

AT-iMG616WCRF

INSTALLATION GUIDE

AT-iMG616WCRF

SERIES RESIDENTIAL VOIP GATEWAY - USER MANUAL

This User Manual covers the following products:

AT-iMG616WCRF

For a description of detailed functionality please refer to the Reference Manual. For installation and safety instructions please refer to this User Manual.

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Thank you for choosing the AT-iMG616WCRF Residential Gateway. Please read this manual carefully and use the device correctly. "The device", "this product", and "AT-iMG616WCRF" all refer to the Residential Gateway unit.

Please see below for the meaning of the icons used in this manual.

TABLE 1: ICONS

Icon	Meaning
	Useful information
	Indication of risk of a serious injury and/or damage to the environment
	As above
	Indication of reference page and information

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Important safety instructions



DO NOT OPEN the product, remove screws or cover. To prevent ELECTRIC SHOCK during normal use, the plastic chassis of the product must be kept closed. This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician.



DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY to avoid ELECTRIC SHOCK.



Do not use the telephone to report a gas leak in the vicinity of the leak.



To avoid risk of electrical shock or fire, this device, connecting peripherals and cables, should not be used in an outside environment.



Air vents must not be blocked. They must have free access to the environment air for cooling to prevent fire caused by excessive heating.



To avoid the possibility of ELECTRIC SHOCK or FIRE caused by a short in internal circuits, do not place the device in any of the environments listed on point 2.



To avoid FIRE risk, use this unit only with industry standard plugs and wiring suitable for your territory.



Be careful not to drop water or any other harmful substance onto the product. This could lead to fire or electric shock. If the unit might get in contact with liquids, unplug the power and contact your support center or sales stores.



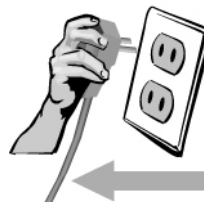
This product contains parts that are sensitive to static shock. Please avoid touching interface connectors with bare hands.



This could lead to fire or electric shock.

Take care when handling the power cable and plug:

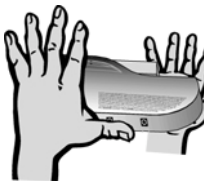
- Do not strain the power cable
- Do not place near a heater or stove
- Unplug the power cable using the plug



Keep the product free away from dust and maintain it clean. Unplug before cleaning.



Only the power adapter supplied with this unit is guaranteed to function correctly with it.



Do not drop the unit, handle with care.



If really dirt, clean using a soft, damp cloth with a neutral detergent. Then dry with a soft cloth.



Do not use oil, cleanser, thinner, petrol, wax, boiled water and powdered soap (please follow the instructions when you use a chemical duster).

Important notice

Do not use or store the device:

In direct sunlight.

In a hot environment.

In a low-airflow environment, such as a drawer or a closet, while the unit is turned on. *Restricting airflow can damage the unit or cause a fire.*

Where there could be a sudden temperature change

In a damp place or near a liquid such as water. Humidity must be less than 80%.

In areas subject to a lot of vibration.

In dusty and/or carpeted areas.

In the presence of corrosive gases.



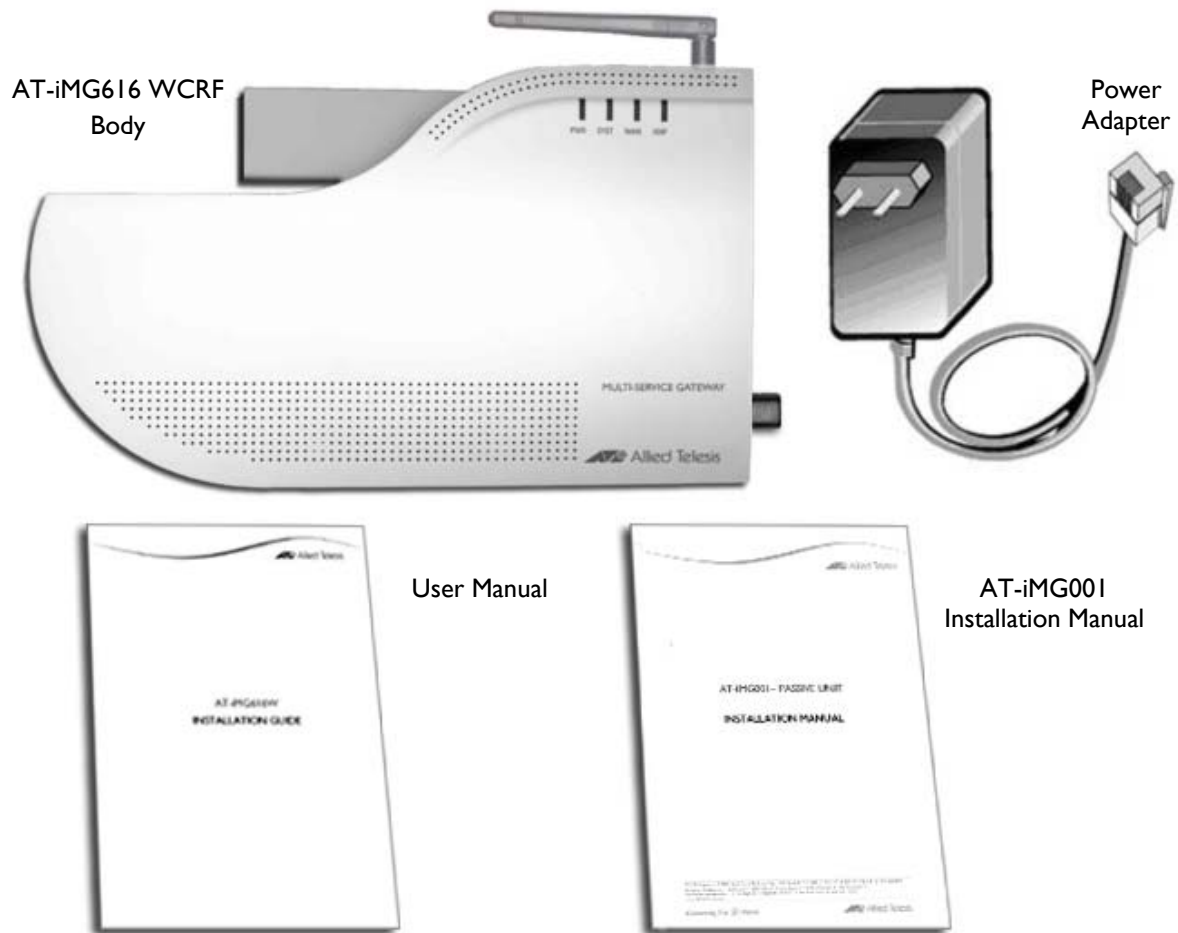
I.1. Emission Statement

CE Marking Warning: This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Please install and use it in accordance with this user manual.

Contents of the package

FIGURE 1: CONTENTS OF THE PACKAGE



(NOTICE) THE PACKAGE DOES NOT CONTAIN SCREWS.

The following items are included with each AT-iMG616WCRF. Contact your sales representative if any items are damaged or missing.

One AT-iMG616WCRF

One AC/DC power adapter

One AT-iMG616WCRF Series Residential VoIP Gateway User Manual

One AT-iMG001 Passive Unit Installation Manual

What can the AT-iMG616WCRF do for you?

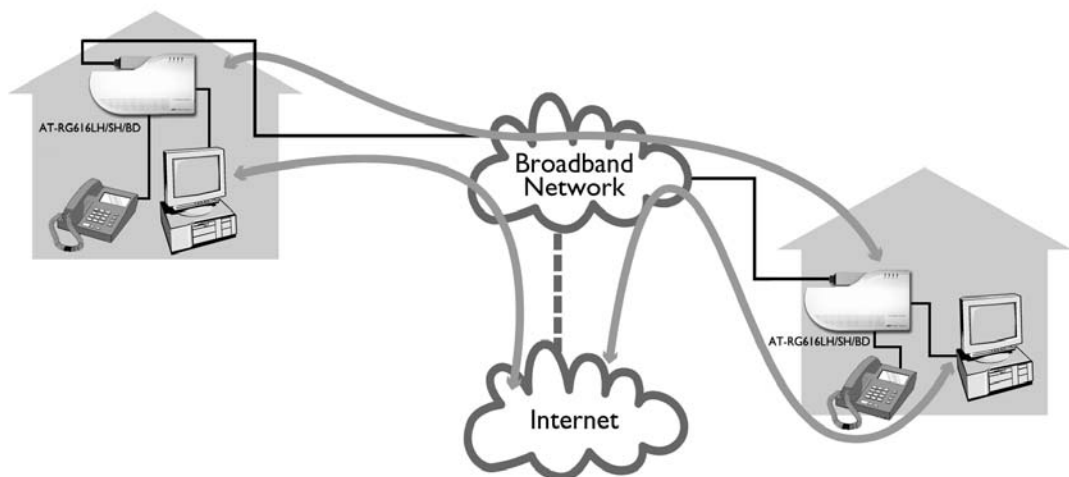
The AT-iMG616WCRF is Customer Premise Equipment (CPE) designed for be installed in a customer residence, it interfaces with new generation fibre networks designed to support broadband communications.

Using this intelligent equipment, called a "residential gateway", you can use broadband integrated services for telephony, Internet and Internet Video.

The VoIP residential gateway is fitted with a number of ports for connection of telephones, faxes, PC's and a set top box for TV.

Using the internal Ethernet router you can easily build a firewall-protected Local Area Network (LAN) in your home supporting multiple PC's as well as a set top box for TV/video services (see figure below).

FIGURE 2: LAN CONNECTIONS



Product Details

1.2. Top view of Unit

FIGURE 3: TOP VIEW



TABLE 2: POWER/SYSTEM LED INDICATIONS IMG616W

Led	State	Function
PWR	Green light on	The device is receiving power and the voltage is within the acceptable range
	Red light on	The unit is starting up or is malfunctioning
	Red light flashing (4 flashes followed by 1 second off)	The unit is downloading the software
	Red light flashing (2 flashes followed by 1 second off)	The unit is writing the software into flash
WLAN	Green light on	Link up
	Green light flashing	Transmission and reception of packets

TABLE 3: WAN LED INDICATIONS IMG616LH/SH/BD

Led	State	Function
WAN	Orange light off	WAN link not established
	Orange light on	WAN link established
	Orange light flashing	Activity on WAN link

TABLE 4: VoIP LED INDICATIONS WHEN THE AT-IMG616WCRF TEL1 AND TEL2 PORTS ARE REGISTERED ON A REMOTE SERVER (THE PORTS ARE ENABLED TO CALL A REMOTE NUMBER VIA A VoIP NETWORK)

Led	State	Function
VoIP	Green light on	LED is fixed on when you lift the receiver of the telephone or fax connected to TEL1 or TEL2 port and remains on during the call.
	Green light flashing	The VoIP network is operating. (Both TEL1 and TEL2 receivers are in on-hook state).
	Green light off	The VoIP network is not operating.

1.3. Front view of unit

FIGURE 4: FRONT VIEW OF AT-IMG616WCRF

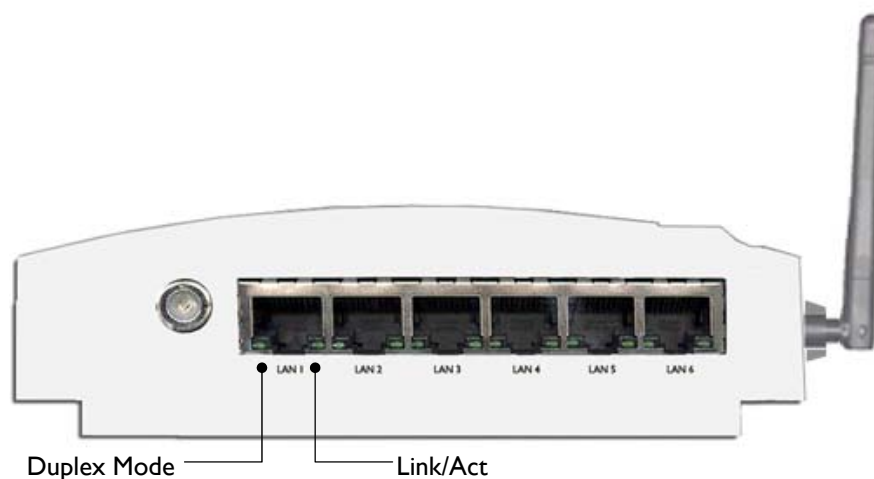


TABLE 5: SPEED AND LINK/ACT LED INDICATIONS

Led	State	Function
Duplex Mode	Green light off	Transmission and Reception of packets in half duplex mode
	Green light on	Transmission and Reception of packets in full duplex mode
Link/act	Green light off	Link not established
	Green light on	Link established
	Green light flashing	Link activity

I.4.

I.5. Side view of unit

FIGURE 5: SIDE VIEW OF AT-IMG616WCRF



TABLE 6: POWER CONNECTION

Port	
Power Cable	Provides the 12V DC power to this product. This product doesn't have a power switch, you have to plug or unplug the power cable to turn the unit off.

TABLE 7: PORTS DESCRIPTION

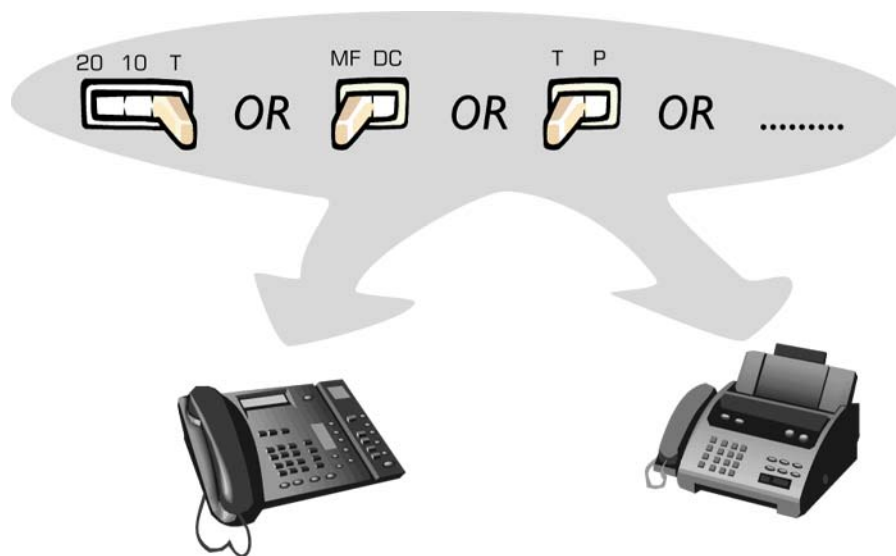
Port	Function
Tel2/Tel1	Connects analog telephone and fax.
LAN port (MDI-X)	Connects computer, HUB and switch with UTP cable.

Telephones and cables

I.6. AT-iMG616WCRF - POTS Telephone and Fax Operation

Check if the dial mode is set up for tone mode (T, Tone). If not, set the switch as shown below.

FIGURE 6: DIAL MODE SETTING



Note, as shown in the diagram, different models of phone are likely to have different labeling on this switch.



Some models do not have this switch or the possibility to set up the tone mode with a button. In this case please follow the instructions of the telephone and fax used.

I.7.

1.8. Telephone cord and UTP cable

There are 2 kinds of user connection cables: telephone cables and Unshielded Twisted Pair (UTP) cables used for data.

See Below.



This product does not include any LAN or phone cables. The service provider or end user must provide these.

FIGURE 7: TELEPHONE CABLE



Note: The telephone cable uses the RJ11 connector



CAUTION: To reduce the risk of fire, use only No. 26AWG or larger telecommunication line cord.

FIGURE 8: LAN CABLES



Use UTP cable category 3 or higher on 10Base-T, and UTP cable category 5 or higher on 100BASE-TX.



There are two types of LAN cable, straight cable and crossed cable; for the - AT-iMG616WCRF, it does not matter which of these types of LAN cable you use. The LAN interfaces on the AT-iMG616WCRF can auto-sense whether the cable is straight or crossed.



If you buy a new cable, it is recommended that you choose UTP cable - category 5 or higher

Connecting the AT-iMG616WCRF

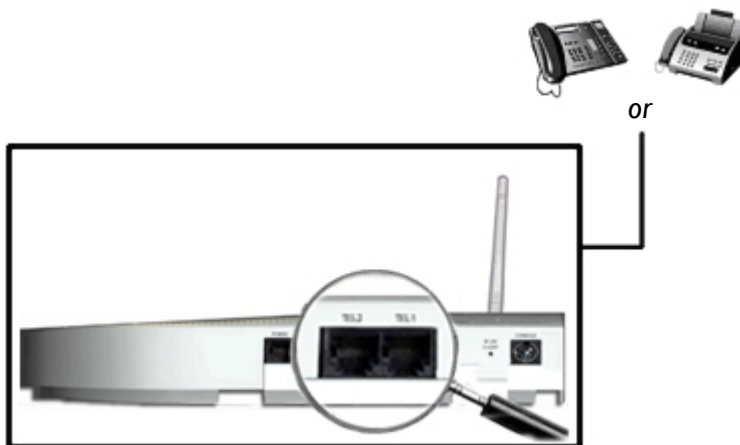
I.9. Connecting the PSTN telephone ports

Connect PSTN (POTS) telephone and PSTN fax units to the TEL ports with the appropriate telephone cords. Push in the plug of the telephone cord to the TEL port until you hear a “click” and make sure it is correctly fixed by pulling the telephone cord lightly.



CONNECT TO TEL 1 WHEN YOU USE ONLY ONE TELEPHONE OR FAX MACHINE

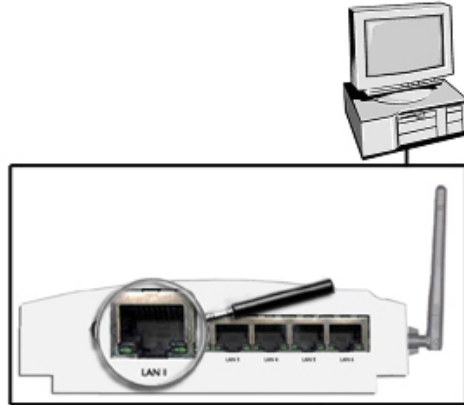
FIGURE 9: TELEPHONE PORTS CONNECTION



I.10. UTP Cable Connection

To connect devices to the LAN ports using UTP cables follow the procedure below:

FIGURE 10: UTP CABLE CONNECTIONS



Push in the plug of the UTP cable into the LAN port until you hear a “click” and make sure it is correctly fixed by pulling the UTP cable lightly. In the same way connect the plug on the other end of the UTP cable to the network interface card of the computer, or other LAN device.

I.11. CATV Cable Connection

To connect the TV set to the CATV port using a coax 75-ohm cables follow the procedure below:

FIGURE 11: CATV CABLE CONNECTIONS



The coaxial cable screen shield needs to be connected to earth at the building entrance as per ANSI/nfpa 70, the National Electrical Code (NEC), in particular Section 820.93, Grounding of Outer Conductive Shield of a Coaxial Cable or in accordance with local regulations.



THE LENGTH OF ALL CABLES MUST BE LESS THAN 100 M.

I.12. Disconnecting Power supply

This product doesn't have a power switch; it automatically turns on when you connect the power cable.

When you want to turn it off, just unplug the power cable.

FIGURE I2: POWER CABLE



Notice about functions and services

When using the VoIP telephony service it might be that some services usually offered by standard telephone networks are not available. Similarly, some telephone or fax functions may not be available on the VoIP network. Please contact your VoIP Telephony provider for further details.

Appendix A: Troubleshooting

This Appendix describes some of the more common problems that may occur during - AT-iMG616WCRF installation and use.

In the event of a problem, please look at the LED indications and then refer to this Appendix.

1.13. Fault Finding

Is the **POWER LED** on?

If the power LED is off, please check if the power cable is not damaged, the power cable is correctly connected and you are using the plug with the correct power voltage.

Check if the AC plug of the power cable of the product is connected correctly. This product doesn't have a power switch. To turn the unit on or off you have to plug or unplug the power cable.

Is the **SYSTEM LED** red?

If the SYSTEM LED lights up red, unplug the AC plug and plug it in again after 20 seconds. If you do not resolve the problem, unplug the power plug of this product and contact your supplier

Is the **WAN LED** off?

Check to ensure that the IMG616 is seated correctly into the wall mounted iMG001. If you have ensured that it is correctly seated, and the WAN LED remains unlit then contact your supplier.

Are the **LAN LINK/ACT LED** off?

Check if the power of the connected device is on, check that there are no problems with the network interface cards installed in the attached devices, also check if the cables are correctly connected to the network interface cards.

Check also if the length of the cable is over the limit. UTP cable must be less than 100 m.

Do you have a problem with the **UTP cable**?

Swap out with a known good cable.

Does **VOIP LED** remain off when you lift up the receiver?

Please ensure that the telephone cable is connected correctly, that the correct cable is being used and that the cable is not damaged.

Do you have a problem with the **telephone cord**?

Swap out with a known good telephone cord.

For POTS phones and faxes check if the setting of the dial mode for the telephone and fax is correct, follow the instructions of the telephone and/or fax device.



For further information on dial mode set up please refer to Chapter 5

ENSURE THAT THERE IS NO PROBLEM WITH THE TELEPHONE OR FAX MACHINE.

Appendix B: Technical Specifications

I.14. Product Specifications AT-iMG616WCRF

Supported standards	
	IEEE 802.3 10 BASE-T, 100 BASE-TX
	IEEE 802.3u 100 BASE-FX,
	RFC 791, RFC1144, RFC1112, RFC2236, RFC 2516,
	RFC 1334, RFC 1994, RFC 1631, RFC 2131,
	RFC 3261, RFC 1350, RFC 318, RFC 826,
	RTP/RTCP, MGCP/NCS 1.0, SNMP v1
Interface	
WAN port	1 100BASE-FX (SC connector)
LAN port	6 10/100BASE-TX (8 pin RJ45 connector)
TEL port	2 FXS (6 pin RJ11 connector)
WiFi	802.11b/g
Power	
AC Input voltage	AC100-240V
Standard Frequency	50-60Hz
AC Input current	0.1A (240V)
Average power	10.3W (Max.10.4W)
Average heat	8.8kcal/h (Max. 8.9kcal/h)
Environment condition	
Storage Temperature	-20° – 40°C
Humidity	Less than 95% (non condensing)
Operating Temperature	0° - 40° C
Humidity	Less than 80% (non condensing)
Size (with no projection)	
	240(W) x 150 (D) x45 (H) mm
Weight	
	400g
MAC address table size	
	1024
Memory Capacity	
RAM memory	32Mbyte
Flash memory	8Mbyte
Product Certification	
	CE, UL
Safety	
	IEC60950-1
	EN60950-1
	Class I Laser Product
Emission	
	FCC Part 15 Class B
	EN300 328, EN301 489
	EC55022 Class B
Immunity	
	EN55024, EN50385

Appendix C: Contact information

In the event of any problem please contact your service provider or installer.

Appendix D: Important statements

I.15. Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN60950-1:2006

Safety of Information Technology Equipment

EN50385 : (2002-08)

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

EN 300 328 V1.7.1: (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.8.1: (2008-04)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V1.3.2 (2008-04)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE 0560

Česky [Czech]

[Jméno výrobce] tímto prohlašuje, že tento [typ zařízení] je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk [Danish]

Undertegnede [fabrikantens navn] erklærer herved, at følgende udstyr [udstyrets typebetegnelse] overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Deutsch [German]

Hiermit erklärt [Name des Herstellers], dass sich das Gerät [Gerätetyp] in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.

Eesti [Estonian]

Käesolevaga kinnitab [tootja nimi = name of manufacturer] seadme [seadme tüüp = type of equipment] vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

English

Hereby, [name of manufacturer], declares that this [type of equipment] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español [Spanish]

Por medio de la presente [nombre del fabricante] declara que el [clase de equipo] cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Ελληνική [Greek]

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ [name of manufacturer] ΔΗΛΩΝΕΙ ΟΤΙ
[type of equipment] ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

Français [French]

Par la présente [nom du fabricant] déclare que l'appareil [type d'appareil] est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Italiano [Italian]

Con la presente [nome del costruttore] dichiara che questo [tipo di apparecchio] è

conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski [Latvian]

Ar šo [name of manufacturer / izgatavotāja nosaukums] deklarē, ka [type of equipment / iekārtas tips] atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian]

Šiuo [manufacturer name] deklaruoją, kad šis [equipment type] atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands [Dutch]

Hierbij verklaart [naam van de fabrikant] dat het toestel [type van toestel] in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]

Hawnhekk, [isem tal-manifattur], jiddikjara li dan [il-mudel tal-prodott] jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Direttiva 1999/5/EC.

Magyar [Hungarian]

Alulírott, [gyártó neve] nyilatkozom, hogy a [... típus] megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski [Polish]

Niniejszym [nazwa producenta] oświadczam, że [nazwa wyrobu] jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português [Portuguese]

[Nome do fabricante] declara que este [tipo de equipamento] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Slovensko [Slovenian]

[Ime proizvajalca] izjavlja, da je ta [tip opreme] v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]

[Meno výrobcu] týmto vyhlasuje, že [typ zariadenia] spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi [Finnish]

[Valmistaja = manufacturer] vakuuttaa täten että [type of equipment = laitteen tyyppimerkintä] tyypinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska [Swedish]

Härmed intygar [företag] att denna [utrustningstyp] står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

I.16. U.S. Regulatory Wireless Notice

Federal Communication Commission Interference Statement

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 to correct the interference by one of the following measures:

-Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the 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 Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

IMPORTANT NOTE:

FCC RADIATION EXPOSURE STATEMENT

THIS EQUIPMENT COMPLIES WITH FCC RADIATION EXPOSURE LIMITS SET FORTH FOR AN UNCONTROLLED ENVIRONMENT.

THIS TRANSMITTER MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER.

THIS EQUIPMENT SHOULD BE INSTALLED AND OPERATED WITH MINIMUM DISTANCE 20CM BETWEEN THE RADIATOR AND YOUR BODY.

Additional Booklet:

AT-iMG001– Passive Unit Installation Manual