

SAILOR®
by Thrane & Thrane

***TT-3026D/M/S easyTrack Transceiver
User Manual***

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SAFETY SUMMARY

The following general safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture and intended use of the equipment

Thrane & Thrane A/S assume no liability for the customer's failure to comply with these requirements.

MICROWAVE RADIATION HAZARDS

During transmission this unit radiates microwaves from the antenna. This radiation may be hazardous to humans if they are exposed to it directly at short distances from the antenna. During transmission, make sure that nobody is closer than the recommended minimum safety distance of 1 ft. (0.3 meter).

KEEP AWAY FROM LIVE CIRCUITS

Operating personnel must not remove equipment covers. Only qualified maintenance personnel must make component replacement and internal adjustment. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

SAFETY AT SEA

Use the easyTrack transceiver in connection with a display device (e.g. a personal computer with EasyMail or a Message Terminal) to increase safety at sea. Without a display terminal you will be unable to display meteorological, navigational and SAR messages, distress alert relays as well as commercial messages.

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1 SCOPE AND PURPOSE

The purpose of this document is to describe the system in which the easyTrack Mobile Earth Station (MES) is used and how the easyTrack MES is operated. The information found in the manual is only an overall briefing. For detailed description read the documents listed in section 1.1 Related Documents. For access to these manuals please contact the local distributor.

1.1 RELATED DOCUMENTS

Looking for	Please read
Detailed description of the installation of the easyTrack MES.	[1] TT98-121787, TT-3026D/M/S Installation Manual
Detailed description of RS232 interface to the easyTrack MES.	[2] TT 98-116080, TT-3026 Software Interface Reference Manual
Detailed description of the Land Earth Station PSDN interface	[3] TT 99-103879, PSDN User Interface Manual
Detailed description of the Land Earth Station Internet interface	[4] TT 99-110036, Internet Gateway User Manual
Something not described in any of the above listed documents	[5] On www.thrane.com how to contact the local Thrane & Thrane distributor for further assistance.

Table 1 Related documents

1.2 ABBREVIATIONS AND TERMS

AA	Accounting Authority.
Capsat Manager	Thrane & Thrane fleet tracking program.
DNID	Data Network ID (for tracking purpose).
EGC	Enhanced Group Call.
Geostationary	Geostationary satellites are positioned 36000 Km above the earth. At this height they rotate around the earth at the same speed as the earth rotates around its axis, so in effect remaining stationary above a point on the earth.
GPS	Global Positioning System.
Inmarsat-C mobile	The easyTrack satellite communication modem.
ISP	Inmarsat Service Provider. Company offering the service. Most likely also a PSA and AA.
ISN	Inmarsat Serial Number.
LES	Land Earth Station.
Login	Registration of easyTrack MES in the Inmarsat-C system.
Mailbox	Storage account on an LES that holds position reports transmitted from an easyTrack MES.
Member number	Used to distinguish easyTrack MES's with same DNID from another.
MES	Mobile Earth Station – the name of the transceiver in Inmarsat-C.
MRCC	Maritime Rescue Coordination Centre
NCS	Network Coordination Station.
Ocean region	Coverage of one of four geostationary Inmarsat satellites.
Omni-directional	All directions simultaneously when in free space conditions.
OS	Operating System.

Position report	Compact information transmitted from easyTrack that includes the GPS position.
PSA	Point of Service Activation. Company making the registration. Most likely also an ISP and AA.
PSDN	Public Switched Data Network such as the X25 data network.
PSTN	Public Switched Telephone Network is the land based telephone system or an analogue modem.
SARF	Service Activation Registration Form.
Store and forward	LES receives complete mails before forwarding it to the recipient.
Telex	TELeprinter EXchange is a standardized, internationally recognized, means of real time text communications.

Table 2 Abbreviations and terms

2 INTRODUCTION TO INMARSAT-C

The Inmarsat-C is a communication system, which enables the user to send and receive data to and from mobile terminals. The Inmarsat-C system provides the possibility of reaching remote areas where other methods of communication are impossible.

2.1 SYSTEM SURVEY

The Inmarsat-C satellite network provides the link between the mobile and the destination office. It uses four geostationary satellites to cover the world. Satellite data link coverage is complete between 70° North and 70° South. Because the Polar regions cannot be seen from geostationary satellites these regions are not covered.

The Inmarsat-C system contains 2 satellite stations types that are of interest for the operator of the easyTrack MES: The NCS stations and the LES stations.

The NCS stations handle the registration of the MES in the Inmarsat-C system. The Inmarsat-C system has one NCS for every geostationary satellite and they have names that correspond to the ocean area they cover: Atlantic Ocean Region East (AORE), Atlantic Ocean Region West (AORW), Indian Ocean Region (IOR) and the Pacific Ocean Region (POR). Before using the Inmarsat-C system the easyTrack MES must be registered in one of the four ocean regions through a Login on an NCS where the corresponding satellite is visible from the current location. Normally this login procedure will happen automatically when the equipment is turned on.

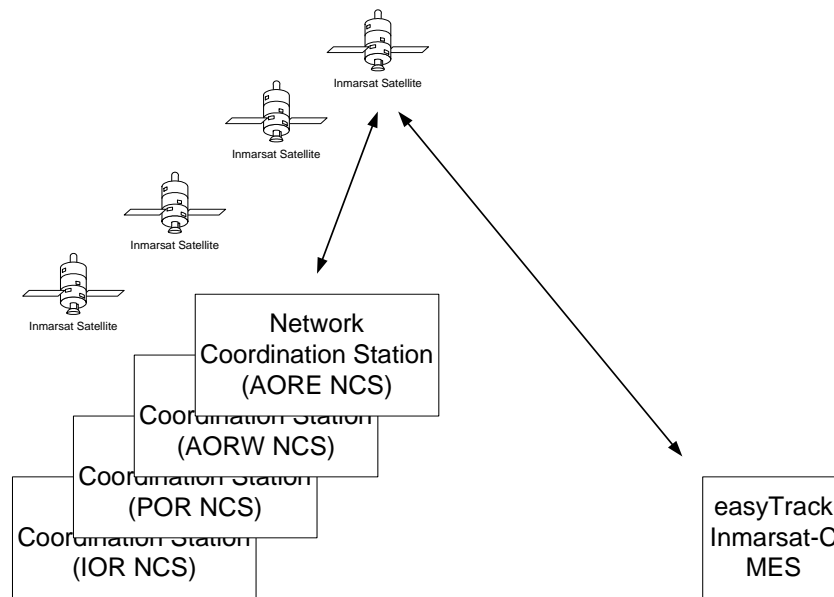


Figure 1 Registration at NCS

The LES handles the data transmission to and from the easyTrack MES. When the easyTrack MES is logged into an NCS, several LESs are available for data transmission. The number of LESs available may vary and depends entirely on the number of provider companies that wishes to offer Inmarsat-C services. Also some easyTracks can be delivered with configurations that may limit the number of usable LESs but this will only be done under special agreement.

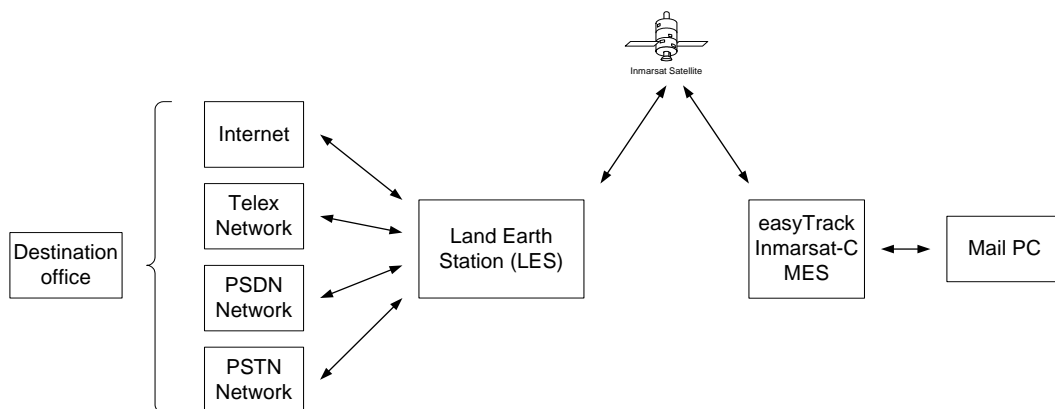


Figure 2 Data transmission using LES

When the easyTrack MES is logged in at an NCS it maintains a list of currently available LESs. Most of the communication operations are done via a LES so in most cases the operator must select an LES when initiating a transmission.

2.2 SERVICES

The Inmarsat-C system offers a variety of services including:

- Message transmission to and from a mobile unit.
- Broadcast data to groups of mobile terminals.
- Position reporting from fleets of mobile units.
- Polling system that enables the operator to request various data from the mobile units.
- Distress alerting (TT-3026D only).

2.2.1 MESSAGES

This is probably the service that is used most often in 'average' installations: It enables the user to send and receive text messages (like e-mail) on the terminal.

Messaging is carried out via a LES where the user needs to have an account.

As mentioned in 2.1 there are a number of network types that connect to the LES (PSTN, Telex, etc.) and generally it is possible to send and receive messages through each of these networks. Most LESs work the same way – particularly seen from the MES' point of view – but still there are some differences in areas such as:

- How to receive and send a message on the Land side.
- Support for Internet access.
- Additional services provided (such as forwarding messages as SMS).
- Special requirements for how destination addresses are written.

Also most LESs offer a large number of configuration options where the MES owner can request and adjust special features: Adding header and footer lines, setting message size limits, enable automatic forwarding, etc.

Therefore it is recommendable to seek specific information from the desired LES.

2.2.2 BROADCASTS

Broadcast data is supported through a mechanism called EGCs. They are used for different types of services but the FleetNET EGC (Enhanced Group Call) service is the most interesting one for commercial purposes.

All of the TT-3026 D, M, and S variants are capable of receiving FleetNET EGCs.

FleetNET is typically used in situations where a sender has a need for frequent transmissions to a fleet of ships. There are also LESs that provide various newsletter services sent via FleetNET. The mobiles receiving the FleetNET EGC messages are identified by an ENID.

Please contact your preferred LES operator for enquiries of availability and pricing of these services.

Refer to 3.7 for information on viewing the ENIDs in the transceiver.

EGCs are also used for distributing maritime safety information; this will be covered in section 2.3.

2.2.3 POSITION REPORTING

While messages could in principle be used for frequent position tracking, there exists a more convenient protocol that is more suited for this service. Data reports have a very compact format that helps reducing the transmission time and price.

One consequence of this compact format is that the addressing has been simplified compared to messages. A report is sent to a DNID (Data Network Identity) that is effectively a mailbox created on some LESs. So the MES sends its reports to this mailbox and other tracking systems can then access and empty the mailbox.

Up to 255 mobiles can use the same DNID, and the specific mobile is identified by a 'member number' between 1 and 255.

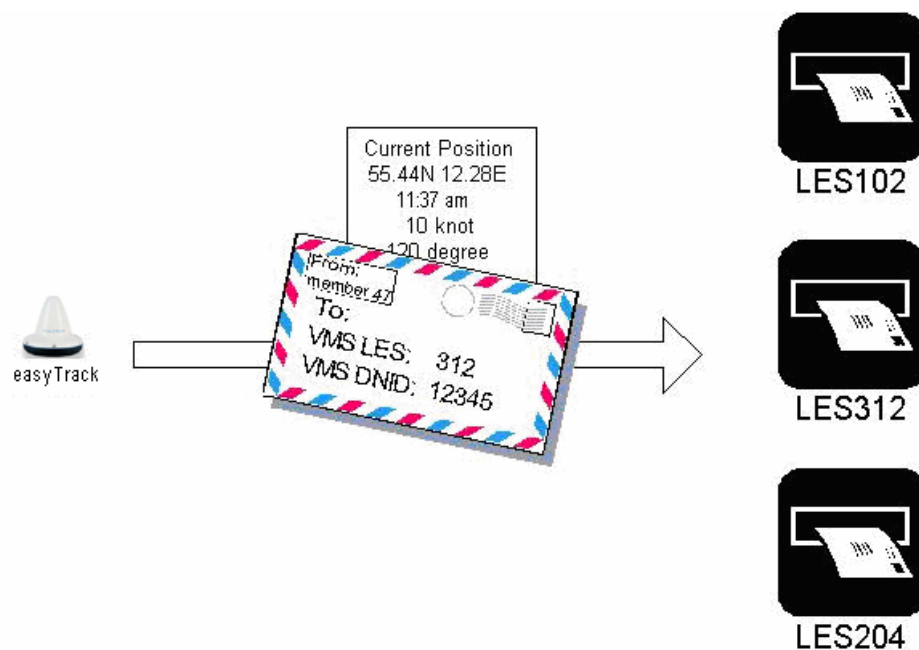


Figure 3 Inmarsat-C position reporting

Before the position reporting feature can be used the DNID must be created on the LES; once the DNID account is created the LES can 'download' the DNID information to the desired MESs and thereby enabling the MESs to send to the DNID.

Accessing and reading the reports is normally possible in a number of ways: Automatic e-mail forwarding, PSTN terminal interface, etc. The LES operator can provide information about these options.

The raw data reports are in a compressed format and need to be decoded to present meaningful information to the receiver. There are several ways of doing this:

- The easiest way is to have the LES doing the decoding – a service known as 'textual conversion' that is available on most LESs. By combining this service with automatic e-mail forwarding, the reports will be received as simple, readable e-mails.
- Another simple solution is to use an online tracking service such as LocPoint (<http://www.locpoint.com/>). The routing is set up to forward the position reports to the tracking service provider and then they will maintain and present the fleet tracking.
- A third suggestion is to acquire a tracking system such as the Thrane & Thrane CapSat Manager system. It comes with vectorized map material with excellent zooming facilities. The detailed maps show mobile positions and trails with individual icons and timestamps.

2.2.4 POLLING

Polling is a way of sending a small note to the MES. Like messages a poll can in principle contain any information. However a poll is normally given a special structure containing commands that are understood and interpreted by the MES. And this is the most common purpose for sending a poll: Instructing the MES to do something.

Some of the poll commands are defined by Inmarsat and are therefore available via standard services on the LES; this includes download and management of DNIDs and configuration of position reporting. Position reporting need not be configured via poll, though; once the DNID has been downloaded, the reporting can also be set up at the MES using, e.g., easyMail (this will be covered in section 3.5).

2.3 SAFETY AND DISTRESS CAPABILITIES

The TT-3026D variant is intended to be a part of a non-SOLAS GMDSS installation that provides maritime distress capabilities. This section gives an overview of how the maritime safety system works and how this applies to this particular installation type. It is important to understand that this section is only meant as an introduction and it cannot replace proper education in safety and rescue at sea.

First, a few definitions:

- IMO (the International Maritime Organization) is – as the name implies – an international organization that coordinates, regulates and standardizes maritime practice.
- SOLAS (Safety Of Life At Sea) is a convention under IMO that specifically deals with safety and rescue issues.
- GMDSS is the emergency system that is now implemented to ensure safety at sea. This system was adopted and approved by SOLAS in 1988 and is based solely on automated radio communication (unlike previous systems that included manual subsystems like Morse telegraphy).

The term 'non-SOLAS GMDSS' designates GMDSS equipment and installations that is not specifically required by the SOLAS convention – typically installations on smaller ships, pleasure crafts and other ships not subject to SOLAS chapter IV.

Clearly the main purpose of having safety communication equipment like the TT-3026D is to be able to send and receive important information such as this:

- **Receive:** Information about nearby ships in distress (distress relays); weather forecasts and meteorological warnings; navigational warnings.
- **Send:** Distress alerts; responses when requested for assistance.

It is important to realize how important it is for the overall maritime safety that GMDSS communication equipment is capable of receiving as well as sending information and that received information is actually read and understood. Sometimes the misconception arises that being able to 'call for help' is the most important capability. But calling out will not be of much value if there is no one around that listens, responds and assists.

Receiving information

As previously indicated the safety related information that can be received can generally be split into two categories:

- Maritime Safety Information (commonly abbreviated to MSI) that is general information about maritime conditions that are relevant to safety (such as meteorological or navigational information and warnings). MSI will normally be sent through some means of broadcast and in Inmarsat-C this service is based on so-called SafetyNET EGCs that can be addressed to ships within a given area.
- Urgency and safety information that is communicated to coordinate specific distress efforts. This type of information may be sent as EGCs but are more often sent as Messages to the specific ships that are involved in the operation.

SafetyNET EGC reception

The SafetyNET reception function is supported by both TT-3026D and TT-3026S.

A large number of SafetyNET EGCs are sent every day via Inmarsat-C and to limit the communication an EGC receiver can be set up to receive the relevant ones and discard the irrelevant.

There are two mechanisms to facilitate this filtering: Each EGC has a 'service code' that tells about the subject (weather forecast, ice report, pilot service, etc.) and each EGC is addressed to a certain geographical area. An EGC receiver will disregard messages that do not match the current position and the service code list chosen by the user; there are some exceptions, though, since some EGCs must be received regardless of the user's preferences.

Area addressing can be either one of the MET/NAVAREAs (of which there are 16 covering all oceans) or a specific location given by coordinates. In either case the EGC receiver will use the current position to determine automatically which messages to receive. Besides using the current position, the TT-3026D /S can also receive EGCs for other positions and NAVAREAs to receive EGCs that relate to, e.g., the destination harbour.

Also an EGC may be addressed to a 'NAVTEX costal area' if it contains information that is only relevant for a small costal section. The TT-3026D/S can not determine automatically what the current costal area is, so if the user want to receive these EGCs the relevant area codes must be set explicitly (each costal area, along with the corresponding NAVTEX transmitter, is designated by a letter 'A' to 'Z'). Further information can be found in the 'Admiralty List of Radio Signals' published by the Hydrographer of the Navy in the UK.

Each EGC has a priority assigned: Routine, Safety, Urgent, or Distress. When an EGC with urgent or distress priority is received the receiver is required to indicate this clearly in order to notify the crew.

Distress alerting

A GMDSS installation that supports distress alert will have an alarm button that will initiate an alert when pressed for more than 5 seconds. The distress alert protocol is carefully designed so that it will get through regardless of the current state and activity of the Inmarsat-C transceiver (provided, of course, that the installation is working and active).

Having said that, there are a number of configuration issues that should be considered. The user should select which LES that will receive the alert and the main advantage of doing this is that it determines beforehand how subsequent emergency communication should be routed. The alert itself will in any case be passed on to the authorities closest to the distress position. If no LES is chosen by the user the TT-3026D will select one automatically.

The TT-3026D also has an option of choosing a cause for the alert and the position that will reported with the alert; the latter will rarely be relevant since the TT-3026D has a built-in GPS unit that will provide a position automatically.

When an alert is activated it will be received at the LES where it is forwarded to the relevant national Maritime Rescue Coordination Centre (MRCC). The MRCC will then take the proper steps to initiate the rescue operation and one of the first thing that happens is normally that the MRCC sends a message to the alerting unit to gather more information about the situation. The alerting part should respond to such messages if at all possible. Subsequent steps from the MRCC may involve sending Distress EGCs to other ships in the area to request assistance (typically as Distress Relay or SAR Coordination request).

Safety at sea is taken very seriously by the involved authorities and an incoming distress alert will always generate immediate activity at the MRCC. Therefore it should be emphasized that false alarms must be avoided. The distress alert is only to be used when there is an immediate danger that threatens life or ship. If an alert is sent by accident the MRCC must be informed about the mistake immediately to have the rescue operation cancelled.

The messages used in an emergency (or false alarm) situation will normally be 'Distress Messages' that basically work like normal Inmarsat-C messages with the following important exceptions:

- A distress message must only be sent in an emergency situation – comparable to the use of VHF 'MAYDAY' calls.
- The system ensures that 'distress message' communication takes priority over other transmissions.
- A distress message will always be sent directly to the relevant MRCC – no addressing is required.

Other urgency or safety information (similar to VHF 'PAN-PAN' and 'SECURITÉ' calls) should be sent as ordinary messages and the primary recommendation is to use 'Special Access Code' addressing. There is a list of standard codes for these purposes:

- **32** : Medical advice.
- **38** : Medical assistance.
- **39** : Maritime assistance.
- **41** : Meteorological reports.
- **42** : Navigational hazards and warnings.
- **43** : Ship position report

Sending a message to one of these Special Access Codes on a LES will ensure that it is automatically forwarded to the relevant assistance centre. However there is a catch: These addressing forms are not mandatory requirements for a LES so there may exist LESs that do not support them.

Please contact your preferred LES for more information on applicable Special Access Codes.

3 USING THE EASYTRACK MES

This chapter explains some overall functions supported by the easyTrack MES and how they are used together with easyMail.

For installation of TT-3026 easyTrack and easyMail, please refer to [1].

3.1 EASYMAIL MAIN WINDOW

When starting easyMail, the main window will be shown. Below is an explanation of the fields and buttons on the main window.

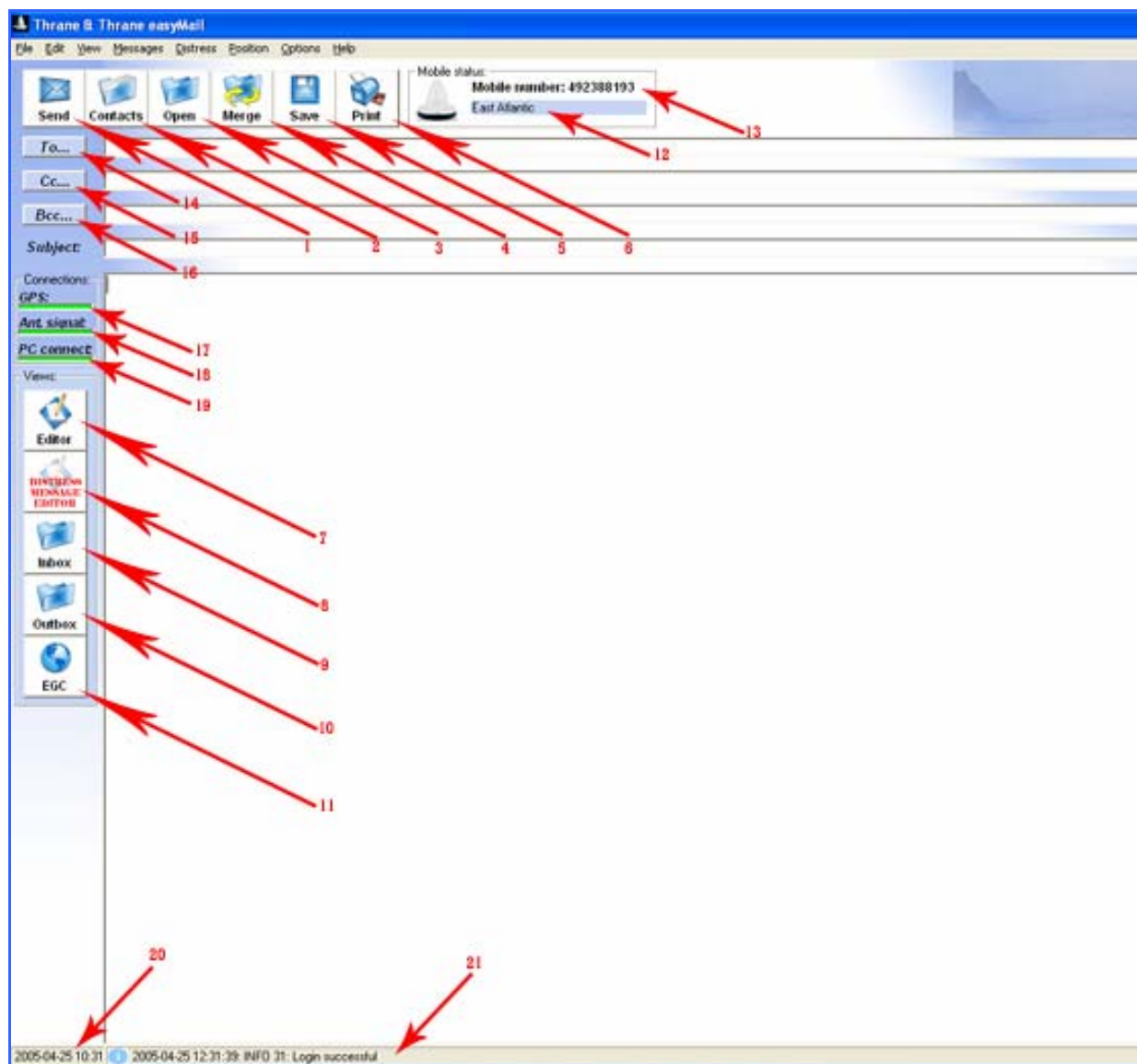


Figure 4 The easyMail main window

- 1) 'Send'. This button sends the message written in the Editor. Clicking the button opens a window from where a few selections can be made before sending the message.
- 2) 'Contacts'. Clicking this button opens the Contacts / Address book.
- 3) 'Open'. Click this button to open a text file on the hard drive and place the text in the Editor.

- 4) 'Merge'. Click this button to merge a text file into the Editor. The text from the file will be placed at the cursor position.
- 5) 'Save'. Click this button to save the Editor to a text file.
- 6) 'Print'. This prints the Editor to a printer installed in Windows.
- 7) 'Editor'. This shows the Editor.
- 8) 'Distress Message Editor'. TT-3026D only. This opens the Distress Message Editor.
- 9) 'Inbox'. This opens the Inbox where all incoming messages are stored.
- 10) 'Outbox'. This opens the Outbox where all outgoing and sent messages are stored.
- 11) 'EGC'. This opens the EGC log where all EGCs are stored.
- 12) 'Mobile Status Field'. This bar shows the current status of the transceiver. Click in this field to show the Transceiver Status Window.
- 13) 'Mobile number'. This field shows the mobile number. Click to enter/change the mobile number.
- 14) 'To'. Insert an address in the 'To' field.
- 15) 'Cc'. Insert an address in the 'Cc' field. This feature might not be supported by all ISPs.
- 16) 'Bcc'. Insert an address in the 'Bcc' field. This feature might not be supported by all ISPs.
- 17) 'GPS'. Green: GPS is ok. Red: GPS error or no antenna connection. Click to show GPS status window.
- 18) 'Ant Signal'. This bar has 5 steps from all green to all red, depending on the quality of the satellite signal. Green: good signal quality. Red: no signal. Click in this field to show Transceiver status.
- 19) 'PC Connect'. Green: easyMail has connected to easyTrack. Red: No connection between easyMail and easyTrack
- 20) 'UTC time'. This field shows the current UTC time.
- 21) 'Info bar'. This field shows the last info received. Click in this field to open the info log, showing the last 500 info messages from the transceiver.

3.2 SENDING AND RECEIVING MESSAGES

One of the main features offered by the easyTrack MES is the ability to send messages to any destination in the world from anywhere in the world.

The main window of easyMail contains a *To:* field a *Subject:* field and the *text editor*.

In the *Subject:* field write an appropriate subject for the mail. The message that needs to be sent must be written in the text editor e.g.:

*Hello John,
This is my first mail from the T&T easyTrack MES.*

It should be noted that the billing in the Inmarsat C system is based on consumption and therefore the cost of the message transmission will depend on how many characters the message contains.

The following sections describe how to send different types of messages using the Thrane & Thrane easyMail message handling software.

Some details like bit format and specific services and access codes are not supported on all ISPs and an ISP can at any time change the number supported formats and services.

3.2.1 PREPARE FOR SENDING MESSAGES

To set up easyMail for sending messages, the following needs to be configured.

- The transceiver must be logged in to an Ocean Region.
- The default ISP must be set.
- Default LESs must be set for all Ocean Regions.

If the mobile status is “Logged Out”, then you need to log in to one of the 4 Ocean Regions. This is done by clicking ‘Options→Login→’ and choosing one of the Ocean Regions.

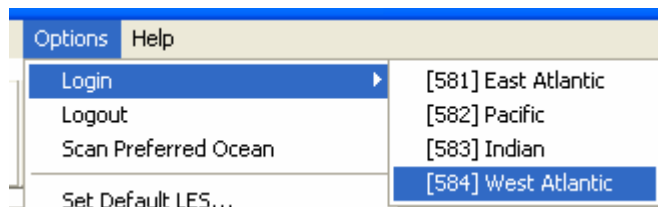


Figure 5 Logging in to an Ocean region

To set the default ISP, click Options→Set Default ISP...

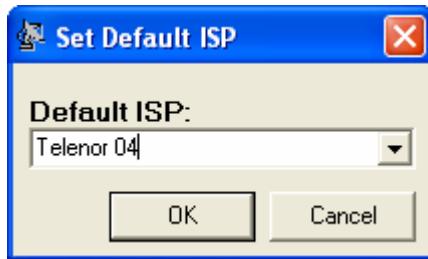


Figure 6 Choose your Service Provider

Choose your Inmarsat Service Provider on the list.

To set the default Land Earth Stations, click Options→Set Default LES...

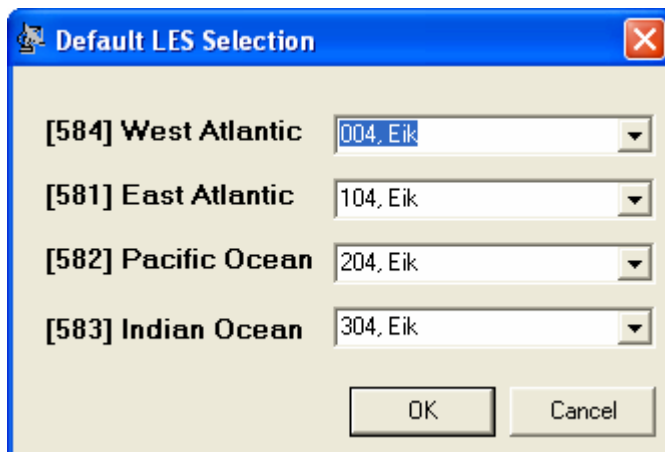


Figure 7 Land Earth Stations (LESs) of your Inmarsat Service Provider

Choose the Land Earth Stations of your Inmarsat Service Provider for each Ocean Region.

You are now ready to send and receive messages.

3.2.2 SENDING A MESSAGE

3.2.2.1 CREATE AN ADDRESS IN THE ADDRESS BOOK

A message needs to be sent to a contact in the Address Book. To create a contact, click 'Contacts' on the main window. This will open the Address Book.

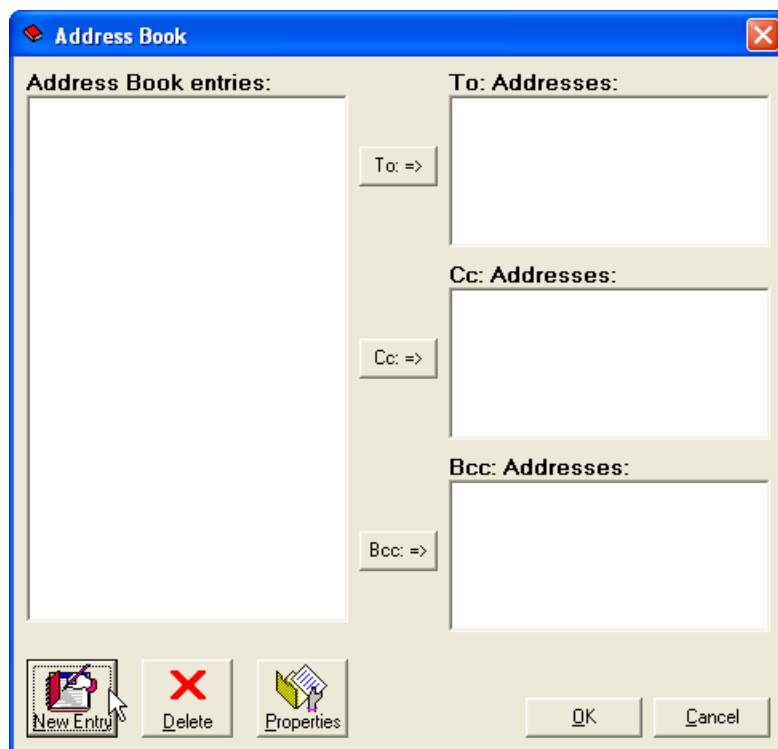


Figure 8 The Address Book

Type a name and choose a destination type, e.g. e-mail as in this example.

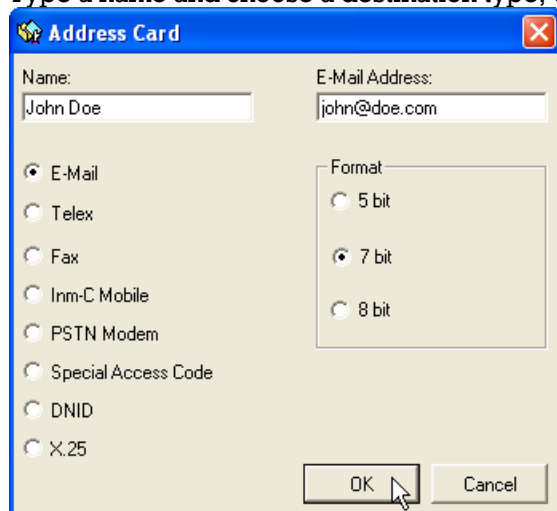


Figure 9 The Address Card

Type the e-mail address in the address field.

The Format options are used to change the size of the data being sent over satellite connection. This can make the message cheaper to send. 7 bit is cheaper to send than 8 bit, and 5 bit is cheaper than 7 bit.

There are 3 options:

Choosing 5 bit, the message is sent as ITA-2 Packed Baudot. With this format, the text will be converted to and sent with lower case letters.

Choosing 7 bit, the message is sent as Int. Alphabet no.5, odd parity.

Choosing 8 bit, the message is sent as 8-bit data. No data will be converted. Special characters in a text could still be slightly different from the original, depending on the character set used when typing the message and the character set used when reading the received message.

Example of conversion:

Original text:

The quick brown fox jumps over the lazy dog0123456789.,:;!'"#\$%&/()=?`^*~@£\$€{[]}|~_-<>\\

Text received when sent in 5-bit format:

the quick brown fox jumps over the lazy dog0123456789.,:.'#?%+/()=?'".?@?\$()/---()/

Text received when sent in 7-bit format:

The quick brown fox jumps over the lazy dog0123456789.,:;!'"#\$%&/()=?`^*~(@#\${[]}|~_-<>\\

Text received when sent in 8-bit format:

The quick brown fox jumps over the lazy dog0123456789.,:;!'"#ñ%&/()=?`^*¿@ú\$Ç{[]}|~_-<>\\

Click 'OK' to save the address.

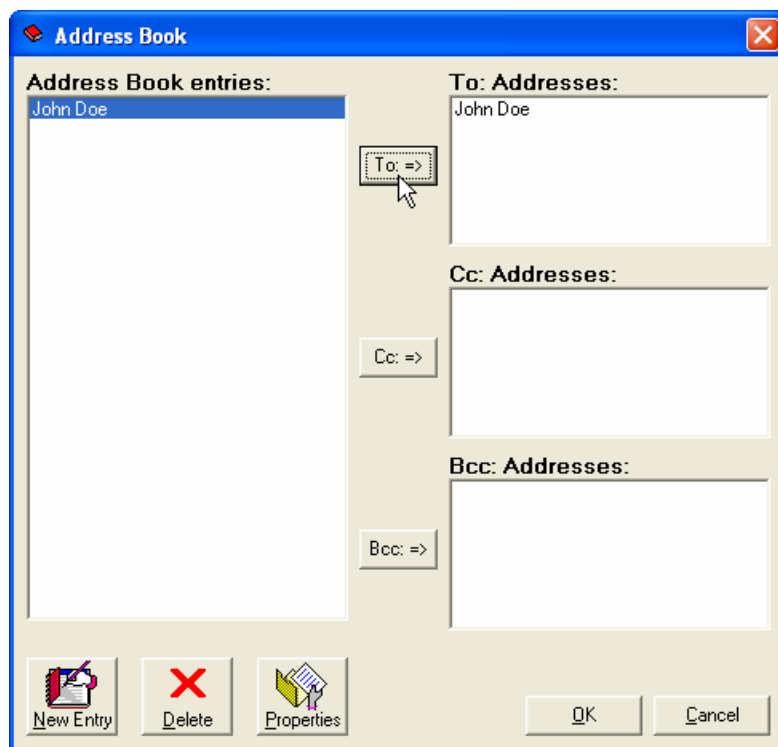


Figure 10 An address is added to the 'To' field

3.2.2.2 SENDING THE MESSAGE

After selecting an address and writing the message, click the 'Send' button to send the message. This brings up the 'Sending' window.

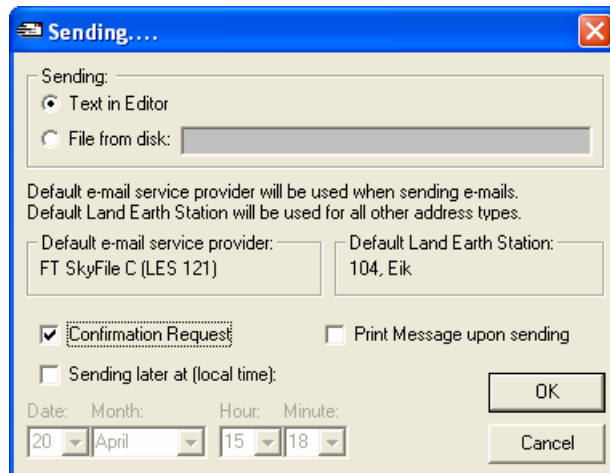


Figure 11 The sending window

Use confirmation request to get a delivery confirmation of your message.

Click 'OK' to send the message.

The message is now being sent. Go to 'Outbox' to view the status of the message.

The Outbox is saved on the PC hard drive. Go to 'Options→Configuration→Routing' for changing the current Outbox directory path.

3.2.3 EXAMPLES OF DIFFERENT MESSAGE TYPES

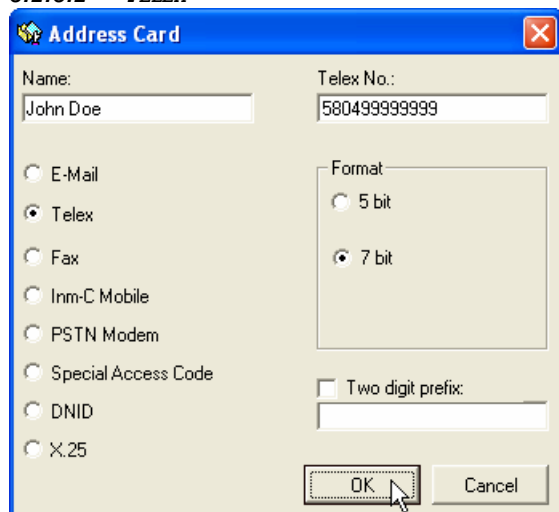
3.2.3.1 SMS

A message can be sent to a mobile phone as an SMS (Short Message Service).

This is usually done by creating a SAC address with a specific SAC code. The phone number and message is then written in the body text using a specific format.

Contact your Land Earth Station for further information on how to send SMS.

3.2.3.2 TELEX



The 'Address Card' dialog box is shown with the 'Telex' radio button selected. The 'Name' field contains 'John Doe' and the 'Telex No.' field contains '580499999999'. The 'Format' section has '7 bit' selected. The 'Two digit prefix' checkbox is unchecked. The 'OK' button is highlighted with a mouse cursor.

Name: John Doe

Telex No.: 580499999999

☐ E-Mail

☒ Telex

☐ Fax

☐ Inm-C Mobile

☐ PSTN Modem

☐ Special Access Code

☐ DNID

☐ X.25

Format

☐ 5 bit

☒ 7 bit

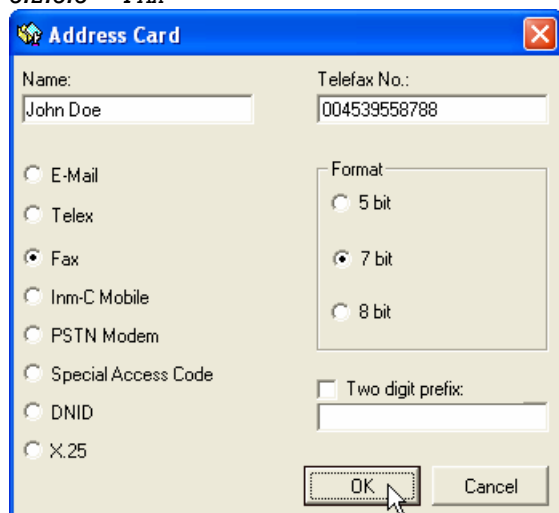
☐ 8 bit

☐ Two digit prefix:

OK Cancel

Figure 12 Example of adding a telex address

3.2.3.3 FAX



The 'Address Card' dialog box is shown with the 'Fax' radio button selected. The 'Name' field contains 'John Doe' and the 'Telefax No.' field contains '004539558788'. The 'Format' section has '7 bit' selected. The 'Two digit prefix' checkbox is unchecked. The 'OK' button is highlighted with a mouse cursor.

Name: John Doe

Telefax No.: 004539558788

☐ E-Mail

☐ Telex

☒ Fax

☐ Inm-C Mobile

☐ PSTN Modem

☐ Special Access Code

☐ DNID

☐ X.25

Format

☐ 5 bit

☒ 7 bit

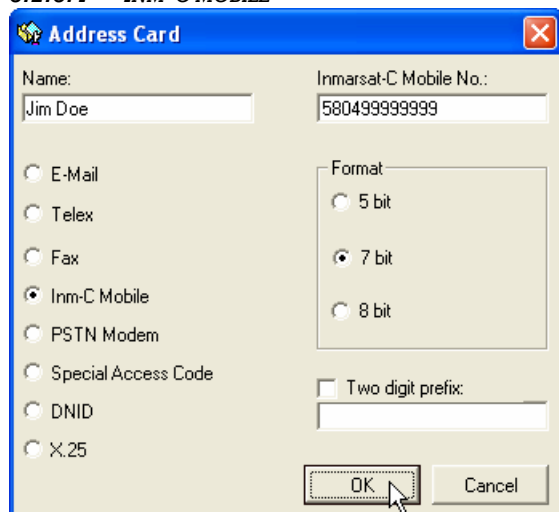
☐ 8 bit

☐ Two digit prefix:

OK Cancel

Figure 13 Example of adding a fax address

3.2.3.4 INM-C MOBILE

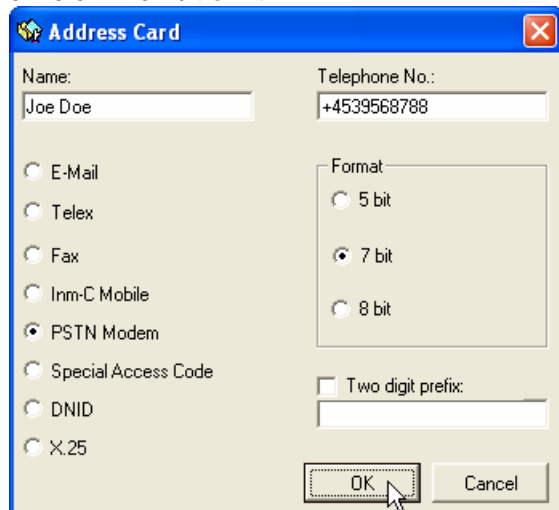


The 'Address Card' dialog box is shown with a blue title bar and a close button. It contains the following fields and options:

- Name:** Text box containing 'Jim Doe'.
- Inmarsat-C Mobile No.:** Text box containing '58049999999'.
- Format:** A group box containing three radio buttons: '5 bit', '7 bit' (selected), and '8 bit'.
- Two digit prefix:** A checkbox (unchecked) and an empty text box.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.
- Radio Buttons (Left):** A vertical list of radio buttons: 'E-Mail', 'Telex', 'Fax', 'Inm-C Mobile' (selected), 'PSTN Modem', 'Special Access Code', 'DNID', and 'X.25'.

Figure 14 Example of adding an Inm-C mobile address

3.2.3.5 PSTN MODEM

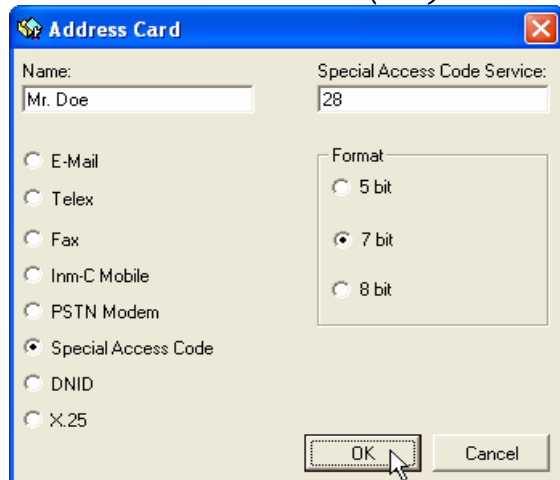


The 'Address Card' dialog box is shown with a blue title bar and a close button. It contains the following fields and options:

- Name:** Text box containing 'Joe Doe'.
- Telephone No.:** Text box containing '+4539568788'.
- Format:** A group box containing three radio buttons: '5 bit', '7 bit' (selected), and '8 bit'.
- Two digit prefix:** A checkbox (unchecked) and an empty text box.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.
- Radio Buttons (Left):** A vertical list of radio buttons: 'E-Mail', 'Telex', 'Fax', 'Inm-C Mobile', 'PSTN Modem' (selected), 'Special Access Code', 'DNID', and 'X.25'.

Figure 15 Example of adding a PSTN modem address

3.2.3.6 SPECIAL ACCESS CODE (SAC)

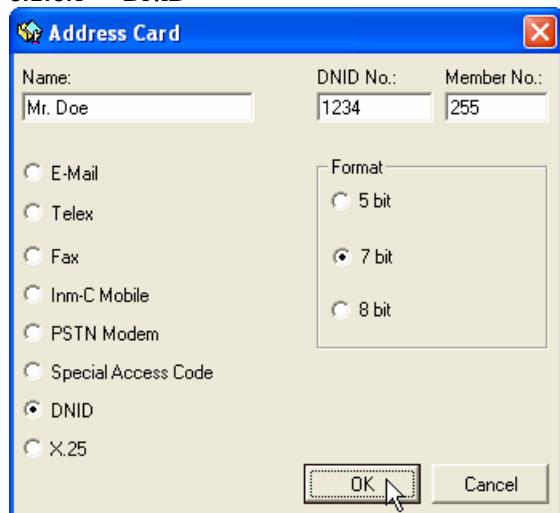


The 'Address Card' dialog box is shown with the following fields and options:

- Name:** Text field containing 'Mr. Doe'.
- Special Access Code Service:** Text field containing '28'.
- Format:** A group box containing three radio buttons:
 - ☐ 5 bit
 - ☒ 7 bit
 - ☐ 8 bit
- Service Selection:** A list of radio buttons on the left:
 - ☐ E-Mail
 - ☐ Telex
 - ☐ Fax
 - ☐ Inm-C Mobile
 - ☐ PSTN Modem
 - ☒ Special Access Code
 - ☐ DNID
 - ☐ X.25
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

Figure 16 Example of adding a Special Access Code 28 address

3.2.3.7 DNID



The 'Address Card' dialog box is shown with the following fields and options:

- Name:** Text field containing 'Mr. Doe'.
- DNID No.:** Text field containing '1234'.
- Member No.:** Text field containing '255'.
- Format:** A group box containing three radio buttons:
 - ☐ 5 bit
 - ☒ 7 bit
 - ☐ 8 bit
- Service Selection:** A list of radio buttons on the left:
 - ☐ E-Mail
 - ☐ Telex
 - ☐ Fax
 - ☐ Inm-C Mobile
 - ☐ PSTN Modem
 - ☐ Special Access Code
 - ☒ DNID
 - ☐ X.25
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

Figure 17 Example of adding a DNID address

3.2.3.8 X.25

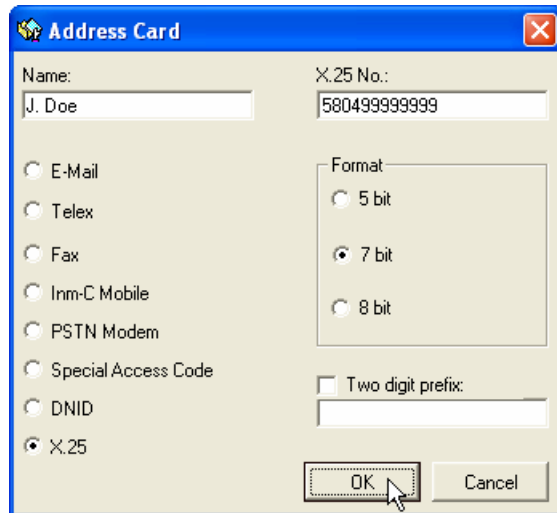


Figure 18 Example of adding an X.25 address

3.2.4 SENDING MESSAGES TO EASYTRACK

Messages can be sent to the easyTrack MES using an ordinary e-mail program such as Microsoft Outlook Express or Netscape. In order to send an e-mail to the MES a e-mail forwarding account must be set up and paid for at the ISP. The ISP provides an e-mail-address that must be filled into the "To:" field and usually also a password or pin code that must be filled into the subject or body of the message, this varies from ISP to ISP. Some ISPs also supports sending SMS messages to easyTrack. Contact your ISP to set up the message forwarding account.

Messages received by the easyTrack and easyMail can be found in the Inbox.

The Inbox is saved on the PC hard drive. Go to 'Options→Configuration→Routing' for changing the current Inbox directory path.

3.3 AUTO TEXT

easyMail can insert specific texts like the current position, time or a signature into the editor.

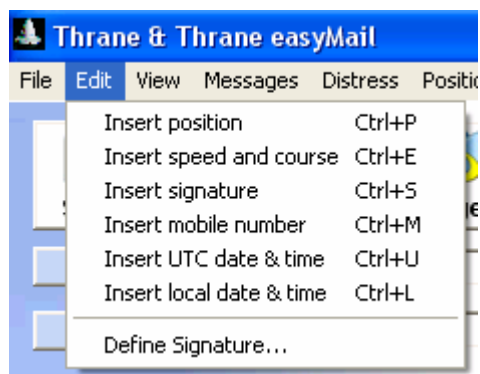


Figure 19 The auto text possibilities

This can be found in the 'Edit' menu.

3.4 EGC RECEPTION

The EGC Setup window is opened by clicking 'Options→Configuration→EGC Setup'.
See sections 2.2.2 and 2.3 for an explanation of EGCs.

EGC Setup

☒ Additional NAVAREA(s) / METAREA(s) 4 None None None ☒ System Messages ☒ SafetyNET

[Coastal Warning Areas settings]

Coastal Warning Areas [A..Z]: ABCDEFGH

☒ Navigational Warnings ☒ Meteorological Forecasts ☒ SATNAV
☒ Meteorological Warnings ☐ Pilot Service ☒ Other Navaid
☒ Ice Reports ☒ LORAN ☒ Additional Navigational Warnings
☒ Search And Rescue

[Fixed Positions]

	Latitude:		Longitude:	
	Deg.	North/South	Deg.	East/West
Fixed Pos. 1:	26	N	17	W
Fixed Pos. 2:				
Fixed Pos. 3:				
Fixed Pos. 4:				
Fixed Pos. 5:				

OK Cancel

Figure 20 The EGC Setup window

Fixed positions:

Fixed positions are used to receive EGC messages sent to other positions than your current position. This can be beneficial if you for example want to know the weather forecast for the area you are heading to. You can enter several positions on your planned route to keep updated on the next parts of your trip.

3.5 POSITION REPORTING

Using the position reporting feature requires a DNID to be downloaded in the MES – please refer to section 2.2.3 for more details.

When the DNID and member number is downloaded the DNID can be displayed using easyMail. Select menu *Options->Configuration->DNID* that will display the DNID list.

To actually enable the reporting, select *Options->Configuration->Position Report->DNID PU Position Reporting*. This will display the Reporting Setup window. Press the **New** button and the interval configuration window is displayed.

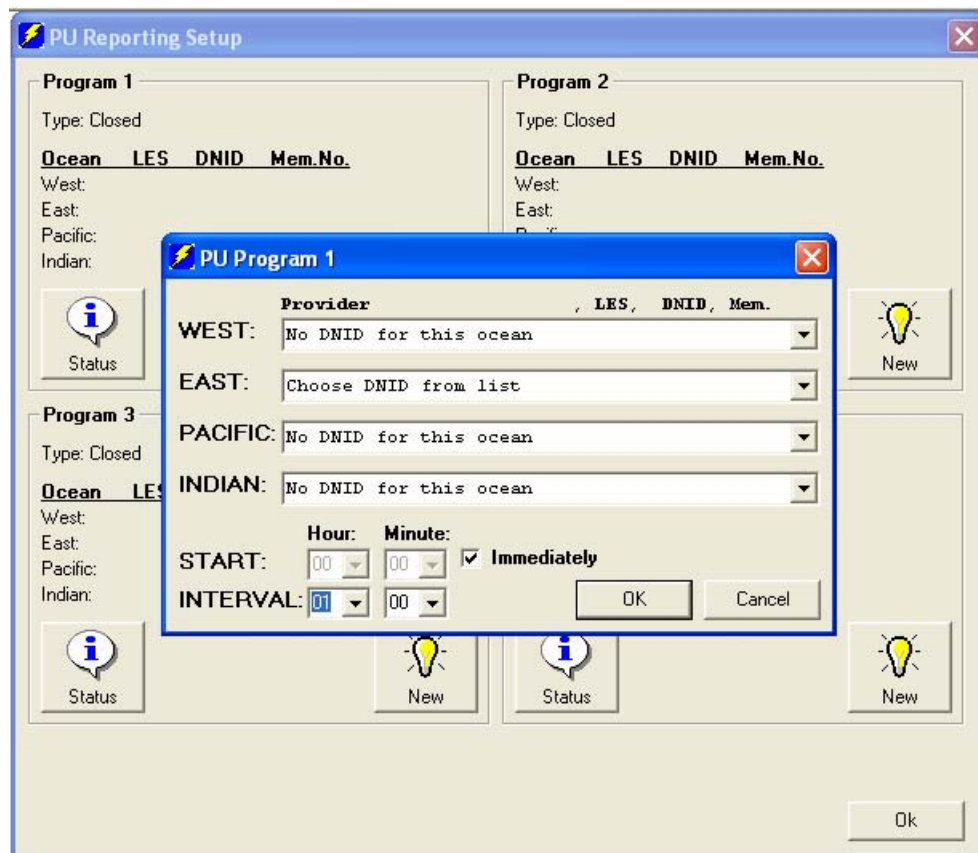


Figure 21 easyMail Position reporting set-up

Now select the LES, DNID and Member Number pair downloaded by the LES, set the interval to, e.g., 2 hours. Press the **OK** button to start the automatic reporting.

The easyTrack MES is now configured to send its position at a regular interval to the LES that stores the data in the DNID mailbox. From here the LES will typically be configured to forward the reports by e-mail.

Refer to section 2.2.3 for more information about position reports and how to use them.

3.6 DNID List

Before easyTrack can be used for polling and data reporting, a DNID must exist in the transceiver. Refer to 2.2.3 for more information on DNIDs and position reporting.

The DNIDs stored in easyTrack can be viewed in the DNID List,

'Options->Configuration→DNIDs'.

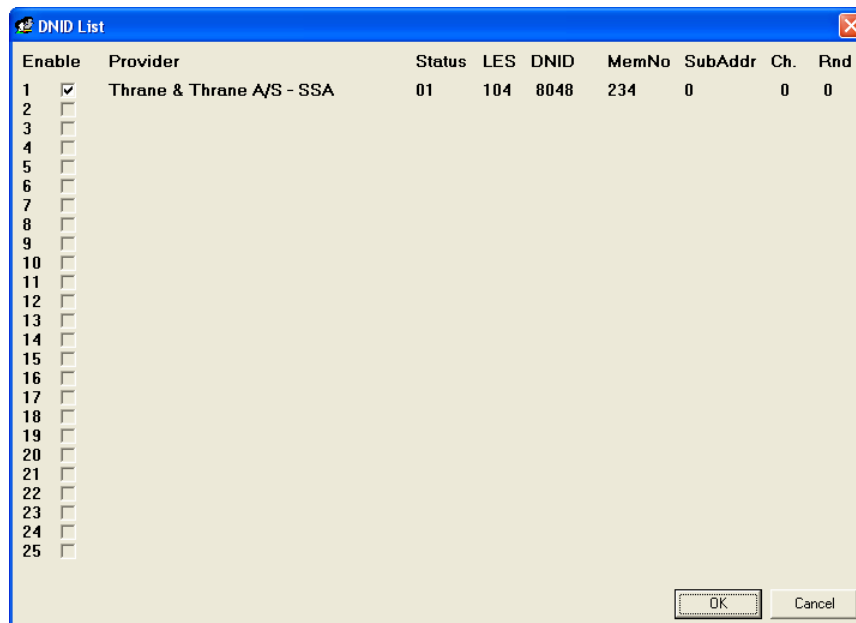


Figure 22 The DNID List

DNIDs can be enabled or disabled. Disabling a DNID makes easyTrack unable to send data/position reports or receive polls from this specific DNID.

3.7 ENID List

ENIDs are used to receive FleetNET EGC messages. Refer to 2.2.2 for more information on FleetNET. A list of the ENIDs existing in easyTrack can be viewed clicking 'Options→Configuration→ENIDs'. ENIDs can be enabled and disabled.

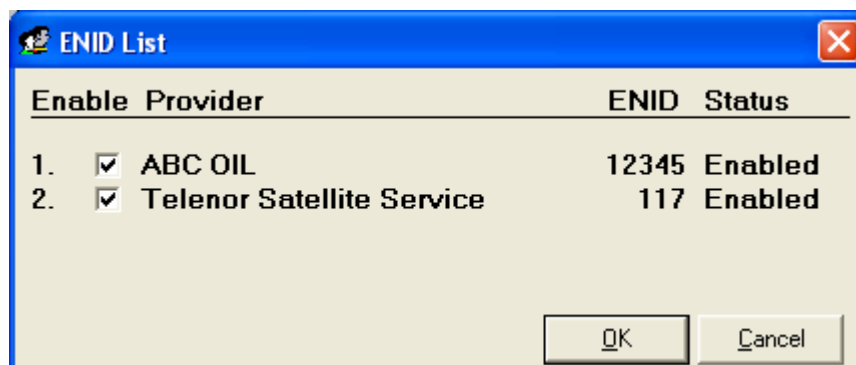


Figure 23 The ENID List

3.8 TRANSCEIVER INFORMATION

3.8.1 TRANSCEIVER STATUS

'Options→Transceiver Status'.

The Transceiver Status provides technical information on the current state of the easyTrack satellite communication. The Transceiver Status is updated every 10 seconds.

The information contained in the window can be printed or saved by clicking the 'Print...' or 'Save...' button.

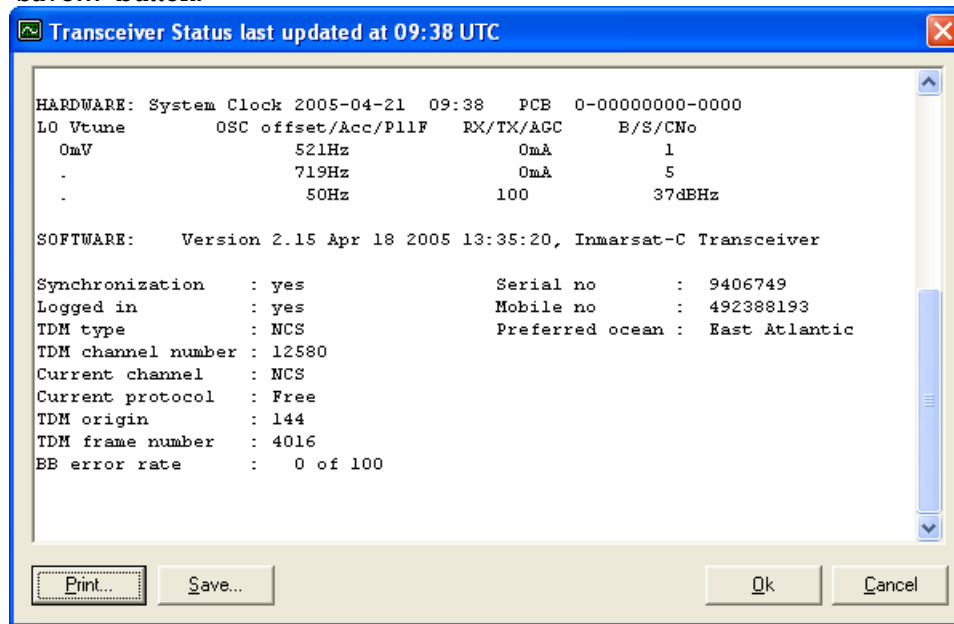


Figure 24 The Transceiver Status window

3.8.2 GPS STATUS

'Options→GPS Status'.

The GPS status provides detailed information on the current state of the GPS reception. The GPS Status is updated every 10 seconds.

The information contained in the window can be printed or saved by clicking the 'Print...' or 'Save...' button.

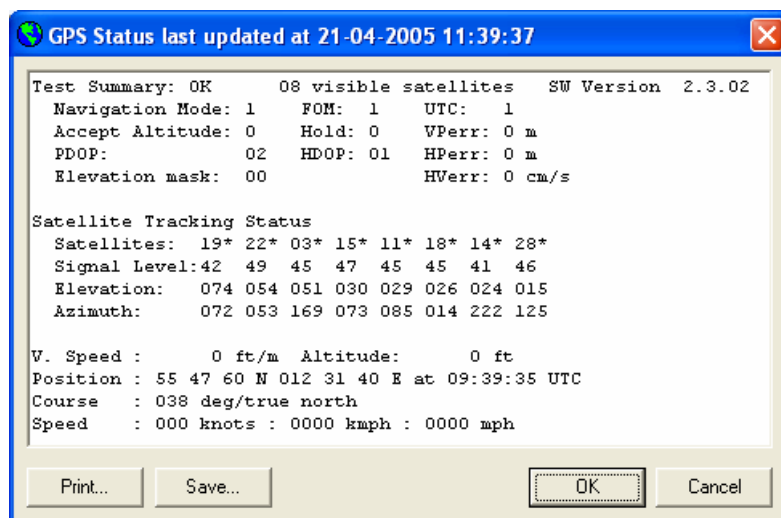


Figure 25 The GPS Status window

3.8.3 VIEW / MANUALLY UPDATE POSITION

Choosing the 'Position' menu brings up the following dialog:

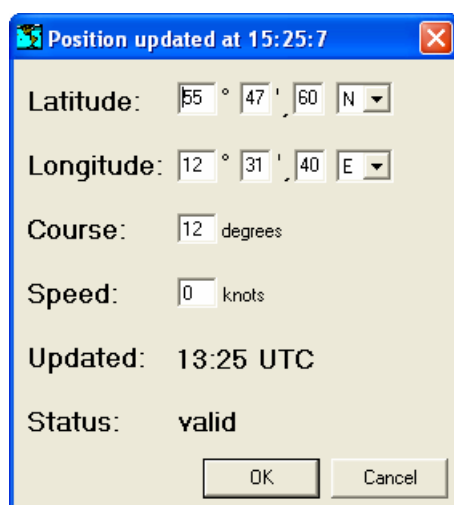


Figure 26 Position window

This dialog shows the latest position from easyTrack. The data is updated every minute. If the GPS should fail, you can enter a position manually from this dialog. Clicking 'OK' will update the position. If the position is updated manually and the GPS is working, the GPS will immediately overwrite the manually stored position.

3.9 PASSWORD PROTECTION

easyMail allows sending of messages and changing the configuration to be password protected.

3.9.1 SETTING A TRANSMIT PASSWORD

Setting a transmit password, easyMail will ask for the password when the user clicks the 'Send' button. Only when the right password is entered, the 'sending dialog' will be shown and the message can be sent. Transmission of Distress Messages will not be password protected, so when trying to send a Distress Message, the password check will not be performed.



Figure 27 Creating a transmit password

3.9.2 SETTING A CONFIG PASSWORD

When a config password has been set, the user trying to enter the configuration menu (Options→Configuration) of easyMail must enter the correct password, or the configuration cannot be changed. Land earth station setup, local time settings and COM settings are not password protected.



Figure 28 Creating a config password

3.9.3 REMOVING A PASSWORD

The transmit and config passwords can be removed by typing the old password and without entering a new one in the two other fields of the Password window. Save by clicking 'OK'.

3.10 TERMINAL MODE

'Options→Configuration→Terminal Mode'.

The Terminal Mode is for advanced use, and is used to communicate with easyTrack via a textual command interface.

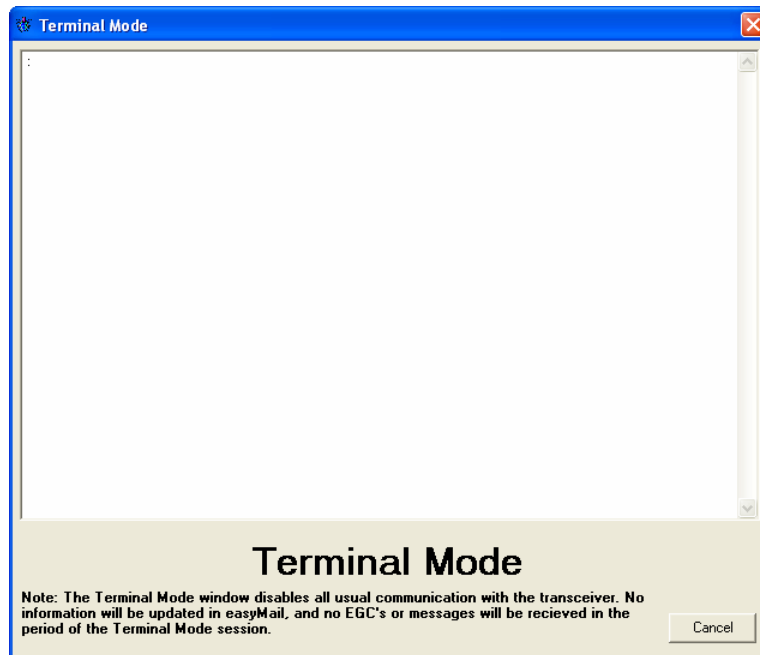


Figure 29 The Terminal mode

Note that in Terminal Mode the normal communication with the transceiver is disabled, so no information will be updated in easyMail, and no EGCs or messages will be received in the period of the Terminal Mode session.

3.11 LAND EARTH STATIONS

'Options→Configuration→Land Earth Stations'.

In this window the available Land Earth Stations can be viewed, and the names of the Land Earth Stations can be changed.

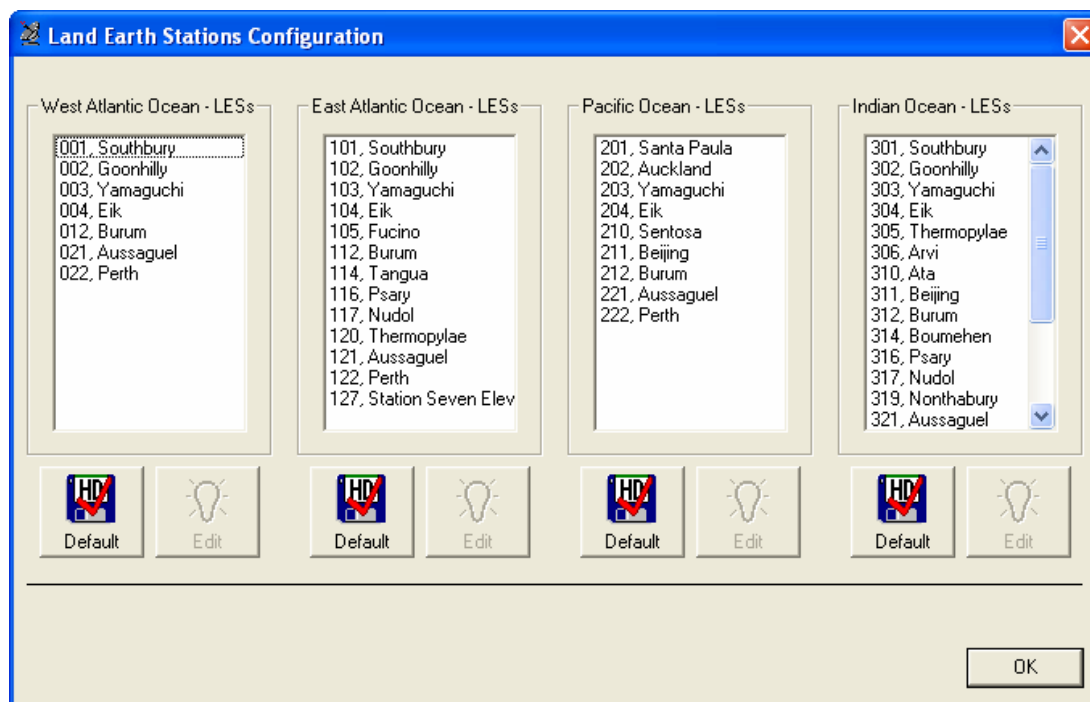


Figure 30 Land Earth Stations

To change a LES name, click on a specific LES and click the 'Edit' button. Change the name and click 'OK'.

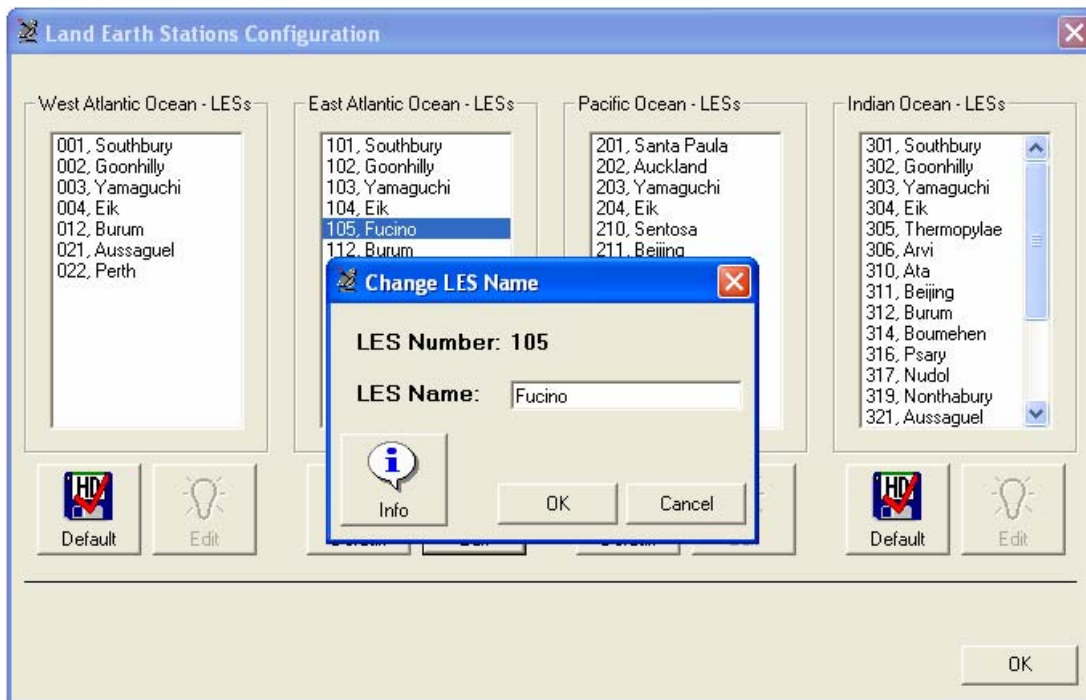


Figure 31 Changing a LES name

To restore the LESes to the default values, click the 'Default' button for the Ocean Region.

3.12 E-MAIL SERVICE PROVIDERS

'Options→Configuration→E-mail Service Providers'.

Here you can view the settings of the ISPs e-mail settings.

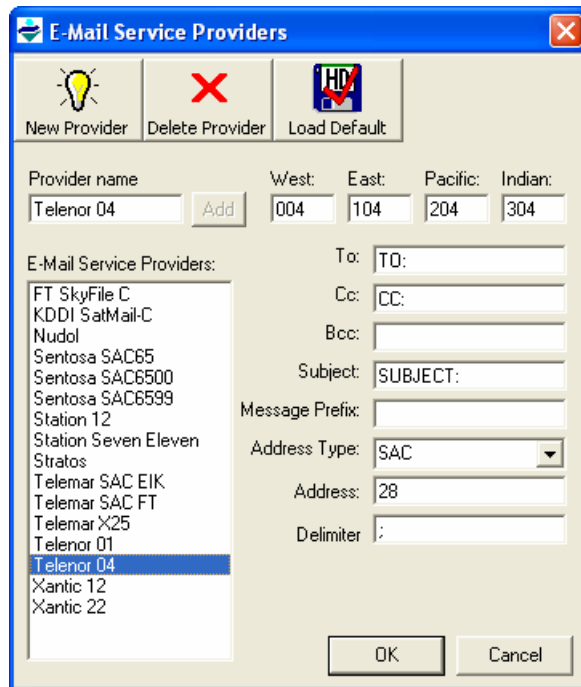


Figure 32 E-mail Service Providers

Use this dialog only to update the e-mail settings if they have been changed by your ISP, or to add new service providers that are not in the list.

If the list have been altered by a fault, the default settings can be reloaded clicking the 'Load Default' button.

3.13 SET LOCAL TIME

'Options→Configuration→Set local time'.

Use this option to set the local time in the easyTrack. The transceiver gets the UTC time from the built in GPS module, but it needs information of the current time zone to set the local time correctly.

Another option is to set the PC time to the current local time calculated from the GPS, every time easyMail starts up. This is recommended.



Figure 33 Set local time

3.14 DISTRESS FUNCTIONALITY

With a TT-3026D, easyMail offers a non-SOLAS GMDSS solution. See section 2.3 for general information on this topic and section 4 for information on how to use the TT-3026D installation.

3.14.1 DISTRESS ALERT SETUP

'Distress→Distress Alert Setup'.

Feature of TT-3026D only.

Here the user can configure what information will be sent with a Distress Alert. The Distress Alert Setup is also known as the Distress Generator.

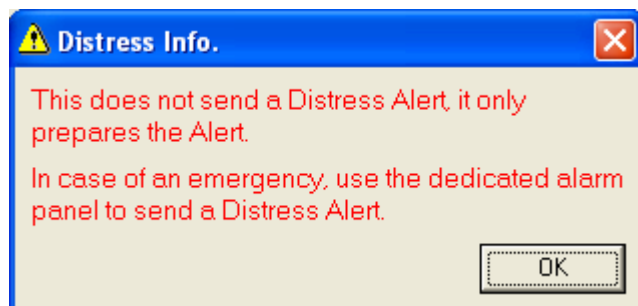


Figure 34 Distress info window

Distress Alert Setup

Land Earth Stations:

Atlantic Ocean Region West: 001, Southbury

Atlantic Ocean Region East: 101, Southbury

Pacific Ocean Region: 201, Santa Paula

Indian Ocean Region: 301, Southbury

Position:

Latitude: Deg. 55 Min. 47 Min/100 60 N/S N

Longitude: Deg. 012 Min. 31 Min/100 40 W/E E

Course: Deg. 32

Speed: Knots 0

Updated at UTC: Hour 14 Min. 31

☒ Always use latest position from GPS

Reason for distress:

- ☒ Undesignated
- ☐ Explosion/Fire
- ☐ Flooding
- ☐ Collision
- ☐ Grounding
- ☐ Listing
- ☐ Sinking
- ☐ Disabled & adrift
- ☐ Abandoning ship
- ☐ Req. assistance
- ☐ Piracy

OK Cancel

Figure 35 Distress Alert Setup

Land Earth Stations: For TT-3026D, Land Earth Stations can be configured for all 4 Ocean Regions. This is the LES where the mobile will send the Distress Alert through when initiated from the alarm panel.

Position: There are two possibilities with the position included in the Distress Alert. Either the automatically updated GPS position can be included, this will usually be the option to choose, or a position can be entered manually. When marking 'Always use latest position from GPS', it will be the GPS position that is used when sending a Distress Alert. If unmarking this option, the position fields will be enabled, and this entered position will be used in the Distress Alert.

Note: This window cannot be used to check if it is the GPS position or a manual position that will be used in the Distress Alert. It can only show the position that would be included if the Distress Alert

were sent now. The checkbox will always be marked when opening this window. So to be sure that the GPS position is included, mark the checkbox and click 'OK'.

The Distress Alert Setup is valid for 1 hour. When it becomes invalid, an info box will be shown to the user.

Reason for distress: The chosen one of the reason options listed, will be included in the Distress Alert. The default setting is "Undesignated".

Clicking 'OK' will update the Distress Alert Settings.

3.14.2 RESET ALARM

'Distress→Reset alarm / Latest distress info'.

Feature of TT-3026D only.

This menu item will reset the alarm buttons including the light in the button and the buzzer if present. See section 4 for more information.

This will be necessary to do after sending a Distress Alert or receiving an urgent/distress priority SafetyNet EGC or an urgent/distress priority message.

When resetting the buttons, a window displaying the latest distress information will also be shown. Click 'OK' to close this window.

3.14.3 LATEST DISTRESS INFORMATION

'Distress→Reset alarm / Latest distress info'.

Feature of TT-3026D only.

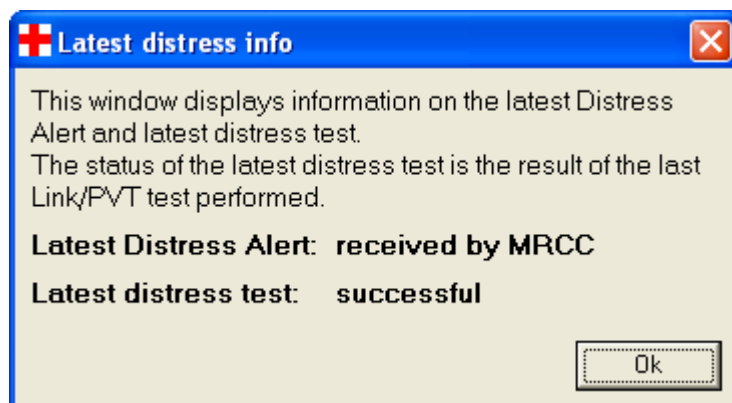


Figure 36 Latest distress information window

This window shows the status of the latest Distress Alert that was sent. This menu item also resets the alarm buttons. Refer to 3.14.2 for more information on resetting the alarm buttons. The latest Distress Alert status field can contain three different status texts. These are explained below in Table 3

Status of latest Distress Alert	Description of status
"none"	A Distress Alert has not previously been sent. This will usually be the case.
"rejected"	The last Distress Alert was not received by MRCC.
"received by MRCC"	The last Distress Alert was received by MRCC (Maritime Rescue Coordination Centre)

Table 3 Status of latest Distress Alert

The status of the latest distress test (Link/PVT test) is also shown. This status field can contain three different status texts, explained below in Table 4.

Status of latest Distress Alert	Description of status
"none"	A Link test has not previously been executed. You can start a Link test from 'Options→Link test'
"rejected"	The last Link test was not completed successfully.
"successful"	The last Link test was completed successfully.

Table 4 Status of latest distress test

3.14.4 DISTRESS TEST MODE

'Distress→Distress Test Mode'.

Feature of TT-3026D only.

When selecting this menu item, the easyTrack is set into Distress Test Mode. In itself this does not test anything, but it gives the user the possibility to safely test the alarm buttons without any Distress Alerts being sent. See section 4.1 for information about the alarm button installation.

Note also that the Link test is another important part of the regular, recommended test. That part will test that the link to the satellite is fully operational.

IMPORTANT: DO NEVER TEST THIS INSTALLATION BY SENDING AN ALERT ON-AIR. Any Distress Alerts coming through the Inmarsat-C network will be taken seriously by the receiving authorities.

The Distress Test mode will allow the user to operate the distress button without any alerts are actually being sent.

The windows shown in Figure 37 will be shown while Distress Test Mode is active.

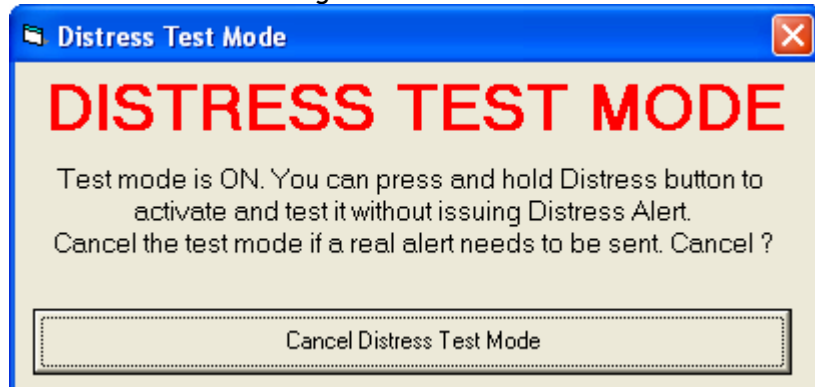


Figure 37 Distress Test Mode

In Distress Test Mode the alarm panel can be pressed without any alerts being sent. The recommended test procedure is this:

Action	Light in the button	Buzzer (if installed)
Press the alert button	Flashing	Beeping
Hold the button for at least 5 seconds	On with an off-period every 15 seconds.	Off
Press the CLEAR button (if installed)	Off	On
Release the CLEAR button (if installed)	Off	Off

If this test passes the installation is correct.

3.14.5 DISTRESS MESSAGE

Feature of TT-3026D only.

A Distress Message or Distress priority message is used in addition to Distress alert when time permits during the distress situation and it is NOT used instead of Distress alerting. When the Distress Alert is confirmed, a more detailed distress priority message can be sent giving more information about the distress situation, e.g. number people on board, situation with the vessel, assistance required, etc. The main requirements here is to send the message via the same LES as distress alert and the message will also be delivered to the same MRCC (Maritime Rescue Coordination Centre).

Inmarsat-C Distress priority message is also used to cancel Inmarsat-C false Distress Alerts whereby the ship's operator is aware of a false alert and send distress priority message via the same LES asking to cancel his alert. In this case both false alert and subsequent distress priority message will be delivered to the same MRCC who will know immediately (or almost) that the alert is false. It is an IMO recommended procedure how to cancel false alerts via Inmarsat C.

See section 2.3 for more information on the use of Distress Messages.

To send a Distress Message, click the Distress Message Editor button.
The two information windows below are shown before entering the Distress Message Editor.

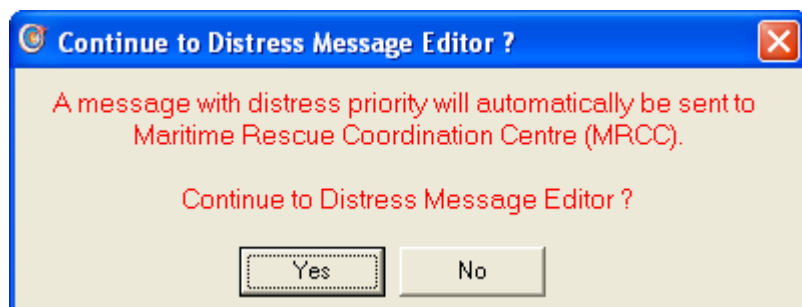


Figure 38 Distress Message Editor info 1

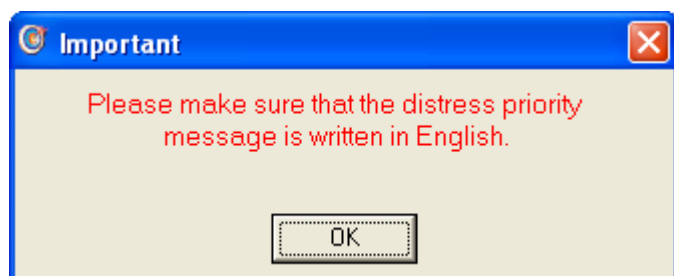


Figure 39 Distress Message Editor info 2

When entering the Distress Message Editor, two lines of auto text is immediately inserted, latest position and mobile number.

A Distress Message is always sent directly to an MRCC and this address cannot be changed. It is not possible to add other addresses to this message either.

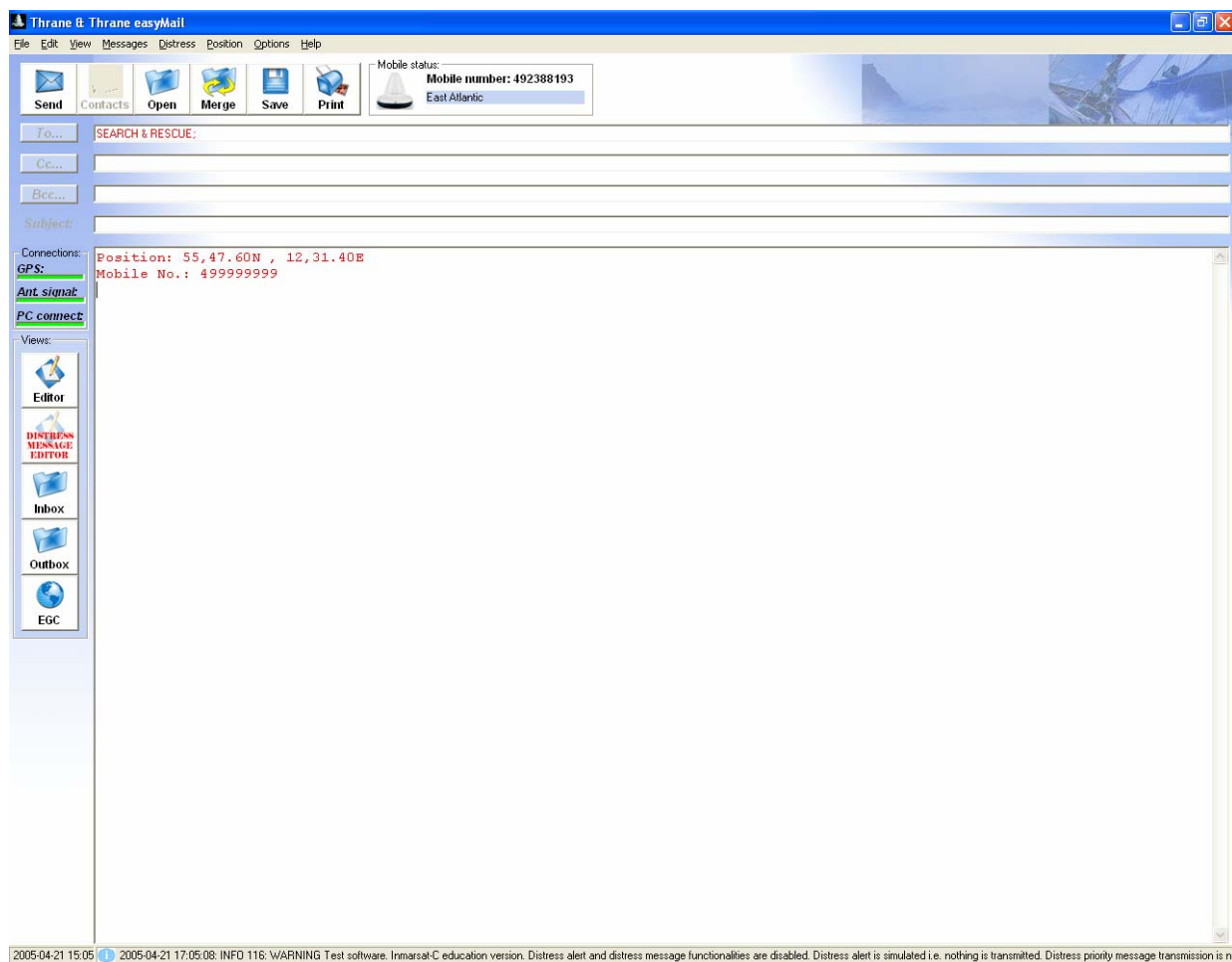


Figure 40 The Distress Message Editor

When the message has been written, click 'Send' like when sending normal message. Distress Messages are not password protected, so if a transmit password has been entered this will not be checked when sending the Distress Message.

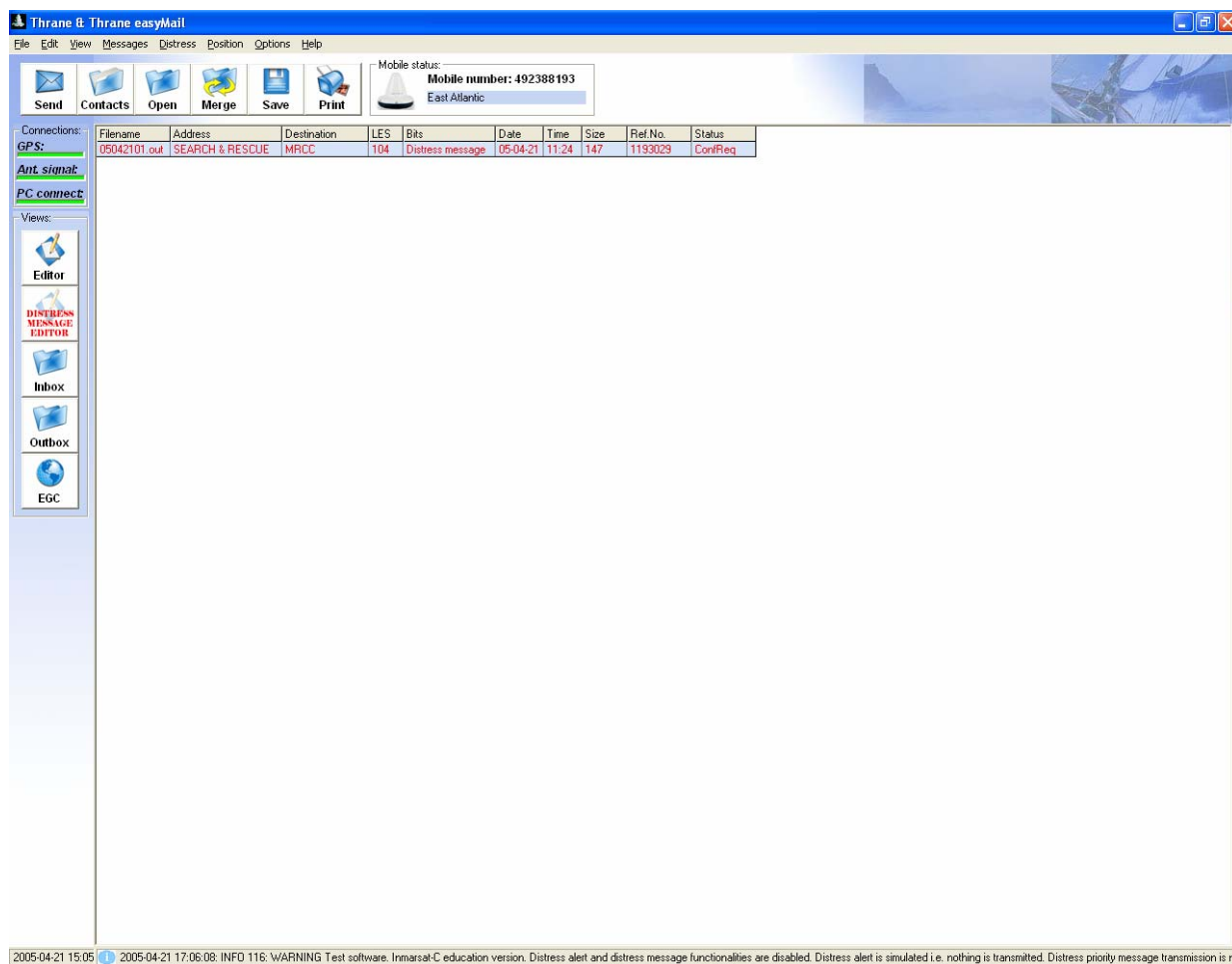


Figure 41 A Distress Message entry in the Outbox

4 THE DISTRESS ALERT INSTALLATION

As explained in sections 2.3 and 3.14 the TT-3026D is capable of sending maritime distress alerts. This installation will include a distress button with a red light inside. It may also include a buzzer and a Clear button but these are optional. If these are not installed please disregard the related information in the following sections.

Please refer to [1] for an installation manual to TT-3026 easyTrack.

4.1 SENDING DISTRESS

In the normal operational state the button light is off and the buzzer is silent.

An alert is initiated simply by pressing the distress button for more than 5 seconds. During these 5 seconds the button light will flash and the buzzer will beep. After 5 seconds the red light goes steady on and the buzzer will be silent.

After a little while (typically around half a minute as a rough average) a confirmation is received by the transceiver and the red light will show this by being on with a short off-period every 15 seconds. If the alert is not delivered (e.g., due to bad satellite signal conditions) the button light will turn off.

So to summarize: The light in the button is turned on when an alert is sent; if it turns off again (without other user intervention) the alert could not be delivered. The buzzer will sound for five seconds before alert is sent.

To reset the button light to the normal off-state, either use the easyMail terminal (see section 3.14.2) or press the Clear button; pressing the Clear button will also sound the buzzer.

The system can be tried out in Distress Test mode (see section 3.14.4) where all indications work like in 'normal' operation but no alerts will be sent (the system will behave like the alert is acknowledged immediately). It is recommendable to use Distress Test mode to become familiar with the sound and light indications.

4.2 OTHER BUZZER INDICATIONS

Apart from the alerting signal described above, the buzzer (if installed) has two additional purposes:

- Indicating incoming EGCs or messages with distress or urgency priority.
- Indicating hardware problems that may cause the installation not to work.

The EGC/message signal is a quick beeping sound - around one beep per second. This beep can be reset through the easyMail terminal (see section 3.14.2) or by pressing the Clear button (if installed).

The hardware problem indication is three beeps repeated every 10 seconds. The reason for the beep will be shown on the easyMail terminal and they include the following:

- Hardware error in the distress button installation.
- Position is not updated for an extended period.
- No access to the satellite signal.

The hardware problem indication cannot be reset in other ways than correcting the actual problem.

5 GETTING FURTHER INFORMATION

If this User/Operator manual did not answer your question or you like to read more please refer to section 1.1 Related Documents that includes a list of other Thrane & Thrane documents that might be of interest.