GEMINI

ALARM SYSTEMS

7590TK15

INSTALLATION AND USE MANUAL

CE

Made in Italy

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UK

Homologation number 7590T Cat 1:	TQA425

1.0 - PRELIMINARY ADVICE

Dear customer

The 7590T is a Thatcham alarm unit with dual point immobilization and built-in sensors designed to be used only on vehicles with a negatively grounded 12V battery.

The following signs, intended for the installer or the user, indicate particular functions or connections:

> **For the user.**
> This sign highlights useful information.

> **For the installer.**
> This sign indicates that the system will work according to the connections and the programming selected or it simply provides useful installation tips.

2.0 - FUNCTIONS

- Arming/disarming via random rolling code transmitters.
- Electrical engine immobilizer by passive arming.
- Double engine immobilizer.
- Blinker.
- Siren sound intermittent or continuous (programmable).
- Perimeter protection.
- Volumetric protection (combined with an ultrasonic or hyperfrequency module, excludable during arming).
- Control for CDL, power windows and sunroof (vehicles equipped with Comfort Pack).
- Alarm memory (optical/acoustic signals).
- PANIC or BOOT RELEASE function (programmable).
- Current absorption sensor (programmable).
- Anti-distraction rearming function (programmable).
- Output for self-powered siren or additional siren.

3.0 - REMOTE CONTROL OPERATION AND BATTERY REPLACEMENT

BUTTON 1:
- **COMPLETE SYSTEM ARMING**
- **SYSTEM DISARMING**
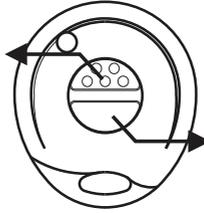
BUTTON 2:
- **SENSOR EXCLUSION**
- **PANIC ALARM OR BOOT OPENING**

The remote control has a low charge battery indicator that gives early warning to avoid manlfunctioning. If the batteries are low, the LED will start blinking when a button is pressed.
Use only CR 16161 batteries. Different type batteries can seriously damage the remote control unit. Discard used batteries properly in special dedicated containers.

To replace the battery proceed as follows:
- Separate the remote halves taking care not to damage the internal circuit.
- Remove discharged batteries and insert new ones taking care not to invert the battery polarity.
- Close the remote halves and make sure the remote control works properly.

4.0 - OPERATING INSTRUCTIONS

4.1 ALARM ARMING

To arm the alarm press remote control button 1 or touch the electronic key to its receptacle. Arming is confirmed by a quick flash of the turn indicators.

The following functions are enabled:
a) Module output (PINK wire, +A).
b) Led output.
c) Engine immobilizer.
d) Door-lock control with pulse time selected during programming.

If the electronic key is used to arm the system, functions **a)**, **b)** and **c)** will be enabled, whereas **d)** will be disabled to provide time to exit the vehicle without triggering an alarm.

When using the electronic key, there is also an entry delay countdown (approx.10 sec., LED ON steady) to allow the user to get into the car and disable the alarm via the electronic key without generating an alarm.

4.2 - ARMING DELAY, SENSOR and COMFORT EXCLUSION, WINDOW-UP STOP

An arming delay (approx. 45", LED ON steady) provides an exit time to leave the vehicle without generating a false alarm. During the initial 25" of the arming delay countdown, external sensors can be excluded and window roll-up stopped by pressing button 2 on the remote control (NB: window roll-up requires installation of module 2344 or the vehicle must be equipped with Comfort System). A quick flash of the turn indicators will confirm exclusion of sensors/window-up stop/comfort feature.

Sensor exclusion is bound to a single alarm activation cycle.

4.3 - SIREN SOUND EXCLUSION WHEN ARMING

This function allows arming the alarm system without any siren sound in case of an alarm event. To exclude the siren, proceed as follows:
- Turn ignition key "ON".
- The LED will turn ON for approx. 0,5 sec.
- While the LED is ON, press remote control button 2.
- The LED will turn OFF.
- To reactivate acoustic signaling, simply arm and disarm the system.

Siren sound exclusion is bound to each single arming cycle.

4.4 - TOTAL ARMING AFTER ARMING DELAY

After the 45" arming delay, the alarm system will be fully armed and ready to detect any alarm condition. The LED will flash as follows to minimise power consumption: **LED ON :** 200ms - **LED OFF :** 2sec

4.5 - ALARM CONDITIONS

- Wire tamper (via the self-powered siren).
- Ignition attempt.
- Power drain (if enabled during programming. It can only be used in countries where the use of this sensor is not prohibited).
- Door tamper.
- Boot tamper.
- Bonnet tamper.
- Motion detection by internal ultrasound volumetric sensor.
- Motion detection detected by external sensors (optional, wireless sensor).
- Panic alarm by pressing remote control button 2 (if enabled during programming and only in countries where it is legal to do so). Not available on products for the Dutch market).

NB: In order to filter noise and/or undesired signals, IGNITION, DOOR/BOOT SWITCH inputs have a DEBOUNCE time of 200ms. These inputs will therefore generate an alarm cycle only if the incoming signal lasts longer than 200ms.

An alarm event will trigger alarm acoustic signals (if enabled) and the flashing of the turn indicators for up to 30 sec. The LED will turn ON steady.

An alarm event can generate up to 5 alarm cycles, for each input and for each arming cycle, that will last 30 seconds each.

Ignition attempts and wire tamper alarms have no limitations.

4.6 - ALARM CYCLE

Alarm events will trigger the turn indicators and the alarm siren for up to 30 sec. according to configuration:

ADDITIONAL SIREN: Continuous audible signal for the entire duration of the alarm cycle.

ORIGINAL HORN: Intermittent sound, 2" ON - 2" OFF, for the entire duration of the alarm cycle.

The LED will be ON steady.

The alarm cycle can be interrupted without disabling the system by pressing remote control button 2. Optical/acoustic signals will be immediately cut off, and the system will be in "NEUTRAL TIME BETWEEN SUCCESSIVE ALARMS".

To limit acoustic pollution, each input (DOOR/BOOT/BONNET SWITCHES, ABSORPTION SENSOR, INTERNAL VOLUMETRIC SENSOR and EXTERNAL SENSORS) will only trigger the alarm 5 times per activation cycle. Countdown will be reset upon the next disarming of the alarm system or if an IGNITION ATTEMPT alarm is triggered during the same activation cycle.

4.7 - NEUTRAL TIME BETWEEN ALARM CYCLES

After the alarm is triggered, but before another alarm cycle starts, there is a 5" interval during which there will be no reaction to alarm events. The LED will be ON steady. Normal flashing will resume at the end of the neutral time.

5.8

4.8 - ALARM DISARMING

The alarm system can be disarmed by pressing remote control button 1 **OR** by touching the electronic key to its receptacle. Disarming is confirmed by 3 flashes of the turn indicators.

If an alarm event has occurred while the system was armed, it will be signaled by 5 flashes of the turn indicators.

4.9 - ALARM MEMORY

Five flashes of the turn indicators, when ignition is turned ON, will indicate an alarm event has ocurred while you were away from your vehicle. The last cause of alarm can be identified by observing the status LED and counting the number of flashes.

The flashing sequence will be repeated 5 times. To interrupt, turn ignition key "OFF".

LED SIGNAL	ALARM CAUSE	ALARM CYCLES
✳●✳	**Volumetric sensor**	**5**
✳✳●✳✳	**Door/boot switches**	**5**
✳✳✳●✳✳✳	**Bonnet switch/perimeter sensors**	**5**
✳✳✳✳●✳✳✳✳	**Absorption sensor**	**5**
✳✳✳✳✳●✳✳✳✳✳	**Ignition attempt**	**No limitations**
✳✳✳✳✳✳●✳✳✳✳✳✳	**External magnetic contact**	**5**
● **LED OFF (2 seconds)**	★ **LED ON (400ms)**	

WIRE TAMPER will not be signaled by the alarm memory because managed by the external self-powered siren.

5.0 - ELECTRICAL CONNECTIONS

- Implement the electrical engine blocks by working on the fuel pump and the starter motor.
- Connect the alarm positive supply to the vehicle battery or to one of its derivations.
- Connect the alarm negative supply to the vehicle chassis (2 BLACK wires marked M).
- ALWAYS connect 1 of the alarm GREEN/BROWN wires to the door switch.
- Connect (if necessary) the other alarm GREEN/BROWN wire to the door switch.
- ALWAYS connect the alarm GREEN wire to the bonnet switch.
- Before programming the system, **complete all electrical connections**.
- For CDL connections refer to wiring diagram.

NB: available diagrams, for each specific vehicle, can be requested to the zone dealer.

The table below refers to the alarm wiring diagram (see opposite page).

⚠️ Before carrying out electrical connections, disconnect the NEGATIVE BATTERY TERMINAL and only reconnect after completion.

| FUNCTION	WIRE COLOUR
Negative	2 BLACK wires marked 'M'
Positive	BLACK marked 'R'
Engine immobilization 1	2 BLACK wires marked 'H'
Engine immobilization 1	2 BLACK wires marked 'B'
Ignition	BLACK marked 'G'
Door pin switches	2 GREEN/BROWN wires
Bonnet/boot switches	2 GREEN wires
Positive alarm ON	PINK
External sensor input	GREEN/BLACK
Negative control for additional siren	YELLOW/BLACK
Self-powered siren	BLUE
Turn indicators	2 ORANGE wires
Negative output for electric boot release	GREY-BLACK
CDL (see diagram)	YELLOW/BLUE RED/BLUE YELLOW/BROWN RED/BROWN YELLOW/GREY RED/GREY

NB: The BLACK 2-pin connectors in the alarm harness are for the electronic key and LED connections.

6.0 - WIRING DIAGRAM
ART.7590T

ANTENNA - Do not tamper!

ELECTRONIC KEY

GEMINI
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7590
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US adjustment

RX   TX

Button 2
Button 1
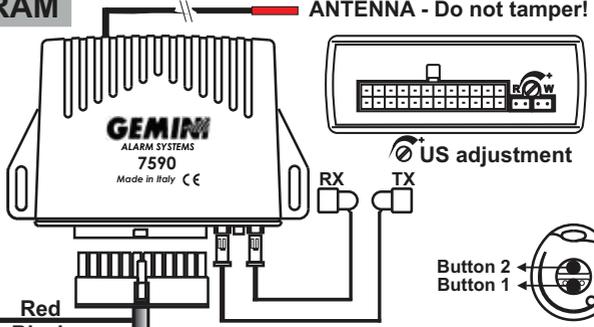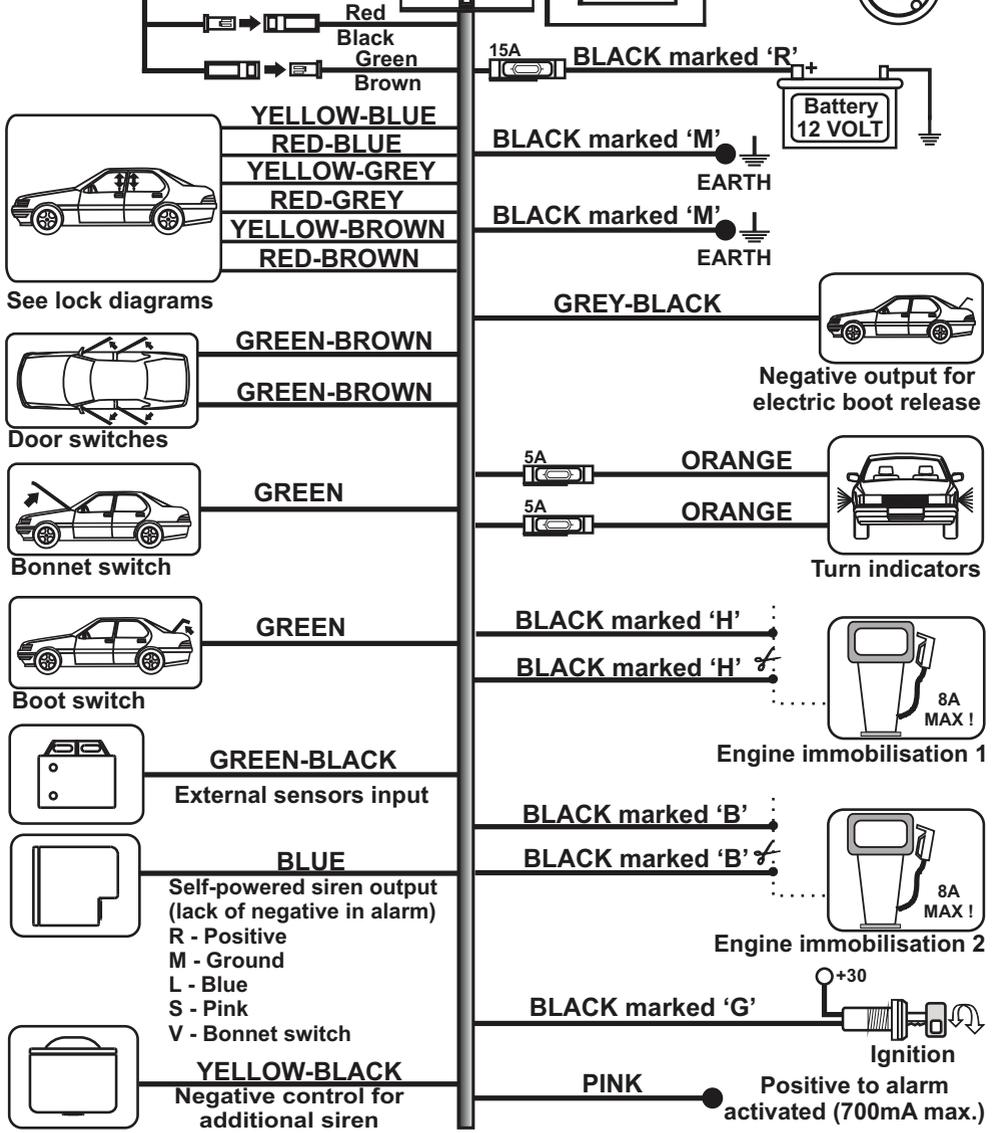
Red
Black
Green
Brown

15A   **BLACK marked 'R'**   +   **Battery 12 VOLT**
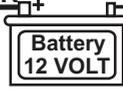
YELLOW-BLUE
RED-BLUE
YELLOW-GREY
RED-GREY
YELLOW-BROWN
RED-BROWN

BLACK marked 'M'
EARTH

BLACK marked 'M'
EARTH
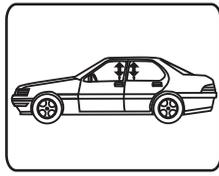
See lock diagrams

GREY-BLACK

Negative output for electric boot release

GREEN-BROWN

GREEN-BROWN
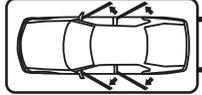
Door switches

GREEN

Bonnet switch

5A   **ORANGE**
5A   **ORANGE**

Turn indicators

GREEN

Boot switch

BLACK marked 'H'
BLACK marked 'H'

Engine immobilisation 1

8A MAX !
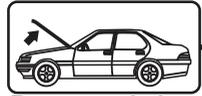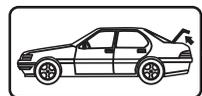
GREEN-BLACK
External sensors input

BLACK marked 'B'
BLACK marked 'B'

Engine immobilisation 2

8A MAX !
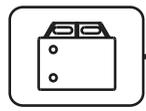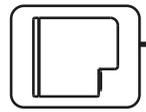
BLUE
Self-powered siren output
(lack of negative in alarm)
R - Positive
M - Ground
L - Blue
S - Pink
V - Bonnet switch

+30
BLACK marked 'G'
Ignition
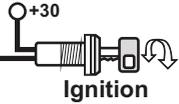
YELLOW-BLACK
Negative control for additional siren

PINK   **Positive to alarm activated (700mA max.)**

7.0 - PROGRAMMING THE ALARM SYSTEM

The alarm system has been factory configured but settings can be modified at any time.

During programming, proceed as follows:
- To enable a function, press textured button '1' => LED will flash once
- To disable a function, press smooth button '2' => LED will flash twice.

To modify settings proceed as follows:
- With the alarm disarmed, open the driver door and leave it open.
- Turn ignition key "ON".
- The status LED will turn ON for 0,5 seconds; while the LED is ON,, simultaneously press both buttons on the remote control.
- The turn indicators and the LED will flash twice to confirm the alarm is in configuration mode.
- To enable and/or disable the functions, proceed as indicated in the table below. Keep in mind that each time a button is pressed, the system will go to the next function.

FUNCTION	DEFAULT setting	BUTTON 1	BUTTON 2
Continuous (siren) or intermittent (horn)	Continuous	Intermittent (horn)	Continuous (siren)
CDL 0.5 or 6 sec.	0.5"	6"	0.5"
25" comfort closure	Disabled	Enable	Disable
Double pulse unlock	Disabled	Enable	Disable
Current absorption sensor	Disabled	Enable	Disable
Anti-distraction rearming and auto-lock	Disabled	Enable	Disable
Panic/boot release	Panic function	Panic	Boot

NB: If ignition key if turned "OFF" during configuration, the system will exit the procedure; the remaining functions will remain unchanged.

- The end of the programming procedure is always confirmed by 2 flashes of the turn indicators and the LED.
- Turn ignition key "OFF" and close door.

Self-arming of engine immobilizer is factory enabled and cannot be modified in the version for the UK market.

8.0 - PROGRAMMABLE FUNCTIONS

8.1 - ACOUSTIC SIGNALS

This function allows to permanently exclude all acoustic signals. See the relative paragraph for programming.

8.2 - PANIC ALARM OR BOOT RELEASE

If enabled, the PANIC ALARM function allows the user to deliberately activate the optical/acoustic alarm signals by pressing remote control button 2.
This function works regardless of whether the alarm system is "ON" or "OFF". The alarm signals last up to approx. 30" but can be silenced by pressing button 2 again. During the alarm signals, the LED will be ON steady.

There is a 5" interval between one panic alarm cycle and the next.

If during programming, the PANIC function has been disabled, pressing button 2, when the alarm is armed or disarmed, will activate the BOOT RELEASE function. There will be no confirmation signal if the alarm is disarmed but, if the alarm is armed, the turn indicators will flash once and the LED will turn ON steady. If the boot is released while the alarm is armed, there will be a 60" delay time for loading/unloading without triggering an alarm. After the delay time, the LED will turn OFF. Pressing button 2, resets the alarm in security mode before the end of the 60" delay. The LED will immediately turn OFF.

During the arming delay, button 2 cannot be used to release the boot because it is used to exclude volumetric sensors and comfort feature.

8.3 - CURRENT ABSORPTION SENSOR

This function activates the alarm system if a voltage change occurs in the vehicle electrical circuit (ex. lamp switching on).

Before enabling the absorption sensor, check out the rules in force in your country regarding noise pollution.

8.4 - ANTI-DISTRACTION REARMING AND AUTO LOCK

This function prevents the vehicle from being unintentionally left unprotected if, after the system is armed, it is accidentally disarmed by pressing button 1. The system automatically rearms if no other activity is detected within 35 sec. (ex. door opening, ignition ON). A flash of the turn indicators will confirm self-rearming. If a door is opened after disarming, the function will be disabled.

The anti-distraction function activates the CDL control. Therefore, in order to prevent involuntary activation of the alarm system, the driver door switch MUST be connected to the GREEN/BROWN alarm wire.

The door-lock security function automatically locks all doors 20" after ignition is turned ON. All doors will automatically unlock when ignition key is turned OFF.
To prevent accidental activation, the system continuously monitors the ignition key status and DOOR/BOOT SWITCH inputs. It will not allow doors to lock if the DOORS and BOOT are manually opened after ignition has been turned ON.

8.5 - PASSIVE ARMING

Engine block passive arming, if enabled, automatically activates the double ENGINE LOCK 60 sec. after the engine has been switched OFF or 60 sec. after the alarm has been disabled (if engine is not switched back on).
The status LED will flash quickly to confirm activation.
If a door is opened during the passive arming countdown, the countdown will stop and start over again when the door is closed. The LED will be ON steady.

8.6 - LOCK TIME

The lock time is factory preset at 0,5 seconds but it can be adjusted to 6 seconds during the programming phase.

> ➡ If the comfort function has been enabled, keep the lock time set to 0,5". Setting it at 6" will cause the windows to open when the alarm is disarmed.

8.7 - COMFORT CONTROL

The comfort control feature automatically closes all windows when the alarm is armed.
If this function is enabled, the power window motor will receive a 25" command to roll-up all windows when the alarm is armed.

8.8 - CDL DOUBLE PULSE UNLOCK

This function, if enabled, provides a double pulse unlock (approx. 0,5 seconds each) upon disarming the system.
With the two-stage unlock, the first pulse unlocks the driver door and the second pulse the remaining doors.
This function is only active if the lock/unlock time is set at 0,5". Setting 6" will automatically disable double pulse unlock.

9.0 - ULTRASONIC VOLUMETRIC SENSOR ADJUSTMENT

The volumetric sensor provides interior protection. To adjust the sensitivity level according to the area to the area that needs to be covered proceed as follows:
- Arm the system excluding the sensors (see relative paragraph).
- Adjust the trimmer at a medium setting.
- After the arming delay, introduce an object in the cabin through the window and move it around; the status LED will turn ON to signal a presence.
- If sensitivity level is too high or low, readjust the trimmer and repeat the above procedure.

10.0 - LEARNING NEW CONTROL DEVICES

To carry out the operation successfully, make sure the required electrical connections (door /bonnet switch and ignition) have been completed.

Storing memory is for 8 devices (remote controls, electronic keys or magnetic contacts (protection devices). If an extra device is added, the LED will start flashing quickly to indicate the memory is full. To activate the learning procedure, proceed as follows:

1) With the alarm system disarmed, open the driver door and bonnet and leave them open.

> **Do not close the bonnet otherwise all previously programmed devices will be erased.**

2) Turn ignition key ON.

3) Press a button on an already learned remote or insert an already learned electronic key in its receptacle.

4) Two slow flashes of the turn indicators will confirm the system has entered in learn mode.

5) According to the device to be learned: press remote control button 1 OR introduce the electronic key in its receptacle OR make the magnetic contact transmit (bring contact and magnet close together and then move apart).

6) The status LED will flash once to confirm learning of a new device.

7) Repeat the procedure from step 5 to program any other device.

8) Turn ignition key OFF.

9) A long flash of the turn indicators will confirm the end of the procedure.

11.0 - WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) DIRECTIVE

The present device does not fall within the scope of Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) as specified in art. 2.1 of L.D. no. 151 of 25/07/2005.

12.0 - TECHNICAL SPECIFICATIONS

Nominal tension	12 Vdc
Nominal supply voltage range	9÷15Vdc
Current absorption @ 12Vdc	< 2mA with system armed and LED flashing
Turn indicators contact capacity	10A at 20°C
Engine block contact rating	8A
Alarm triggering	30 sec.
Max positive current with system armed (+A)	700 mA
Siren output current capacity	3A

13.0 - WARRANTY CONDITIONS

This product is guaranteed to be free from manufacturing defects for a period of 24 months from the installation date shown on this warranty, in compliance with Directive 1999/44/CE.

Please fill-in entirely the guarantee certificate included in this booklet and DO NOT REMOVE the guarantee label from the device.

The warranty will become void if labels are missing or torn, if the installation certificate is not fully compiled or if the enclosed sale document is missing.

The warranty is valid exclusively at Authorized Gemini Technologies Service Centers.

The manufacturer declines any responsibility for eventual malfunctions of the device or any damage to the vehicle electrical system due to improper installation, use or tampering.

This alarm system is solely intended to be a theft-deterrent device.

R&TTE Declaration of Conformity
Doc ref. No. 2010-01

We, the undersigned,

Company	GEMINI TECHNOLOGIES S.p.A
Address, City	Via Luigi Galvani 12, 21020 Bodio Lomnago (VA)
Country	Italy
Phone number	+39 0332 943211
Fax number	+39 0332 948080

Declare under our sole responsibility that the following equipment:

Product description / Intended use	Remote control at 433,92 Mhz for vehicle alarm system
EU / EFTA member states intended for use	EU: all members EFTA: all members
Member states with restrictive use	None
Manufacturer	GEMINI TECHNOLOGIES S.p.A. GEMINI
Brand name	7208E and 7218E

Is tested to and conforms with the essential requirements as mentioned in Art. 3.1 (a) for protection of Health and Safety of the user and any other person and in Art. 3.1 (b) for Elecromagnetic Compatibility, as included in the following standards:

Art. of Directive	Standard	Date of issue of the standard
3.1 (a) Health	EN 50371	2002
3.1 (a) Safety	EN 60950-1 +A11	2006; 2009
3.1 (b) EMC	EN 301 489-3	V2.1.1 (2009-05)
3.1 (b) EMC	EN 301 489-1	V1.8.1 (2008-04)

And is tested to and conforms to Art. 3.2, with the essential radio test suites so that it effectively uses the frequency spectrum allocated to terrestrial/space radio communication and orbital resources so to as avoid harmful interference, as included in following standards:

Art. of Directive	Standard	Date of issue of the standard
3.2 Spectrum	EN300 220-2	V2.3.1 (2010-02)

And therefore complies with the essential requirements and provisions of **Directive 199/5/EC** of the European Parliament and of the council of March 9, 1999 on Radio Equipment and Telecommunications Terminal Equipment and the mutual recognition of this conformity and with the provisions of Annex II.

TCF reference nr.	TCF_ 7208E/7218E
Date	August 23, 2010
Name and position	Andrea Rossi, General Manager

CE

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