



**Intermatica**  
global solution carrier



  
**navisat**

**User Manual**

(Rel. 2.0)

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# 1. Before you start

Congratulations on purchasing Navisat Phone, the new fixed satellite terminal for Nautical use that provides voice services with optimum quality.

Navisat Phone is completely developed and implemented in Italy by Intermatica and operates on Thuraya satellite network.

The terminal is the excellent solution for telecommunication services on boats of any type under all Thuraya coverage area.

## 1.1. For your safety



**IMPORTANT!** Please read carefully and make yourself familiar with the instructions included in this manual and follow the safety measures before installing and using the terminal. Not performing such procedure could damage the use of the terminal. Intermatica is not responsible in case of non-compliance with the procedures.

For your safety, follow these guidelines:



### Interferences

All satellite terminals can receive interferences that may cause undesired influences on the device's performances. Install the terminal away from antennas and radars.



### Refuelling

Do not use the device during refuelling and near fuel or chemicals.



### Do not operate in blasting environments

Do not use the device in places where operations requiring blasting materials are ongoing. Comply with the limitations and operate in accordance with any rule or regulation applicable.

The use of any electronic device in such environments represents a risk.



### Microwave Risk

During transmission the device could generate or use electromagnetic waves/microwaves/radio waves. The device is designed and manufactured not to exceed the limits for exposure to radio frequency (RF) recommended by international guidelines (ICNIRP). Exposure to waves could however be harmful to humans. During the use be sure no one is at a distance lower than 50cm from the transmitting unit.



### Qualified service

The maintenance and the repair must be carried out exclusively by qualified resources. Do not remove any component of the device with the power supply cable connected. To prevent risks, always disconnect the cables before touching the circuits.



### Accessories and Batteries

Use accessories and batteries approved by Intermatica. Do not use non-compatible products.



### Connection to other Devices

When connecting to any other device, read the user manual of such device for detailed safety information. Do not connect to non-compatible products.

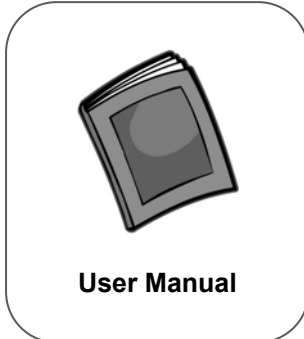


### Emergency Calls

With the Navisat Phone device calls to numbers of Italian phone network starting with 1, 4, 7 and 8 (i.e.. Emergency services, Toll Free Numbers, and Customer Care services) are not available.

## 2. Package

The package contains the following items:



In case you find missing or damaged components, please contact Intermatica S.p.A.

Keep the Package, including the original packing materials, in case you need to ship the product back to be repaired.

### 3. Components Description

#### 3.1. Mol: Internal Unit

The Mol is the system's main unit and is made of an upper panel with Led indicators (picture 1) and a lower panel (picture 2) to connect the several system's components: the MoE - External Unit, the Analog Phone, the Charger, the Electrically Grounded and the PC.

The Mol houses a back-up battery providing energy in case of temporary power supply default.












**IMPORTANT!** The use of back-up battery is exclusively for emergency purposes and for a short period of time. The internal battery life depends on the number of placed calls and on their duration. As soon as possible, the external power supply must be restored in order to avoid malfunctioning and battery damage.

#### Upper Panel

The upper panel includes the following Leds:

##### Led Indicators

Indicator	Led Status	Description	
 <b>POWER</b> 	On	The Power button allows to switch On and Off the terminal. When the terminal is On, the light as well is On.	
 <b>POWER</b> 	Blinking	When the light is blinking the device is powered by the back-up battery and not by the charger.	
<b>GPS</b> 	On	When the light is On, registration of the GPS position has been carried out.	
	On	 <b>LOW</b>	No connection to Thuraya satellite network.
		 <b>MID</b>	Weak connection to Thuraya satellite network.
		 <b>HIGH</b>	Good connection to Thuraya satellite network.




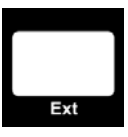
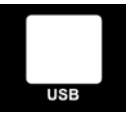



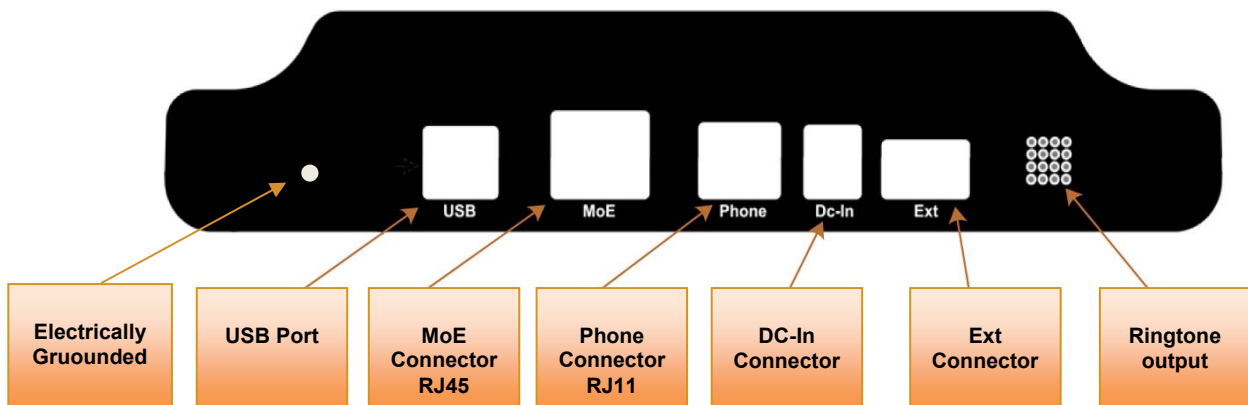
Picture 1

## Upper Panel

The lower panel includes the following Leds:

### Led Indicators

Interface	Description
	MoE connector – RJ45 to connect the MoE by using the connecting cable.
	Phone connector - RJ11 to connect the telephone.
	DC-In connector (12/24VDC 1.5A): to connect the charger.
	Ext connector: to connect possible external ringtone (max 1A).
	USB Port: for the exclusive use of Intermatica S.p.A. for updates.
	Electrically Grounded: It is recommended to always connect the Mol to the Grounded System through the cable.



**Picture 2**

### 3.2. MoE: External Unit

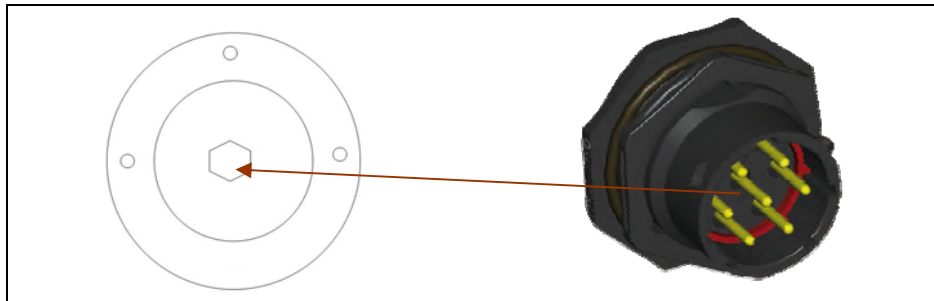
The MoE is the external unit with a cylindrical shape and houses the helicoidal antenna, the satellite module and the GPS.



**IMPORTANT!** Specific rate plans are available for Navisat Phone. For further information please contact Intermatica Customer Care.

#### *Lower panel*

At the base of the MoE there is an 8 pin multipolar connector for the Connecting Cable.



Picture 3

### 3.3. Analog Telephone

For information on the supplied Analog phone, please refer to the user manual included in the package. As an alternative, any other dual-tone phone can be used.

### 3.4. Mounting bracket

The mounting bracket supplied in the package includes locking bolts to fix the MoE to a pole. The maximum diameter of the pole is 6 cm.

### 3.5. Connecting Cable

The supplied connecting cable is 12 metres long and has two connectors, one of which is airtight to connect the MoE.

### 3.6. Charger

The charger, supplied in the package, allows to power supply the Navisat Phone. The input voltage must be between 100 and 240 VAC and the output voltage must be of 12 VDC 2A.

Maximum power consumption is 12 Watt/hour.

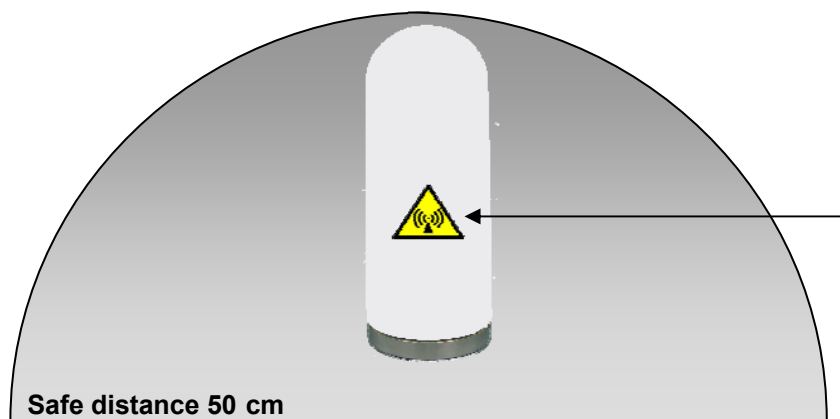
If an input voltage between 100 and 240 VAC is not available, the MoE must be powered with a 12VDC power supply.

## 4. Installation

### 4.1. MoE – External Unit

The MoE must be installed externally, in a high position guaranteeing a 360° view. The unit must be positioned at a minimum distance of 50 cm from other antennas and/or radars in order to work properly. The MoE can be installed on the flying bridge or on a boat mast with the supplied mounting bracket.

1. Fix the MoE on the mounting bracket using the bolts and the flat washers;;
2. connect the supplied cable (fig. 3);
3. fix the MoE to the pole using the staples.



**IMPORTANT!** In order to get the best performances from the Navisat Phone with the Thuraya Satellite network, the MoE must be installed in an area with no obstacles towards the sky and respect the minimum distance of 50 cm from radars and/or other radio devices.

### 4.2. Mol – Internal Unit

After installing the MoE, the Connecting Cable can be connected to the Mol:

- locate the Mol inside the boat, on a level surface or a wall (no kit for wall installation is included);
- connect the Analog Telephone supplied to the RJ11 connector (see picture 2);
- connect Power Supply to the Analog Telephone;
- connect the Connecting Cable to the MoE;
- connect the Charger to the “DC-In” connector (picture 2) and to the 220 VAC socket.



### 4.3. Analog Telephone

The phone must be connected to the Mol using the relevant connector (picture 2).



## 5. Functions

### 5.1. Switch the device On

Before switching On the Navisat Phone, check that all the connections have been made properly and the charger is connected to the socket:

1. press the power button;
2. on the Mol upper panel check the POWER **green** Led is On;
3. the Mol will search for the GPS position (**green** Led On);
4. after GPS position registration, the device will search for the satellite network (SAT);
  - a. **yellow** Led On, limited signal;
  - b. **green** Led On, excellent signal;
5. the device is ready to make and receive calls.

### 5.2. How to Switch the device Off

Press the POWER button; all the Leds will switch Off.

### 5.3. How to make a call

After checking the GPS and SAT green Leds are On:

- Press and hold the talk key on the Analog phone and check the intermittent tone;
- dial the phone number, including the international area code (i.e. Italy 0039 plus the phone number);
- press the \* button to place the call;
- wait for the free/busy tone (being a satellite call, it could take 15-30 seconds before receiving a tone);
- press the end call key at the end of conversation.

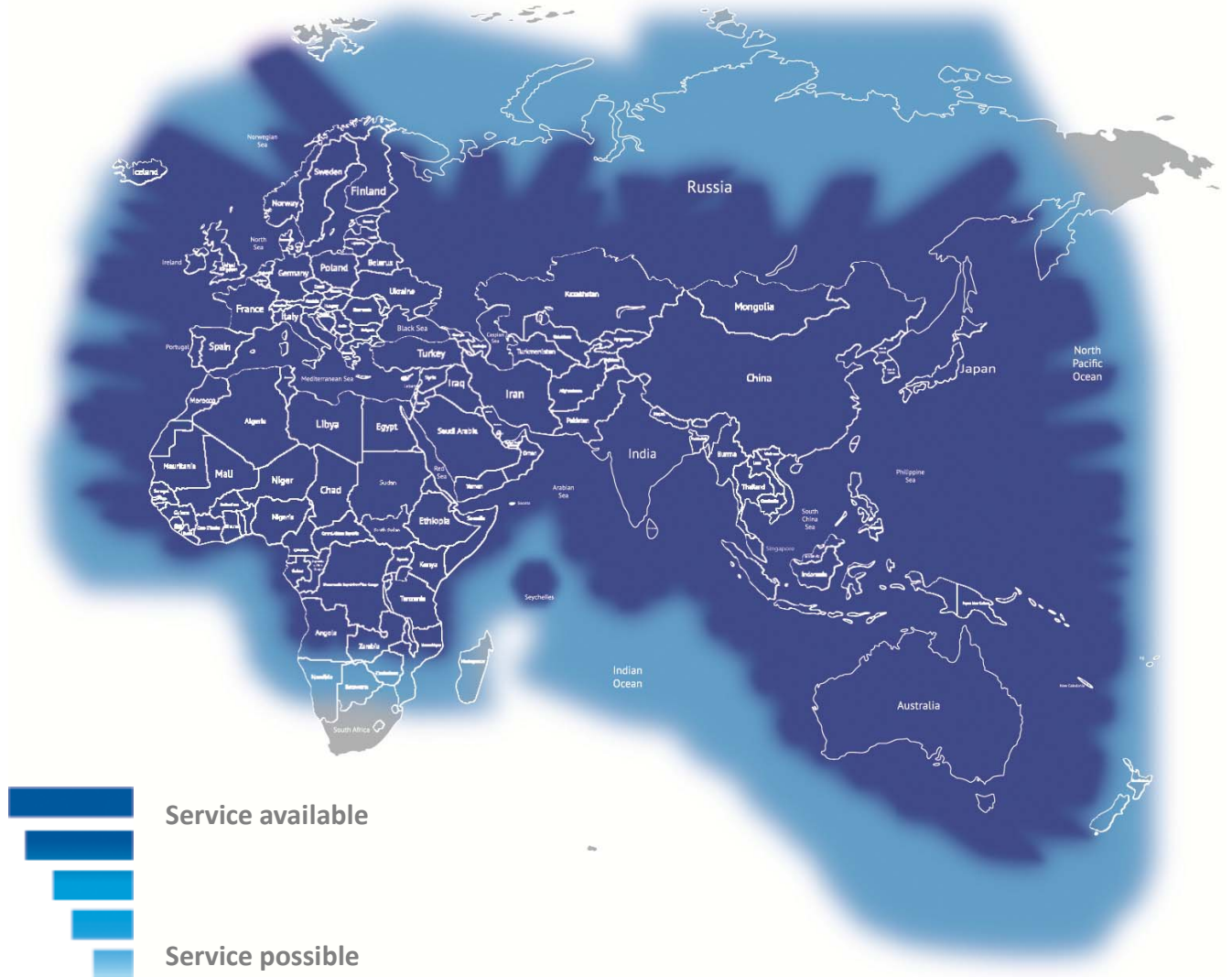
**Note:** if after one minute no tone is heard, hang up the handset and try again, always checking the GPS and SAT green Leds are On and the intermittent tone is heard before dialling a number.

#### **5.4. How to receive a call**

When receiving a call, both the ringtone of the Mol and the phone ring in an intermittent way: press the talk key on the Analog phone to accept the call. At the end of the call press the end call key.

## 6. Coverage Area

The Navisat Phone device operates across Thuraya satellite footprint. Thuraya Coverage Area is available also on [www.intermatica.it](http://www.intermatica.it) web site.



Picture 6

## 7. Technical Features



Picture 7

### **Mol – Internal Unit**

**Dimensions:** 190x130x45 mm

**Weight:** 0,4 Kg

**Power Supply:** 110~240 VAC - 12/24 VDC

**Battery:** Li-Ion - 1,6 Ah

Talk time up to 2,5 hours

Stand-by time up to 6 hours

*(with the full view of the satellite)*

**Time to recharge the battery:** approximately 10 hours

**Power consumption:**

Talk time average electrical input: 600 mA

Stand-by average electrical input: 200 mA

### **MoE – External Unit**

**Dimensions:** Ø 100 mm, h 263 mm

**Weight:** 2 Kg

**Power Supply:** provided by the Mol

**Connections:** IP 67 Connector

**Standard IP:** IP 67

## 8. Taking Care of your device

Navisat Phone is a *state-of-the-art* product, completely developed by Intermatica in Italy.

The suggestions below will help you protect the product and its performances:

- Do not install the Internal Unit Mol in humid environments: liquids and moisture exceeding 80% may damage electronic circuits. If the device does get wet, immediately switch it Off and disconnect the power supply.
- Do not install the Internal Unit Mol in dusty environments. The items and the electronic components could be damaged.
- Do not install the Internal Unit Mol in hot environments, where the temperatures can reach 60°C. High temperatures can shorten the life of electronic devices and damage their functions.
- Do not install the Internal Unit Mol in cold environments. When the device returns to its normal temperature, moist can form inside the device and damage electronic circuit boards.
- Never open the device.
- Use only accessories approved by Intermatica. Unauthorized accessories or modifications or attachments to the items could damage the device, violate regulations governing radio devices and invalidate the Warranty.

## 9. Guarantee

1. The product is guaranteed for a 24 months period as per the date of purchase (the date reported on the receipt or on the invoice) with certain exceptions.
2. "Guarantee" means the repair or the substitution for free of components or parts of the device that Intermatica acknowledges as faulty in the manufacturing or in the material. This guarantee does not include accidental damages or damages due to loss or to the non-use of the product. Furthermore, Intermatica refuses all responsibility for possible damages caused, directly or indirectly, to things or people as a consequence of the non-compliance with the indications reported in the relevant manual and regarding the warnings on installation, use and maintenance of the device.
3. The device, as soon as the fault is surveyed, must be shipped (only upon Intermatica's authorization) to the Assistance Laboratory.
4. Intermatica shall carry out the repair within 60 days as per the date of arrival to the Assistance Laboratory.
5. Expenses and risks due to the shipment to and from the Assistance Laboratory are totally on charge of the Customer.
6. The Guarantee does not apply to damages due to carelessness, to use and installation wrong and non-complying with the warnings and indications reported on the instructions or installation manual, to misuse, to deterioration, to atmospheric phenomena, to overvoltage and overcurrent, to power supply insufficient or irregular, to damages happened during the stock or the transportation of the product towards the Customer, to the adaptation or the modification, to the use wrong or in contradiction with the technical/safety instructions required in the Country where the device is used as well as damages due to humidity and permeation of liquids or food.
7. The Guarantee is not applied in case the IMEI/serial number of the product has been modified, cancelled, duplicated, removed or made unreadable.
8. During the Guarantee period, the Customer loses any right on repair in guarantee if one or more parts are substituted/modified without Intermatica's regular authorization, if the repair is carried out by personnel non-authorized by Intermatica and if the product is opened/tampered by personnel non-authorized by Intermatica.
9. The substitution of the device as well as the extension of the guarantee is excluded in case of a damage due to carelessness.
10. Parts subject to normal wear and tear such as phone cover, cables, power supply and external antenna are not included in the Guarantee.

## 10. Additional information

Intermatica S.p.A. declares, under its responsibility, that this product is in compliance with 1999/05/EC and RoHS directives and manufactured using lead-free solder paste and parts.

Navisat is a registered trademark of Intermatica S.p.A.

This manual is published by Intermatica S.p.A. without any warranty. Intermatica S.p.A. reserves the right to make changes and improvements to any of the products described in this manual without prior notice.

For any further information regarding technical descriptions and certifications, please refer to Intermatica S.p.A. – phone number: +39 06 / 85361, email address: [mobileline@intermatica.it](mailto:mobileline@intermatica.it).



The crossed-out wheeled bin means that within the European Union the product must be taken to separate collection at the product end-of-life. Do not dispose of these products as unsorted municipal waste.

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