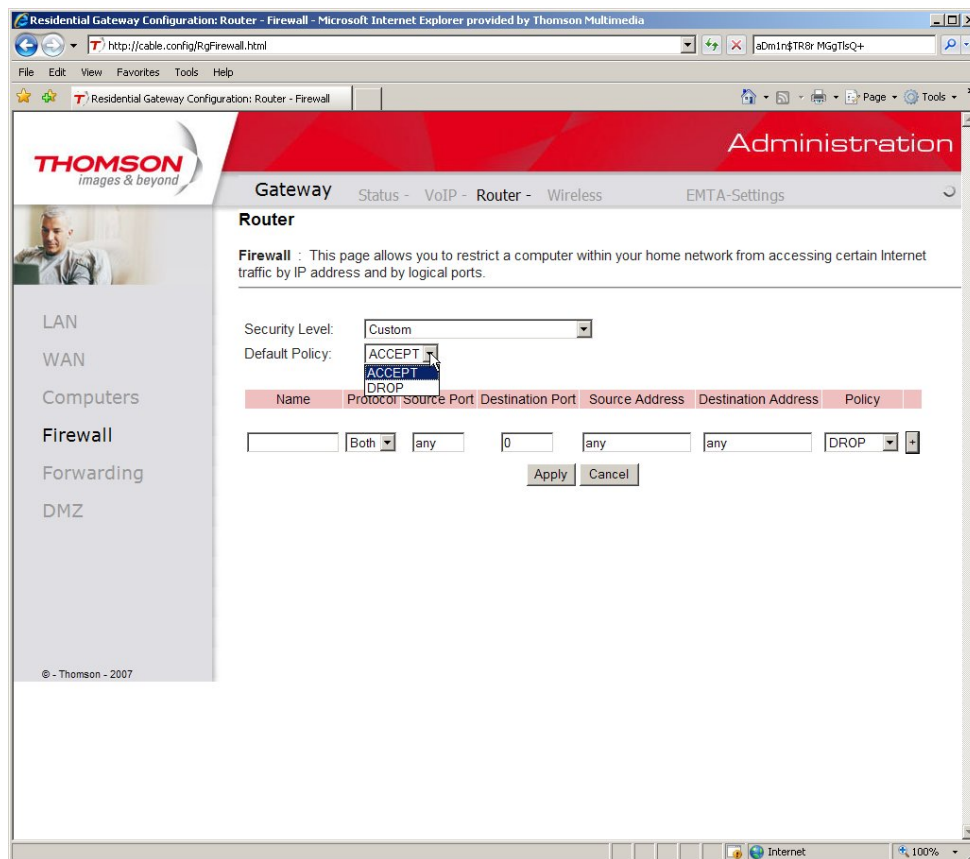
The exceptions are:

- Port FTP 20 :
 - Incoming: Only an already established or related connection is accepted
 - Outgoing: Only an already established connection is accepted
- Port FTP 21 :
 - Incoming: Only an already established connection is accepted
 - Outgoing: Only a new or an already established connection is accepted.
- Ports higher than 1024 :
 - Incoming: Only an already established connection is accepted
 - Outgoing: Only an already established or related connection is accepted
- These services are accepted:
 - Bootps (port 67) in UDP
 - www (port 80) in TCP
 - https (port 443) in TCP
 - DNS (port 53) in UDP

- SMTP (port 25) in TCP and UDP
 - POP 3 (port 110) in TCP and UDP
 - POP2 (port 109) in TCP and UDP
 - nntp (port 119) in TCP
- All the packets of an already established connection are accepted.

d. Custom Security Level

Hereafter, the user interface for the customisation of the firewall.



When the user first enters in this option, the default security level is the same as the High Security Level configuration: the firewall will drop all the connections and exceptions for allowing a minimum working level: Internet browsing, FTP, mail server.

The Bootps is not in the list to avoid any bad manipulation of the end-user. By removing this service the gateway cannot get its IP address.

It is possible to define a general rule: **Accept/Drop** for the connections and also to create and erase new rules.

List of common applications and ports they use:

- AUTH : port 113
- DNS : port 53
- FTP : port 21
- FTP_DATA : port 20
- FTP_SRV : ports 1024 à 65535
- HTTP : port 80
- HTTPS : port 443
- IPSEC : port 500
- NTP : port 123
- POP3 : port 110
- PPTP : port 1723
- SMTP : port 25
- SSH : port 22
- TELNET : port 23
- TFTP : port 69
- VNC : port 5900
- VNC_http : port 5800

The user will have to define the associated protocol:

- TCP
- UDP

And also the type of rule:

- ACCEPT
- DROP

The user can also define the destination and source port or ports (with a range of values).

- Source Port
- Destination Port

It is also possible to define the source and the destination address:

- Source IP Address
- Destination IP Address

You can block or allow all incoming or outgoing traffic by choosing the “**any**” option.

When the rule is created, it will be shown in the firewall rules table.

5. Forwarding

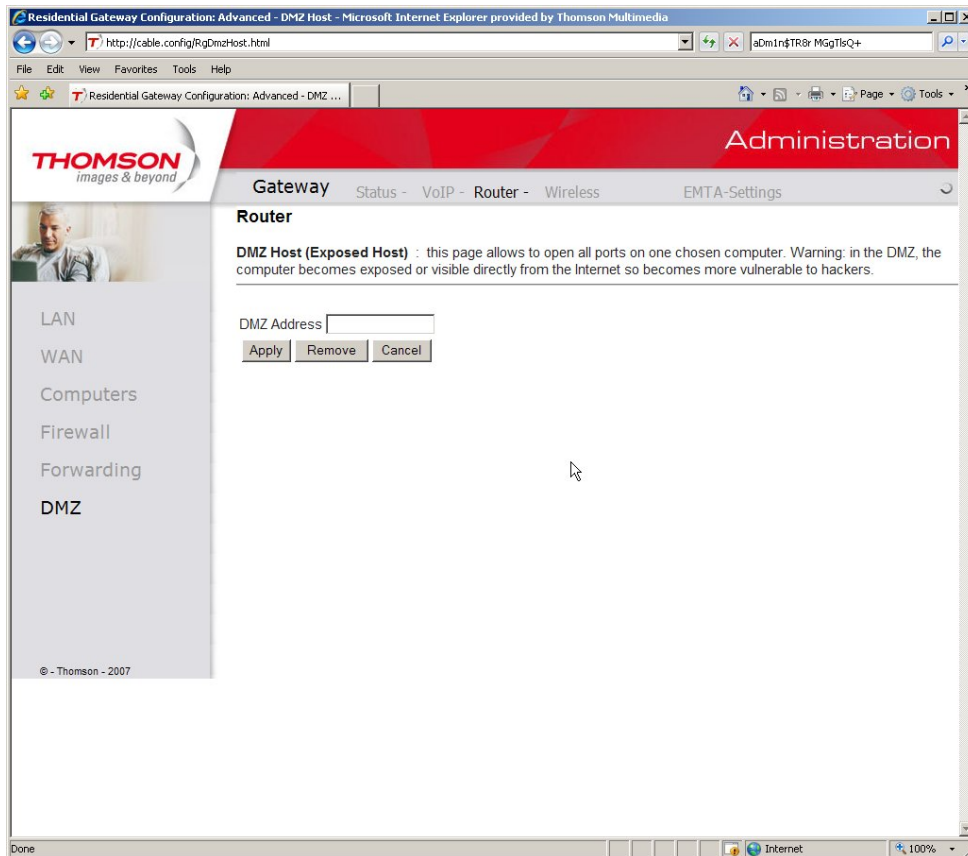
For LAN ↔ WAN communications, the gateway normally only allows you to originate an IP connection with a PC on the WAN; it will ignore attempts of the WAN PC to originate a connection onto your PC. This protects you from malicious attacks from outsiders. However, sometimes you may wish for anyone outside to be able to originate a connection to a particular PC on your LAN if the destination port (application) matches one you specify.

This page allows you to specify up to 9 such rules. For example, to specify that outsiders should have access to an FTP server you have running at 192.168.0.5, create a rule with that address and Source Port =21 and Destination Port =21 (FTP port) and Protocol = TCP (FTP runs over TCP), and click Apply. This will cause inbound packets that match to be forwarded to that PC rather than blocked. The same IP address can be entered multiple times with different ports.

Application Name	Source Port(s)	Protocol	IP Address	Destination Port
<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="Both"/>	<input type="text" value="0.0.0.0"/>	<input type="text"/>

6. DMZ Host

Use this page to designate one PC on your LAN that should be left accessible to all PCs from the WAN side, for all ports. For example, if you put an HTTP server on this machine, anyone will be able to access that HTTP server by using your gateway IP address as the destination.



Gateway – Wireless Web Page Group³

Important: Changes to the wireless web pages should be made from a PC that is hard wired to the gateway.

The Wireless web pages group enables a variety of settings that can provide secure and reliable wireless communications.

The Advanced Cable Gateway offers a choice of WEP and WPA-PSK authentication of your PCs to the gateway, 128 bit WEP encryption of communication between the gateway and your PCs to guaranty security, and an Access Control List function that enables you to restrict wireless access to only your specific PCs.

Performance

Because your wireless communication travels through the air, the default wireless channel setting may not provide optimum performance in your home if you or your neighbors have other interfering 2.4GHz devices such as cordless phones. If your wireless PC is experiencing very sluggish or dramatically slower communication compared with the speed you achieve on your PC that is wired to the gateway, try changing the channel number. See the 802.11b/g Basic Web Page discussion below for details.

Authentication

Authentication enables you to restrict your gateway from communicating with any remote wireless PCs that aren't yours. The following minimum authentication-related changes to factory defaults are recommended. See the 802.11b/g Basic and Access Control Web Page discussions below for details.

Network Name (SSID) – Set a unique name you choose

Access Control List – Enter your wireless PCs' MAC addresses

³ Requires an optional Wi-Fi PC card. Please refer to the "Wifi connection setup" part for more information on how to set-up the optional Wi-Fi connection.

Security

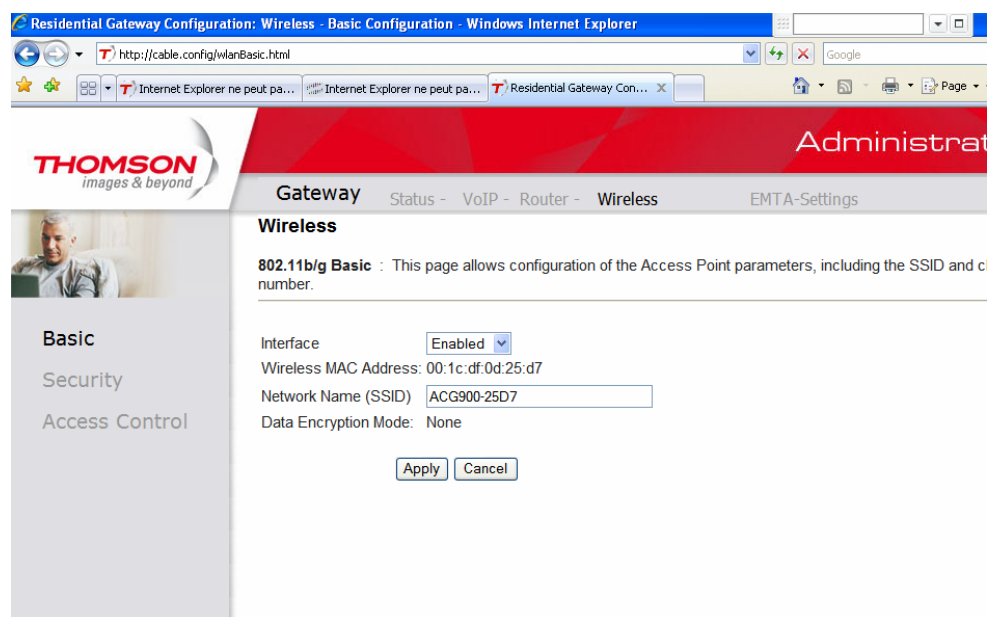
Security secures or scrambles messages traveling through the air between your wireless PCs and the gateway, so they can't be observed by others. The following minimum security setting changes to factory defaults are recommended. See the 802.11b/g Security Web Page discussion below for details.

1. 802.11b/g Basic

To set the basic configuration for the wireless features, click **Basic** from the **Wireless** menu. 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 (Disabled is the default setting). 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.



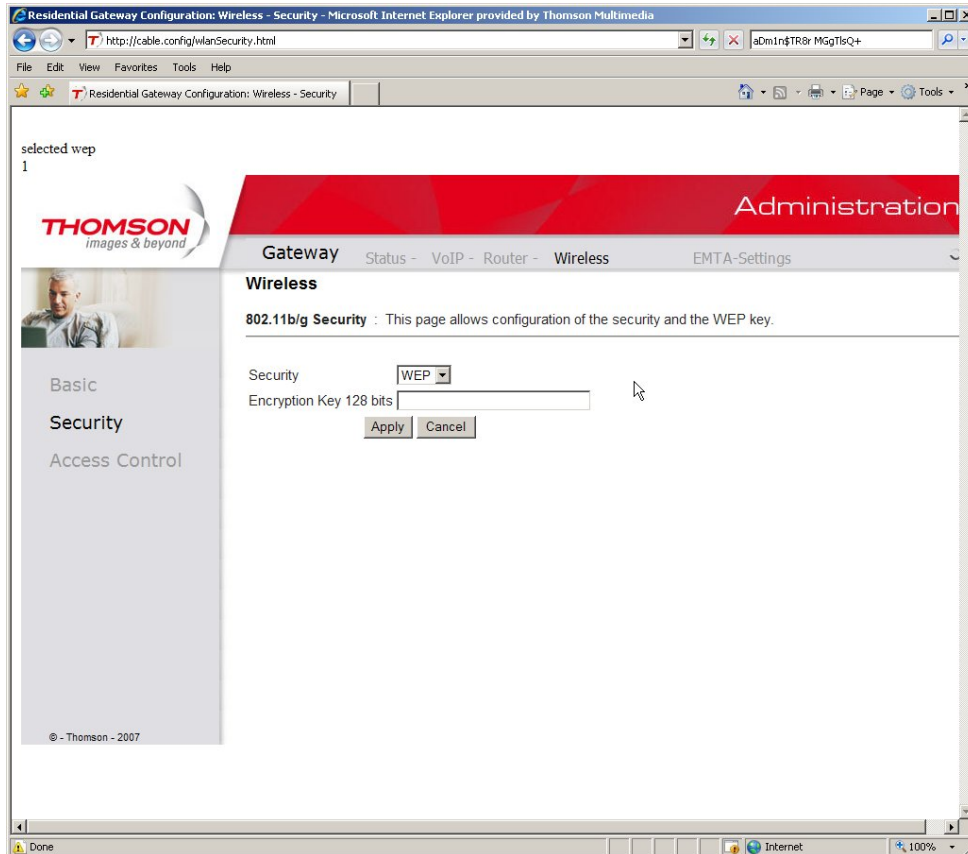
Web configuration

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		

Basic Settings Definition

2. 802.11b/g 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.



WEP Encryption:

If you choose **Security NONE**, the Network Key will not be shown on this page. If selected, the data is encrypted using the key before being transmitted. For example, if you set WEP 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.

If you select WEP (**128-bit**), you have to enter an encryption key:

Encryption Key 128 bits

The key used for WEP and WPA modes is a 128 bit hexadecimal ([0-9] [A-F]) key. The key is composed of 26 hexadecimal characters.

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

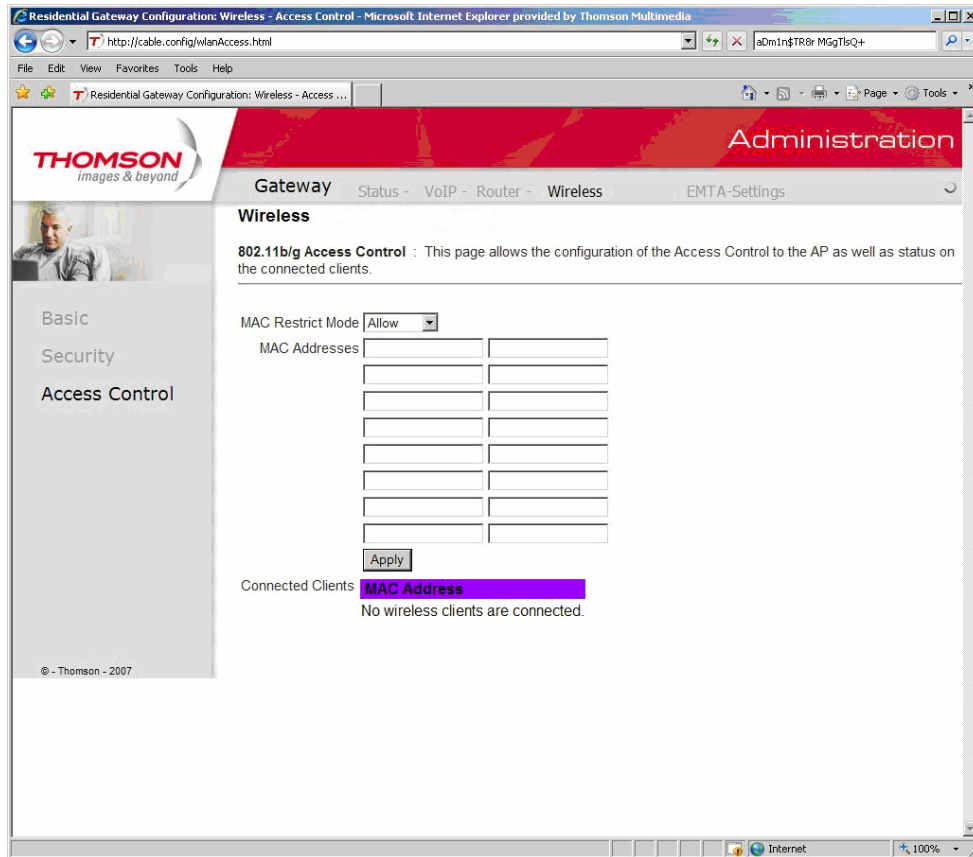
This is the highest form of security available for home users. Make sure that your wireless client and client manager are compatible with it. A 128 bits encryption key is used in this mode.

- **Apply:** After proper configuration, click Apply to invoke the settings.

3. Access Control

This page allows you to ensure security by setting an access control to the AP. Access control is done on clients mac addresses.

Web configuration



MAC Restrict Mode: Click **Disabled** to welcome all of the clients on the network (default setting); 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: 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). It can also be determined from a Windows DOS prompt as explained below.

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

Apply: After proper configuration, click Apply to invoke the settings.

Connected Clients:

The information of currently connected clients will be displayed here.

Web configuration

EMTA settings – Basic Web Page Group

This group of pages gives information on the hardware and the state of your cable connection.

1. Status

This page displays the basic LAN status of this device, including the downstream and upstream status, device information, and interface parameters.

The screenshot shows the Thomson EMTA Basic Status web page in a Windows Internet Explorer browser window. The address bar shows the URL <http://192.168.100.1/BasicStatus.asp>. The page has a red header with the Thomson logo and the word "Administration". Below the header is a navigation bar with tabs: Gateway, Status, VoIP, Router, Wireless, EMTA-Settings, and Advance-Settings. The "Status" tab is selected. The main content area is titled "Basic" and contains a "Status" section with the text: "This page displays information on the status of the cable modem's HFC and IP network connectivity." Below this, there are three tables: "RF Downstream", "RF Upstream", and "Status".

RF Downstream	
Frequency:	405.000 MHz
Power:	13.5 dBmV
SNR:	39.5 dB
Modulation:	QAM-256

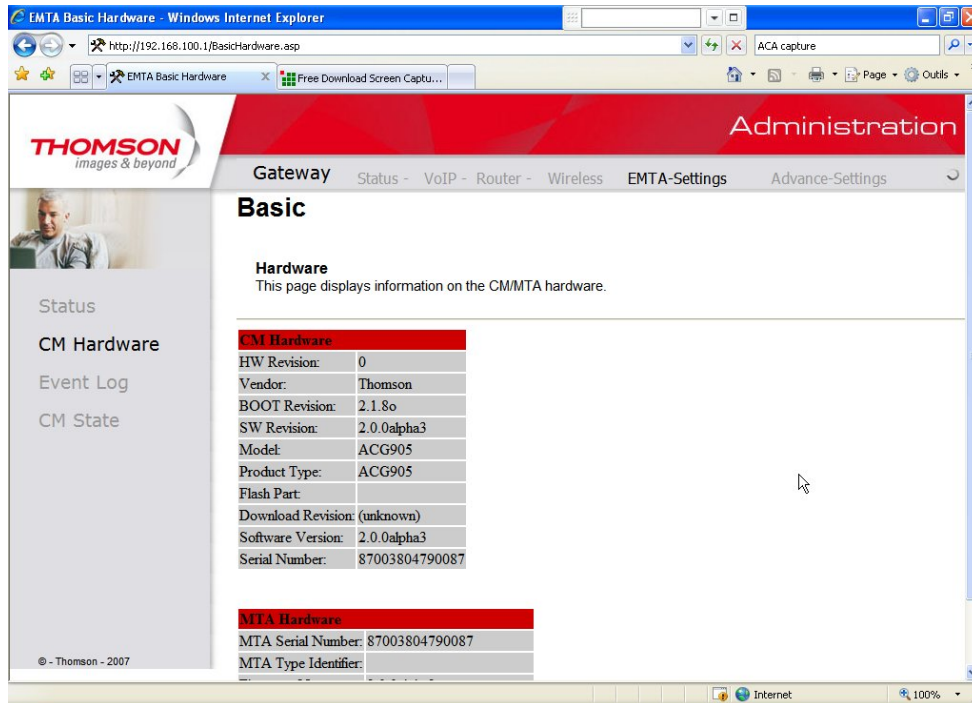
RF Upstream	
Frequency:	33.000 MHz
Power:	43.8 dBmV
Upstream Data Rate:	2560 Ksym/sec
Modulation:	QPSK

Status	
System uptime	0 days 15h:00m:16s
Computer Detected:	?

Web configuration

2. CM Hardware

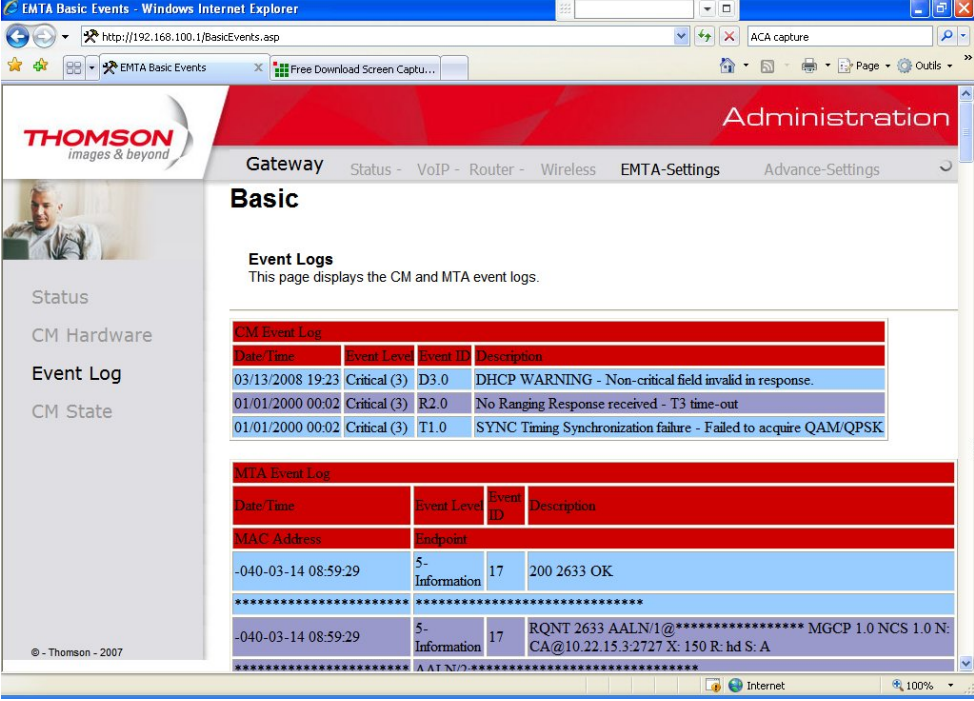
The CM hardware is displayed on this page.



Web configuration

3. Event Log

The CM and MTA event logs are displayed on this web page.



The screenshot shows the Thomson Gateway Administration web interface. The left sidebar contains navigation links: Status, CM Hardware, Event Log (selected), and CM State. The main content area is titled 'Basic' and 'Event Logs'. It states: 'This page displays the CM and MTA event logs.'

CM Event Log

Date/Time	Event Level	Event ID	Description
03/13/2008 19:23	Critical (3)	D3.0	DHCP WARNING - Non-critical field invalid in response.
01/01/2000 00:02	Critical (3)	R2.0	No Ranging Response received - T3 time-out
01/01/2000 00:02	Critical (3)	T1.0	SYNC Timing Synchronization failure - Failed to acquire QAM/QPSK

MTA Event Log

Date/Time	Event Level	Event ID	Description
-040-03-14 08:59:29	5-Information	17	200 2633 OK

-040-03-14 08:59:29	5-Information	17	RQNT 2633 AALN/1@***** MGCP 1.0 NCS 1.0 N: CA@10.22.15.3:2727 X: 150 R: hd S: A

Web configuration

4. CM State

This page shows the current state of the cable modem.

CM State	
CM State	Operational
Docsis-Downstream Scanning	Done
Docsis-Ranging	Done
Docsis-DHCP	Done
Docsis-TFTP	Done
Docsis-Data Reg Complete	Done
Telephony-DHCP	Completed
Telephony-Security	Disabled
Telephony-TFTP	Completed
Telephony-Reg with Call Server	L1: Operational / L2: Operational
Telephony-Reg Complete	Pass

MTA Line State
Line 1 On-Hook

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 service⁴, 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 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.

⁴ Monthly subscription fee applies.

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. It 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.

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 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're 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.

Additional information

- 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.

Kommentar [T3]: To be checked by the US team.

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. 103 rd 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 information

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. |

Kommentar [T4]: TBC

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.

Additional information

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 a 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.