SAILOR®

by Thrane & Thrane

TT-3000E mini-C GMDSS 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 TT3000E Mini-c GMDSS system and how the system is operated. For description of installation and other aspects of the system 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 GMDSS system.	[1] TT98-122414, TT-3000E mini-C GMDSS System 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] www.thrane.com tells how to contact the local Thrane & Thrane distributor for further assistance.
AP5042 Alarm Panel	[6] TT 98-125064 AP5042 Alarm Panel Installation and User Manual
AP5065 Alarm Panel	[7] TT 98-125065 AP5065 Alarm Panel Installation

Manual

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 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 SYSTEM DESCRIPTION

An overview of the complete GMDSS system is shown in Figure 1. The individual products are introduced in [1] TT-3000E Instalation Manual. This manual will describe how to operate the system using the TT-3606E Message Terminal and the AP5042 Alarm Panel.

The following chapters give an introduction to the Inmarsat C system (3 Introduction to Inmarsat-C) and tell how to operate the alarm panel (4 The distress alert installation) and the CAPSAT message terminal software (5 Message Terminal Operation)
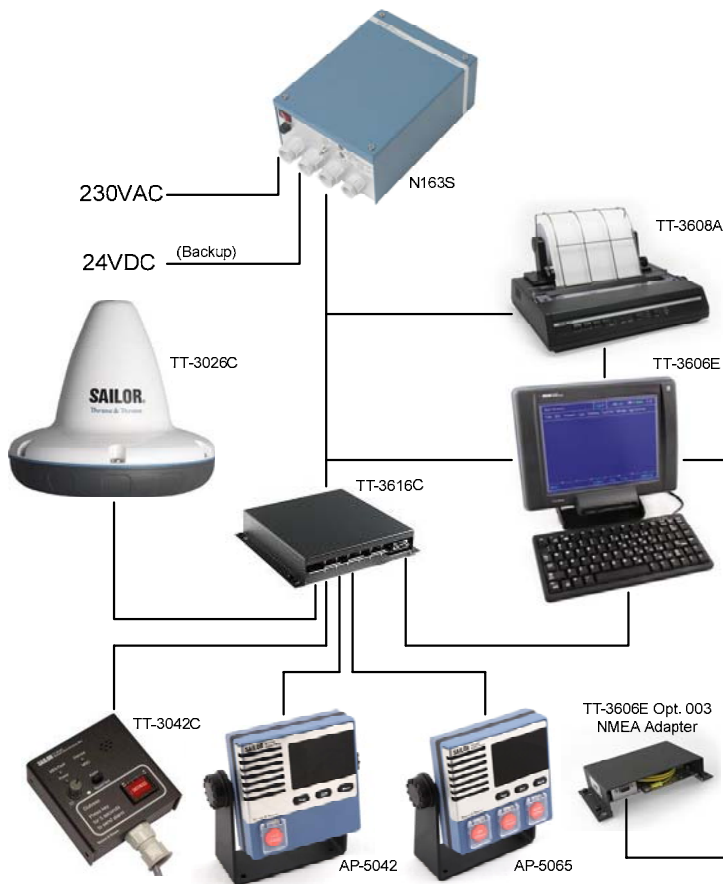
Figure 1. TT-3000E Mini-C GMDSS System overview

3   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.

3.1   SYSTEM OVERVIEW

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 70º North and 70º 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.
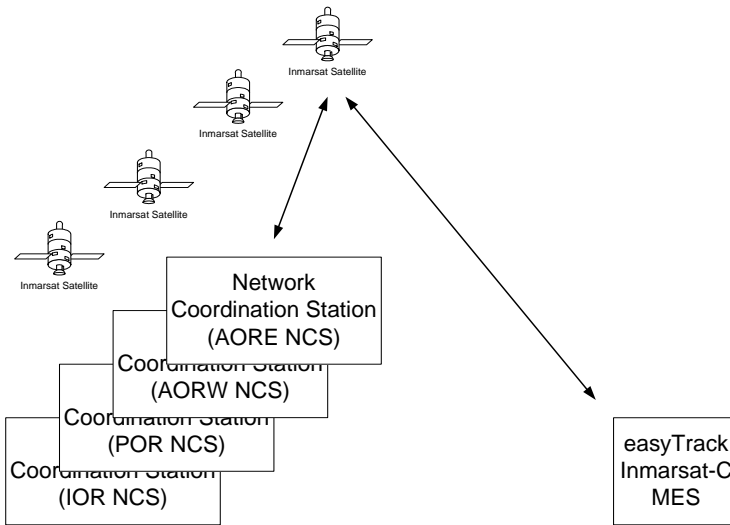
Figure 2 Registration at NCS

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.
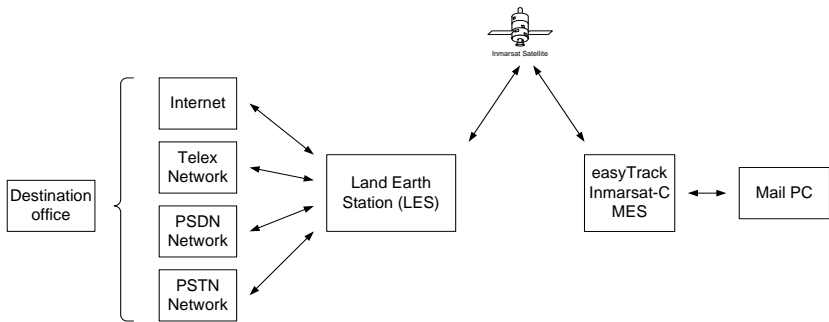
Figure 3 Data transmission using LES

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.

3.2 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-3026C and D only).

3.2.1 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 3.1 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.

3.2.2 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.

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 [2] for information on viewing the ENIDs in the transceiver.

EGCs are also used for distributing maritime safety information; this will be covered in section 3.3.

3.2.3 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.
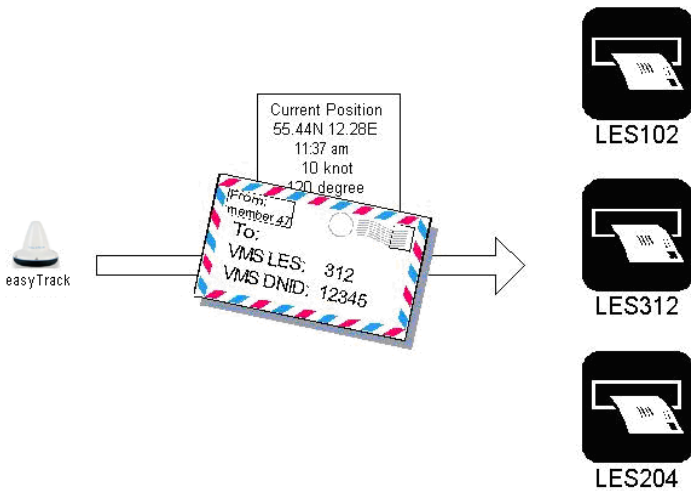
Figure 4 Inmarsat-C position reporting

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.

3.2.4 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 the message terminal (this will be covered in section 5.5.26 Position & GPS).

3.3   SAFETY AND DISTRESS CAPABILITIES

The TT-3000E system is a 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 'SOLAS GMDSS' designates GMDSS equipment and installations that lives up to the SOLAS convention – typically installations on ships subject to SOLAS chapter IV.

The main purpose of having safety communication equipment like the TT-3000E GMDSS system 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 though 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 the TT-3000E GMDSS system. 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-3000E system 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-3000E system 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-3000E will select one automatically.

The TT-3000E 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-3026C transceiver 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 <u>must be avoided</u>. 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.

4   THE DISTRESS ALERT INSTALLATION

As explained in sections 3.3 the TT-3000E system is capable of sending maritime distress alerts using the AP5042 Alarm Panel [5]. For distress alerting this panel includes a distress button with a red light inside and a buzzer.

4.1   SENDING DISTRESS

In the normal operational state the alarm 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. The distress signal is now being sent.

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.

At any time it is possible to cancel a Distress Alert using "Abort transmission" from the Options menu. Be aware that a Distress Alert is usually sent within 10-30 seconds.

To reset the button light to the normal off-state use the following procedure:

1. Select "Clear distress indication" from the Distress menu on the TT-3606E Message Terminal.

The system can be tried out in Distress Test mode 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 recommended 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 and lights on the alarm panel have two other purposes:

1. Indicating incoming EGCs or messages with distress or urgency priority.

2. Indicating printer or hardware problems that may cause the installation not to work.

The EGC/message signal is a quick beeping sound - around one beep per second, and the "Distress MSG" light will flash at the same rate. This indication can be reset by the following procedure:

1. Select "Clear distress indication" from the Distress menu on the TT-3606E Message Terminal.

The hardware problem indication is three beeps repeated every 10 seconds. Below is a list of reasons for the beeps. The specific reason will be shown on the message terminal:

- Hardware error in the distress button installation.

- Position is not updated for an extended period.

- No access to the satellite signal.

The printer problem indication is two beeps repeated every 10 seconds. Below is a list of reasons for the beeps. The specific reason will be shown on the message terminal:

- Printer out of paper. See that the printer has paper and that it is properly placed in the feeder.

- Printer off-line. Press the "Set" button on the printer.

- Printer communication problem. Check that the printer is connected as described in [1] TT-3000E Installation Manual.

- Paper low warning.

The hardware problem indication cannot be reset in other ways than correcting the actual problem. For printer problems the audio indication can be muted using the mute button on the alarm panel. Note, the "MES Fault" LED is lit until the printer error is corrected.

5 MESSAGE TERMINAL OPERATION

5.1   BASIC CONCEPTS

Menu Bar   *Status Field*   *Title   GPS mode*   *INM-C Signal   Clock*

```
┌──────────────────────────────────────────────────────────────┐
│  East-Atlantic/Egc-Mail          │Capsat  │ GPS ▪▪▪ │ INM-C ▪▪▪▪▪ │ 8:19 │
├──────────────────────────────────────────────────────────────┤
│  File  Edit  Transmit  Logs  Distress  Position  Options  Applications │
├──────────────────────────────────────────────────────────────┤
```

Text
Field

Hint Field   *A Window*   *Title*

Status
Line   *Shadow*

```
                              ┌──────────┬────────┬──────┐
                              │          │  Info  │      │
                              ├──────────┴────────┴──────┤
                              │ Urgent EGC message received. │
                              │                          │
                              │   Press Esc to continue! │
                              └──────────────────────────┘
```

```
 ──────▪─────────▪─────────▪─────────▪─────────▪─────────▪────────«▪────────
 ASCII:                    1 Chars   Line   1 Col  1        Inserting
```
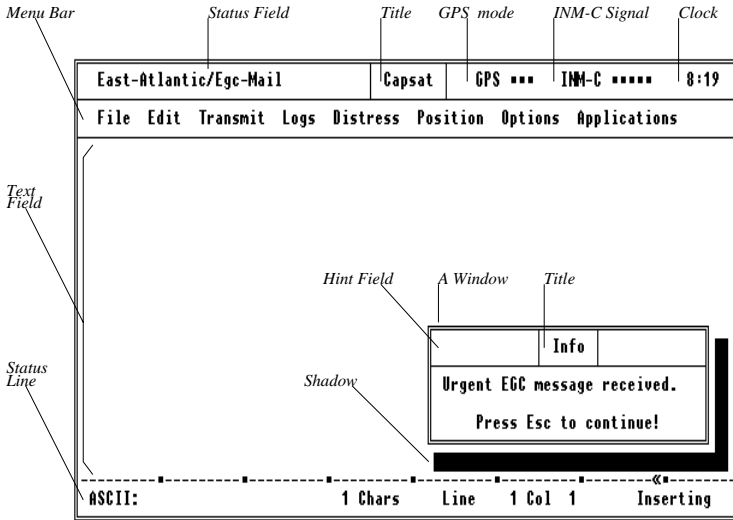
Figure 5 Basic Concept

A Window   Is an area of the screen delimited by a double line border. Several windows may be displayed on the screen at the same time overlapping each other. The window being on top will have a shadow. This indicates that the next keystroke on the keyboard will be directed to this window .

Title   Shows the name of the window.

Menu Bar Holds the menus of a window. Not all windows have a menu.

Text Field Is the part of the Capsat window, where you may type in text.

Status Field Is a combined field showing the current ocean region and status information. When the transceiver is logged in and not performing a Scan, Login, Logout or a Link Test, the current ocean region is displayed.

GPS Mode Indicates the mode of the GPS; Acquisition, 2-D or 3-D mode. See page 82 for further information.

INM-C Signal Meter Indicates the signal strength 0-5 using square boxes. The scale is indicated by 5 small dots. 3 boxes or more is needed to do reliable communication.

Clock Shows the system local time.

Hint Field   May show miscellaneous status information or hints about which key to press. This will be '<Space>' for Spacebar and '<Enter>' for the Enter key.

Shadow   Points out the window on top. When you type on the keyboard, the keystrokes will be given to that window.

5.1.1   SPECIAL KEYS ON THE KEYBOARD

To operate the Capsat Message Handling program you need to know which keys to press. In this chapter we will explain the functionality of the special keys on your keyboard.

Esc　　Pressing Esc will always take you one step back.
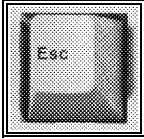
Previous Action	Hitting Esc will...
Just had a window displayed	Remove the window
Revising a value in a field	Cancel revise and restore the original content

Arrow Keys　　Moves the highlight or the insertion point. Both are known as the cursor.
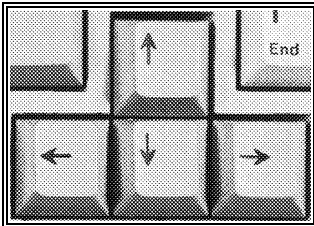
There are 4 arrow keys; Up, Down, Left and Right.

Enter   Is used to do the following operations:
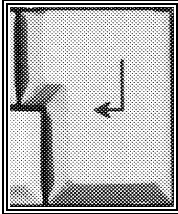
- Choosing the command currently highlighted.

- Make a new line in the Text Field of the Editor.

- To validate values, names, etc. that you have typed in.

Alt   The Alt key is usually used together with another key. You press down the Alt key continuously while you then press the second key once.

You have...	You want to...	Press...
Flashing cursor in Text Field	Get Highlight in the Menu Bar	Alt
Highlight in the Menu Bar	Flashing cursor in the Text Field	Alt
Flashing cursor in Text Field	Choose a command from the Menu Bar. I.e. Transmit.	Alt, T (Press Alt first and keep holding it down while hitting T. Release Alt)

Spacebar   Is used to do the following operations:

- Insert blank characters in the Text Field of the Editor.

- Change the value of a field that cannot be changed otherwise. This applies to fields on the screen like:

(●)   ( )

[X]   [ ]

Hitting Spacebar, when the highlight is positioned on such a field, will reverse the value, e.g. if you have '( )', you will get '(●)' and vice versa. When the Spacebar has this functionality, the upper left corner of the current window (The Hint Field) will normally show '<Space>'.

- Have additional information presented, when you are filling in a field. When the Spacebar has this functionality, the upper left corner of the current window will normally show '<Space>'.

- Marking items in some lists. This can be used in Directory and in the Address Book.

5.2   FIRST TIME WITH CAPSAT

In this chapter it is first described what happens when your turn on your Capsat system for the first time. Then we will explain how to send your very first message.

5.2.1 POWER ON

Before doing the following steps, you should check that communication port 1 (Com 1) of your PC or Message Terminal is connected to the transceiver.

Message Terminal   Turn on the power to have the start-up screen presented.

```
                    CAPSAT
            Version 3.40 05-12-01
              (C) Thrane & Thrane
```
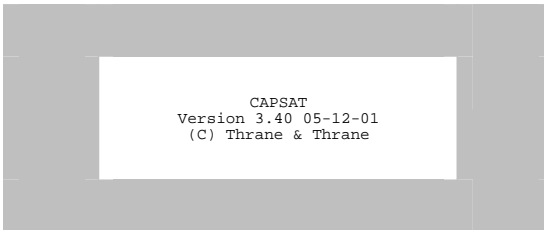
1. Wait for start-up screen to disappear within 5 seconds and the Capsat window is shown. The upper left corner of the screen (Status Field) will show "Transceiver not connected".

2. Turn on the power of the transceiver and wait approximately 25 seconds until the power-on sequence has been completed. The upper left corner of the screen will now show 'Logged out', if this is the very first power-on of the unit.

3. Continue   with   the   next   chapter Commissioning.

5.2.2 COMMISSIONING

When your system is going to be used for the first time, the following steps must be done.

Login Make a login by choosing *Options, Login* (Alt, O, L) and select the desired Ocean Region.

West Atlantic   East Atlantic   Pacific   Indian

The Status Field will now indicate '<LOGIN>'. Wait until the Status Field shows the desired Ocean Region.

Link Test The first time a transceiver performs a login to the Inmarsat-C Network, the transceiver is commanded to carry out a Link Test, also known as Automatic Commissioning. This may take up to 15 minutes and is indicated by '<LINK TEST>' in the Status Field.

During the Link Test the message:

Automatic test mode: Normal communication disabled. Do not press any distress buttons unless you are in distress

will be displayed.

When the link test is completed, the 'Link Test Finished' message is displayed/printed along with the results of the test. Your system is now ready to use.

5.2.3 SENDING A TEST MESSAGE

A quick guide of how to send a message through the Inmarsat-C Network and back to yourself is presented in the following. This is known as a loop back test.

1. Type in a short message in the Text Field.

2. Choose *Transmit* (Alt, T) to open the Transmit window. The highlight will be positioned on the address field.

3. Activate the Address Book by pressing Spacebar.

4. Choose *New* to insert an entry in the empty Address Book. The highlight will be positioned on the Name field.

5. Type in the name 'My mobile' and press Enter. The highlight moves to the Number field.

6. Identify your Ocean Region by looking at the Status Field in the upper left corner of the Capsat window. Type in the 3 digit Ocean Region Id corresponding to this.

> 580 - All Oceans
> 581 - East Atlantic
> 582 - Pacific
> 583 - Indian
> 584 - West Atlantic

7. Complete the number by adding your mobile number to the Ocean Region already typed in. Your mobile number is displayed in the upper right corner of the Transmit window. Press Enter to validate the number. A valid number could be 581 492380049. The highlight moves to the Answer back field.

8. Press Arrow-Down twice to move the highlight to '( ) Mobile'. Press Spacebar to get '(•) Mobile'.

9. Pressing Enter moves the highlight to '< OK >'.

10. Press Enter once on '< OK >' to validate the entry. The highlight will now be on New in the menu bar.

11. Choose *Select* to copy the entry to the Transmit window. The highlight will now be positioned at the Land Station field.

12. Press Spacebar to get a list of Land Stations. The Select field and the first Land Station will both be highlighted.

13. Choose *Select* to copy the first Land Station to the Transmit window.

14. Press Enter to move the highlight to the '< SEND >' field.

15. Press Enter once on '< SEND >' to transmit the message. The Transmit window is now removed and you are back in the Text Field.

16. After approx. 5 minutes you will receive the message. Your message is transferred to the Message Terminal and will be printed. It can be opened by selecting from the menu: Logs, Receive Log (Alt, L, R), highlight the new message and press V.

5.3   CAPSAT TEXT EDITOR

The integrated text editor makes it very simple to create messages for later transmission. It is designed to be used as a tool for editing small messages and not for managing large documents.

5.3.1   *THE EDITOR WINDOW*

The following illustration shows the important parts of the editor window, followed by a brief description of each part.
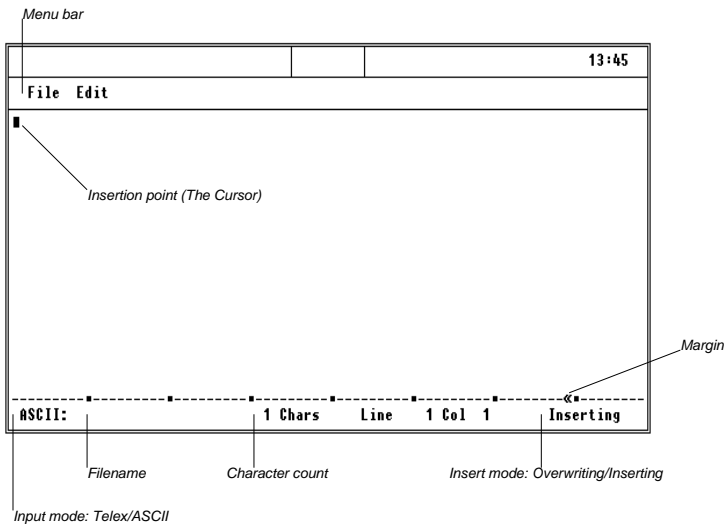
Figure 6 The Editor Window

Menu bar Contains menus. Open the menus and choose the appropriate command.

Insertion Point. Shows where text will be inserted when you type. Are also called the cursor.

Input Mode   Shows which input mode you currently are using. The field will either be Telex or ASCII. In Telex the editor will only allow you to insert characters that are represented in the Baudot alphabet.

Filename   Shows the name of the file on disk holding the present text. When starting out on a new message this field will be empty until you have saved your message for the first time.

Character count Indicates the number of characters in your message at any time. Please note that a new line is only counted as one character. When saving the message, a new line will be saved as two characters, CR LF (Carriage Return Line Feed).

Insert mode   Shows whether you will be inserting or overwriting characters when you type. The mode is toggled by pressing Ins on the numeric keypad. Make sure that Num Lock is off.

Margin   Shows the position of the right margin of your message. The default setting is at 69, which is the maximum line length that can be transmitted through the Telex Network.

5.3.2   CREATING A MESSAGE

> 1. Choose *File* (Alt, F) and *New Telex* or *New ASCII.*
>
> If you are going to send the message to a telex destination, you should select New Telex to prevent you from using characters that cannot be transmitted through the Telex network. In all other cases it will be most convenient to use the ASCII mode.

5.3.3   TYPING IN TEXT

As the position point (the cursor) is already positioned at the start of the message, you just type in your message as if you were using a typewriter. If you want to create some blank lines before typing, press the Enter key to insert blank lines.

As you type the insertion point advances to the right. When the insertion point gets to the right margin a new line is automatically inserted and the word that you were typing will be moved to the next line. This is called word-wrap.

5.3.4   MOVING THE INSERTION POINT (CURSOR)

If you are using the numeric keypad, make sure that NUM LOCK is off.

To move	Press this key
Up one line	UP ARROW
Down one line	DOWN ARROW
One character to the left	LEFT ARROW
One character to the right	RIGHT ARROW
One word to the left	CTRL+LEFT ARROW
One word to the right	CTRL+RIGHT ARROW
Beginning of the line	HOME
End of the line	END
Top of the window	CTRL+HOME
Bottom of the window	END
Beginning of the message	CTRL+PAGE UP
End of the message	CTRL+PAGE DOWN
Up one window	PAGE UP
Down one window	PAGE DOWN

Note. The cursor can only be moved to positions holding a character or a space. The blank portions of the window do not hold spaces unless you have typed them.

5.3.5 SAVING YOUR WORK

1. Choose *File, Save* (Alt, F, S).

2. Type in the name of the file. The name may consist of 1 to 8 characters. The Editor will append .TXT to the name. This is called an extension.

3. Press Enter to actually save the file.

Before saving the message, the Editor checks if there already is file of that name on the disk. If that is the case, you are given the opportunity to cancel the operation. If you choose to replace the existing file, the existing file will be given the extension .BAK and still be available on the disk.

Tip. Give all your messages sequential names such as OUT.000,   OUT.001, ...   and keep them in a separate directory or on a separate disk.

5.3.6   OPENING AN EXISTING MESSAGE

> 1. Choose *File, Load file* (Alt, F, L).

The Select file window

The current drive and directory
Use Path to change if necessary
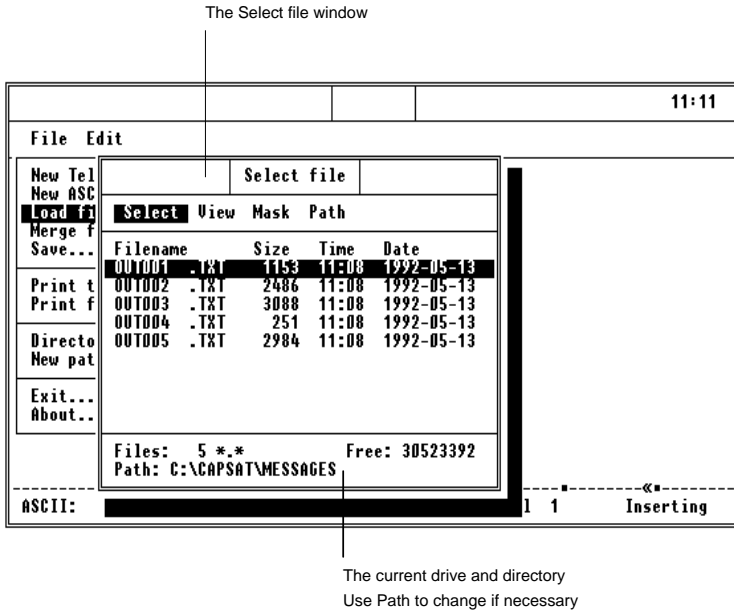
Figure 7 Opening an Existing Message

> 2. Select the desired file from the Select File window.

5.3.7   REVISING A MESSAGE

You can delete, copy and move text in the message. If you want to copy or move text, you must indicate which text you want to change by selecting it. When doing minor deletions you do not need to select the text.

To delete a	Press this key
Character left of the cursor	BACKSPACE
Character under the cursor	DEL
Line	ALT+F4
Word	ALT+F3

5.3.8 TYPING OVER TEXT

Normally the Editor is operating in Insert mode, which means that if you type a character, the existing characters are pushed forward. However you can operate the Editor in Overwrite mode too, where the characters that you type will replace the existing ones.

1. Press Ins key to toggle between Overwrite and Insert mode.

5.3.9 SELECTING A BLOCK OF TEXT

1. Position the cursor at the beginning of the text you want to select.
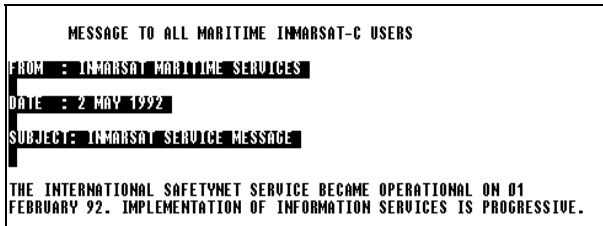
Figure 8 Selecting a Block of Text

2. Hold down the SHIFT key while you move the cursor to where you want the selection to end.

To cancel a selection, move the cursor without holding the SHIFT key down.

5.3.10 MOVING TEXT

Moving text from one place to another is known as cutting and pasting.

1. Select the text you want to move.

2. Choose *Edit, Cut* (Alt, E, T). The selected text is then removed from your message and placed in a temporary storage area. The text will reside there until you choose the Cut or the Copy command again.

3. Position the cursor where you want to move the text.

4. Choose *Edit, Paste* (Alt, E, P). The Editor now inserts the text from the temporary storage area. You can choose Paste as many times as you want inserting the same text at other locations in your message.

5.3.11 COPYING TEXT

1. Select the text you want to copy.

2. Choose *Edit, Copy* (Alt, E, C). The selected text is then copied from your message and placed in a temporary storage area. The text will reside there until you choose the Cut or the Copy command again.

3. Position the cursor where you want to insert the text.

4. Choose *Edit, Paste* (Alt, E, P). The Editor now inserts the text from the temporary storage area. You can choose Paste as many times as

you want to insert the same text at other locations in your message.

5.3.12 DELETING SELECTED TEXT

1. Select the text you want to delete.

2. Choose *Edit, Clear* (Alt, E, E).

5.3.13 FINDING AND REPLACING TEXT

The Editor allows you to find and replace text patterns in your message. The search is always performed from the cursor and onwards.

5.3.14 FINDING TEXT

1. Choose *Edit, Search* (Alt, E, S).

2. Type in the text that you want to find. The Editor searches for the exact pattern, so please watch your upper- and lowercase letters.

If the text is found the cursor is positioned immediately after the pattern. If the pattern is not found, an error message is displayed.

5.3.15 REPLACING TEXT

1. Choose *Edit, Replace* (Alt, E, R).

2. Type in the text that you want to replace and press Enter.

3. Type in the replacement text and press Enter.

When an instance of the pattern is found, the Editor highlights the text, and you are asked whether this particular instance should be replaced or not.

5.3.16 PRINTING

1. Choose *File, Print text* (Alt, F, T) to print the text shown in the Editor.

or

2. Choose *File, Print file* (Alt, F, P) to print a message from the disk.

5.3.17 CUSTOMISING THE EDITOR

1. Choose *Edit, Setup* (Alt, E, U).

In the Setup window the following parameters can be changed:

- The right margin of your message can be changed from 69 to any value in the range 5-77.

- The status line can be turned Off and On.

- The Insert mode can be toggled.

- The Input mode may be set to either ASCII or Telex.

- The 'Save with CR/LF' (Save with Carriage Return and Linefeed) can be toggled to instruct the editor to save the current message with the wordwrapping facility turned off. This will allow other programs to read your message files.

```
┌─────────────────────────────────────────────────────────┐
│ East-Atlantic/Position     │ Capsat │  GPS ···  INM-C ■■■■■  13:54 │
│ ┌───────────────────────────────────────────────────────┐│
│ File  Edit  Transmit  Logs  Distress  Position  Options  Applications │
│   ┌─────────────┐                                         │
│   │Cut      Shift+Del│                                    │
│   │Copy      Ctrl+Ins│                                    │
│   │Paste    Shift+Ins│                                    │
│   │Clear        Del  │                                    │
│   ├─────────────┬───────────────────┐                     │
│   │Delete word │     Setup          │                     │
│   │Delete line │                    │                     │
│   ├─────────────┤                    │                     │
│   │Time Ins    │▶Margin: 69         │                     │
│   │Position In │                    │                     │
│   │            │ [X] Statusline      │                     │
│   │Search...   │ [X] Inserting       │                     │
│   │Replace...  │                     │                     │
│   │            │ (♦) ASCII           │                     │
│   │Setup...    │ ( ) Telex           │                     │
│   └────────────┤ [ ] Save with CR/LF │                     │
│ ───────────■──────────└────────────────────┘──■──────────■────────«■──────── │
│ ASCII:                                    1 Col  1          Inserting │
└─────────────────────────────────────────────────────────┘
```
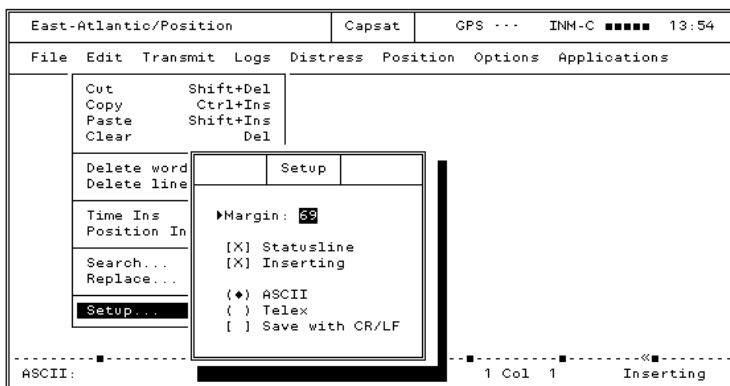
Figure 9 Customising the Editor

In addition to this the colour set-up of the editor may be changed from the System application. Press F10 and open the Paint menu.

5.4   CAPSAT ADDRESS BOOK

The Address Book conveniently stores the details of all your destinations. Up to 100 destinations can be stored.

       1. Press F3 to access the Address Book

or

       2. In Capsat choose *Transmit* and press Spacebar in the address field (Alt, T, Spacebar).

5.4.1 ADDRESS BOOK WINDOW
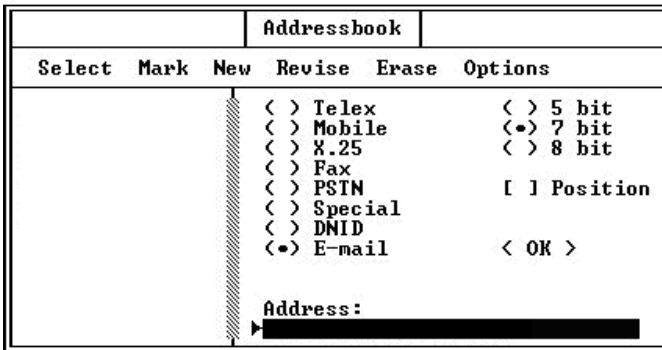
Figure 10 Address Book Window

Menu bar Contains menus. Open the menus and choose the appropriate command.

Names of Destinations Holds the names of all your destinations. You can move the highlight by pressing Arrow Up/Down, Page Up/Down and Home/End.

Destination data Holds the data of the highlighted Destination Name. When you move the highlight to another name, this field is updated with the data corresponding to this name. Tip**.** To move highlight to 'T&T Fax' press Alt+T.

Type of destination Allows you to select different network types. Not all of the listed types may be available at a particular Land Station. Press Spacebar on the desired type.

Presentation Enables you to select whether your transmission should be done using either 5, 7 or 8 bit presentation. The 7 bit option is supported by all Land Stations. The 5 bit presentation can be used with all Destination types and will reduce the transmission costs

approximately 33%. Press Spacebar on the desired presentation.

Special Options You can specify that you want your message to always include the latest position and time (if available) when the message is sent. Capsat automatically inserts this information as text in front of your message text, if you check the *Position* box. The information that Capsat inserts has the same format as what you will get if you had manually used *Edit, Position Ins* from the menu.   If the position is not available from a built-in GPS, Capsat will ask you if you want to send the message anyway. The latest available position will then be inserted instead.

The *Prefixed* box allows you to use the 'prefixed store-and-forward' service found at selected Land Stations. If you check this box you will need to type a two digit code in the appropriate field. This two digit code will be put in front (prefixed) of your destination address when the message is sent. You should contact the LES operator of the selected LES to find out which prefix codes are available at that station.

5.4.2   ADDRESS BOOK FACILITIES

The following facilities are presented on the menu bar:

Select	Selects one or several entries to be used for a transmission.
Mark	Marks up to 10 destinations by placing a mark to the left of the entry. When Select is chosen afterwards, all 10 destinations are selected. To unmark an entry choose Mark once again. Instead of using Mark, you can use the Spacebar.
New	Creates a new entry in the Address Book. First time you access the Address Book, it will be empty and you must select New and fill in a destination in order to use the Address Book.
Revise	Enables you to change the contents of a particular entry.
Erase	Erases an entry from the Address Book.
Options - Find	Searches for a name or a part thereof. The search is sensitive to upper- and lowercase letters.
Options - Save	Saves the contents of the Address Book in a file on the disk. Give the file a name of up to 8 characters. The file will be appended the extension '.DST'. I.e. if you specify

<div style="margin-left:auto">

the name to be myfile, the name will actually be myfile.dst.

</div>

Options - Load   Clears the present contents of the Address Book and reads in the contents of the selected file.

Options - Print   Prints the contents of the Address Book.

Options - Password   Enables you to protect the contents of the Address Book with a password. To clear password protection, choose this menu again and re-enter your password twice.

5.4.3 INSERTING A NEW DESTINATION

1. Choose *New* from the menu bar and type in the name of your new destination and press Enter to move the highlight to the Destination type fields.

2. The default destination type is telex as marked by: '(•) telex' . If you want another type than telex, then move the highlight to the desired destination type by pressing Arrow Down and press the Spacebar to move the '•' to this field; i.e. to make the selection.

3. Move the highlight to the Number field by pressing Enter and type in the destination preceded by the country code. When addressing another Inmarsat-C mobile unit, remember to specify the Ocean Region. See table below.

4. If you want to change the default presentation of 7 bit, move the highlight with the Arrow keys to the desired field and press Spacebar to move the '•' to this field.

5. Press Enter to move the highlight to the OK field and press Enter once more.

5.4.4 *ACCESSING THE DIFFERENT NETWORKS.*

Type	Format of number	Presentation
Telex	Country code + Subscriber No	5 or 7 bit
Mobile	Ocean Region + Mobile No 580 – All Oceans 581 - East Atlantic 582 - Pacific 583 - Indian 584 - West Atlantic	5 or 7 bit
Mobile	Ocean Region + Mobile No 1110 – All Oceans 1111 - East Atlantic 1112 - Pacific 1113 - Indian 1114 - West Atlantic	8 bit
X.25	DNIC + Subscriber No	5, 7 or 8 bit
Fax	Country code + Subscriber No	5, 7 or 8 bit
PSTN (Telephone)	Country code + Subscriber No	5, 7 or 8 bit
Special (Pre-defined GMDSS services)	Pre-defined codes: **32** - Medical Advice **33** - Technical Assistance **38** - Medical Assistance **39** - Maritime Assistance **41** - Meteorological Reports **42** - Navigational Hazards and Warnings **43** - Ship Position and Sail Plan Reports	5, 7 or 8 bit
DNID	DNID number and Member number. See your DNID Table for valid entries	5, 7 or 8 bit
E-mail	Standard email address	5, 7 or 8 bit

5.5   CAPSAT

> 1. Press F2 to access Capsat.

or

> 2. Press Esc a number of times until all overlaying windows are removed.

5.5.1   TRANSMISSION

The Inmarsat-C Network is a Store-And-Forward system. This means that when a message is sent off, it is stored within the system for a period of time before the message is forwarded to the final destination. A message can be sent to several destinations at the same time (Multi-addressing. Maximum is 10).

Destinations
Telex
Inmarsat-C Mobiles
E-mail addresses
X.25
Telefax
Telephone modems

5.5.2   DESTINATIONS

In the table is shown the destinations that can be reached from your mobile unit. Not all Land Stations supports all types, as only Telex and Inmarsat-C mobile are mandatory. Addressing the different destination types is thoroughly discussed in the chapter Capsat Address Book on page 51.

5.5.3   PRESENTATION

The message can be sent in 3 different formats known as 5 bit, 7 bit and 8 bit presentation.

5 bit   Is also known as the Baudot or Telex presentation (ITA2). Reduces the transmission costs approximately 33%, but only valid Telex characters will be transmitted transparently.

7 bit   Is supported by all Land Stations and is also known as the ASCII presentation. All characters represented by values from 0 to 127 is sent transparently to the Land Station. Values above 127 are truncated.

8 bit   Is known as data. All characters are transmitted transparently over the satellite link. When the Land Station forwards the message this will also be done transparently if possible. **Note**. Some Land Stations inserts a header in the message, which the recipient must remove before being able to use the message, if the message for instance was a spread-sheet data file.

5.5.4 THE TRANSMIT WINDOW

Hint field   Address field

```
┌─────────────────────────────────────────────────────────────┐
│  East-Atlantic          │ Capsat  │  GPS ---   INM-C ■■■■■  15:03│
├─────────────────────────────────────────────────────────────┤
│   File  E                                                     │
│  ┌────────┬──────────────────────────────────────────────┐   │
│  │ <Space>│              │ Transmit │      Mobile 492380021 │   │
│  │        │  To:                                           │   │
│  │ THRANE │ ►T&T Fax                   (♦) Routine         │   │
│  │  TO:   │  4531562140                ( ) Non-Urgent      │   │
│  │ Thanks fo│ Fax   7bit                ( ) Distress         │   │
│  │        │                                                │   │
│  │ Best rega│ Land Station:             [X] Request confirmation│   │
│  │        │ 121 France Telecom         [ ] Print           │   │
│  │ →      │ [X] Text in editor         [X] Immediate transmission│   │
│  │        │                                                │   │
│  │        │              < SEND >                          │   │
│  └────────┴──────────────────────────────────────────────┘   │
│                                                               │
│ ASCII:            365 Chars    Line  10 Col  1     Inserting   │
└─────────────────────────────────────────────────────────────┘
```

Priority
Selection

Landstation

Message Selector   Send Button

Figure 11 The Transmit Window

Hint Field Shows here the key to press in order to have the list of Land Stations presented as the highlight is placed on that field.

Address Field   Holds the address information of your destination. Place highlight on the field and press Spacebar to access the Address Book.

Tip. To select the destination 'Thrane & Thrane' from the Address Book, type 'Th' in the address field and press Enter. The Address Book is then searched for an entry starting with these letters and if found, the data of this entry is copied to the Transmit window.

Priority Selection Allows the user to give a message a special priority, to be used when handled by the Land Station.

Priority	Explanation
Distress	Routed directly to SAR
Routine	Forwarded immediately
Non-Urgent	Delayed forwarding

Table 3 Message Priority

Land Station Is the station to use for the transmission.

Message Selector Selects whether the text in the editor or a file on the disk should be transmitted.

Send Button Sends the message when pressing Enter here.

5.5.5 TRANSMITTING A MESSAGE

1. Choose *Transmit* (Alt, T) to open the Transmit window. The highlight will be positioned on the address field.

2. Activate the Address Book by pressing Spacebar.

3. Position the highlight on the desired destination and choose *Select*. See also the chapter Capsat Address Book on page 51.

4. Press Spacebar to get a list of Land Stations.
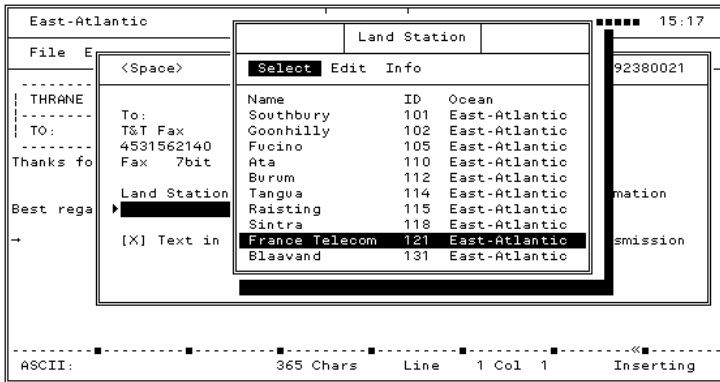
Figure 12 Transmitting a Message

5. Position the highlight on the desired Land Station and choose *Select*.

6. Press Enter to move the highlight to the '< SEND >' field.

7. Press Enter once on '< SEND >' to transmit the message. The Transmit window is now removed and you are back in the Text Field. The message is saved in the message log on the disk along with addressing information allowing you to send the message again if necessary.

5.5.6 *TRANSMITTING AN EMAIL*

1. Choose *Transmit* (Alt, T) to open the Transmit window. The highlight will be positioned on the address field.

2. Activate the Address Book by pressing Spacebar.

3. Position the highlight on the desired email destination and choose *Select*. See also the chapter Capsat Address Book on page 51.

4. Press Spacebar to get a list of Land Stations/Internet Service Providers. Please notice that only stations that are configured to support Internet Email will be on the list (please see section 5.5.49).

5. Position the highlight on the desired Land Earth Station / Internet Service Provider and choose *Select*.

6. Press the arrows to move the highlight to the '<MORE E-mail >' field.

```
┌─────────────────┬──────────────┬────────────────┐
│                 │ More E-mail  │                │
├─────────────────┴──────────────┴────────────────┤
│ To  :                                            │
│ Cc  :                                            │
│ Bcc:                                             │
│                                                  │
│ Subject:▶Purchase order_                         │
│                  < OK >                          │
└──────────────────────────────────────────────────┘
```

Figure 13 Transmit Email Window

7. In the <More E-mail> window standard additional email entries as "Cc", "Bcc" and "Subject" can be available. Only entries supported by the selected Internet Service Provider will be present.

8. Fill in the necessary extra information using the arrow key to move between the different fields.

9. Press Enter once on '< OK >' to return to the normal transmit window

10. Press Enter once on '< SEND >' to transmit the message. The Transmit window is now removed and you are back in the Text Field. The message is saved in the message log on the disk along with addressing information allowing you to send the message again if necessary.

5.5.7 SELECTING A FILE FOR TRANSMISSION

1. Move the highlight in the Transmit window to ' [X] Text in editor' and press Spacebar to remove the 'X'. This reveals the field 'File' immediately below.

2. Press Arrow Down to move highlight to the File field and press Spacebar to have the Select File window presented.

3. Select the desired file by choosing *Select*.

Note. The size of the file must not exceed 10 Kb, which is the absolute maximum message length.

5.5.8 SCHEDULING A FILE FOR LATER TRANSMISSION

1. Move the highlight in the Transmit window to ' [X] Immediate transmission' and press Spacebar to remove the 'X'. This reveals the field 'Time' immediately below.

2. Press Arrow Down to move highlight to the Time field and enter the time of the transmission.

5.5.9　PRINTING A MESSAGE ON TRANSMISSION

1. Move the highlight in the Transmit window to ' [ ] Print' and press Spacebar to insert an 'X' .

5.5.10 PASSWORD PROTECTION

Transmissions can be password protected to avoid unauthorised use. Distress priority transmissions are not affected.

1. Choose Options, Configuration, Password (Alt, O, W).

2. Type in your password and press Enter.

3. Type in your password again for verification and press Enter.

Note. To clear password protection, choose this menu again and re-enter your password twice.

5.5.11 ABORTING A TRANSMISSION

It is possible to abort a transmission at any time by selecting "Abort transmission" from the Options menu.

5.5.12 TRANSMIT LOG

The transmit log keeps track of all outgoing messages. All transmitted messages are recorded in a message log file on the disk together with all received messages. The transmit log is automatically updated every time the status of a message is changed.

 1. Choose *Logs, Transmit log* (Alt, L, T).

```
┌─────────────────────┬──────────────┬─────────────────────┐
│                     │ Transmit log │                     │
├─────────────────────┴──────────────┴─────────────────────┤
│ █View█ Resubmit  Erase  Confirm  Print                    │
├───────────────────────────────────┬───────────────────────┤
│ Date    Time  Destination   Status│ Expanded Information   │
│ 01-Dec-92 14:41  T&T Telex   Failed│                       │
│ 01-Dec-92 14:41  T&T Telex   Failed│   Msg : OUT.091        │
│ 01-Dec-92 16:28  T&T Telex   Failed│    No : 5519298        │
│ █01-Dec-92 16:31  T&T Telex   ConfOK█ Type : Telex 7bit    │
│ 03-Dec-92 13:09  T+T This unit ConfReq Kbits : 0.16        │
│ 03-Dec-92 13:12  T+T Fax     Failed│  Size : 21 symbols    │
│ 03-Dec-92 12:02  581492380021 Failed│  Ref : 404935        │
│ 03-Dec-92 12:16  581492380021 Acknowledged LES : 131 Blaavand │
│                                    │                       │
│                                    │                       │
│                                    │                       │
└───────────────────────────────────┴───────────────────────┘
```

Figure 14 Transmit Log

Message Name (Msg) Is assigned by the transceiver at the time of transmission. The numbering will be sequential starting with '000'.

Kbits Specifies how many kilobits actually sent. You will be charged per kilobit by the Land Station.

Ref   is the message reference number of the message as given by the Land Station.

Status   Shows the current status of the message. On the next page is shown the possible values of this field.

Status Field	Explanation
Waiting	The message has not yet been scheduled for transmission.
Sending	The message is scheduled for transmission
Acknowledged	The message has been successfully received at the Land Station. Confirmation was not requested.
ConfReq	The message has been successfully received by the Land Station, but so far the delivery to the final destination hasn't been done.
ConfOK	The message has been delivered to final destination. You will only see ConfOk if you have requested confirmation in the Transmit window. Otherwise you will only get 'Acknowlg'.
Failed	The Land Station failed to deliver a message on which confirmation had been requested or the transmission protocol failed. The failure code will be printed out.
Pending	The Land Station has postponed the transmission for a short time. The transmission will be done when the Land Station tells the transceiver to go ahead.
Rejected	The transmission was rejected by the Land Station. I.e. nothing was sent.
NotDeliv	Will only be shown, if you explicitly try to get a confirmation on a message by selecting *Confirm* from the Txlog menu. It indicates that the Land Station has not yet been able to deliver the message, but is still trying. When giving up, the status will change to 'Failed'.
Unknown	The message is no longer recorded in the transceiver and the final status is not known.

Table 4 Message Transmission Status

5.5.13 THE TRANSMIT LOG FACILITIES

The following facilities are presented on the menu bar:

View   View a message.

Resubmit   Send a message again.

Confirm   Explicitly requests confirmation status at
                the Land Station of a particular entry.

Erase   Deletes an entry from the log. You cannot
                delete an entry which has status
                'Sending'.

Print   Prints out the log.

5.5.14 SENDING A MESSAGE AGAIN

Any outgoing message can be send again with the Resubmit
facility of the Transmit Log.

1. Choose *Logs, Transmit log* (Alt, L, T).

2. Place the highlight on the message you want
   to send again, by using the Arrow Up/Down
   keys.

3. Choose *Resubmit* (R) to have the Resubmit
   window presented. You now have the option
   to change the Land Station or the destination.

4. Press Enter to move the highlight to the '<
   SEND >' field.

5. Press Enter once on '< SEND >' to transmit the
   message.

```
┌─────────────────────────────────────────────────────────────┐
│ East-Atlantic        │ Capsat │  GPS ■■·   INM-C ■···· 7:45  │
├──────────────────────┴────────┴─────────────────────────────┤
│ File  E┌──────────────────────────────────────────────────┐ │
│        │ <Space>          │ Resubmit │    Mobile 492380021  │ │
│  ┌─────┤                  ├──────────┴──────────────────────┤ │
│  │ View│  To:                                               │ │
│  │     │ ▶T&T Fax             (♦) Routine                   │ │
│  │ Date│  4531562140          ( ) Non-Urgent                │ │
│  │16-May  Fax   7bit                                        │ │
│  │16-May                                                    │ │
│  │     │  Land Station:       [X] Request confirmation       │ │
│  │     │  131 Blaavand        [ ] Print                     │ │
│  │     │                                                    │ │
│  │     │                      [X] Immediate transmission    │ │
│  │     │                                                    │ │
│  │     │              < SEND >                              │ │
│  │     │                                                    │ │
│  │     └──────────────────────────────────────────────────┘ │
│  -                                                           │
│ ASCII:             1 Chars    Line   1 Col  1    Inserting   │
└─────────────────────────────────────────────────────────────┘
```
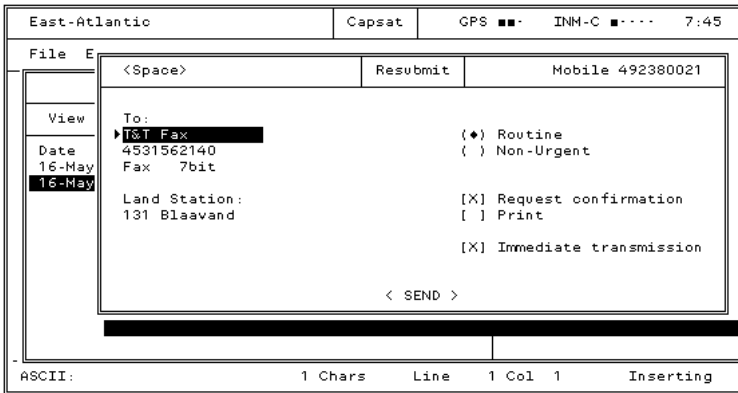
Figure 15 Resubmit Message

5.5.15 RECEPTION

By default all incoming messages are saved in the log files
on the disk. In addition to this you may choose to have the
messages printed. The messages may also be saved in
separate files on the disk. When a new message has been
transferred to disk, this is indicated in the Status Field of
the Capsat window with either "Mail" or "Egc-Mail".

5.5.16 MESSAGE ROUTING

1. Choose Options, Configuration, Routing (Alt, O, C, R).

```
 <Space>                Routing

                        Diskette    Local Prn    Remote Prn
  Mail                    [X]          [ ]           [ ]
  EGC System              [ ]          [ ]           [ ]
  EGC FleetNet            [ ]          [ ]           [ ]
 ▶EGC SafetyNET Routine+Safety  [ ]    [X]           [ ]
  EGC SafetyNET Urgent+Distress [ ]    [X]           [ ]

  Message log files       [X]
                        < OK >
```

Figure 16Message Routing

Change the routing to suit your needs by setting/removing the 'X' in the brackets.

Important note. As the 3000E system does not support a remote printer, you should always select local printer or disk. The local printer is connected to the 3606E Message Terminal.

The Capsat program will change your routing selections if they conflict with the Inmarsat specifications:

If the *Message Log files* box has no checkmark and none of the 3 boxes for *Mail* has a checkmark, then the program will put a mark in *Local Prn* for you.

The same goes for the 4 EGC Message types.

If none of the printer boxes for *EGC SafetyNET* messages have checkmarks then the program will put a mark in *Local Prn* for you.

5.5.17 RECEIVE LOG

The receive log holds information concerning the incoming mail. By default all received messages are stored in the log files on the disk. The receive log is automatically updated every time the status of a message is changed.

1. Choose *Logs, Receive log* (Alt, L, R).
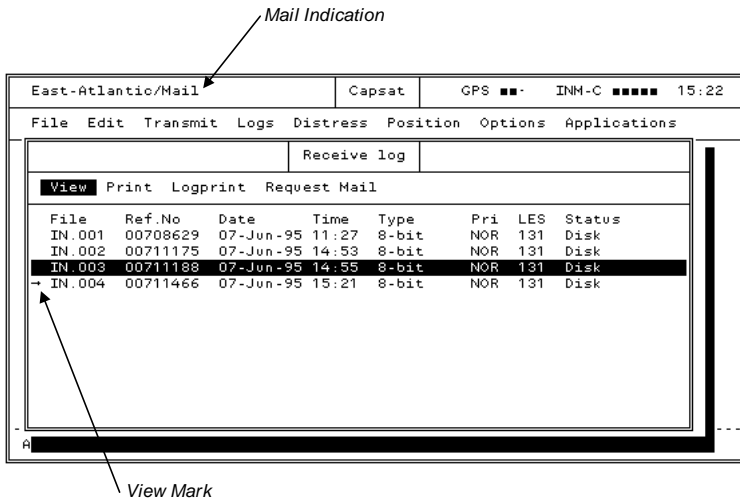
Figure 17 Receive Log

Mail Indicator   Indicates the reception of a message on the disk since the last inspection of the receive log. Viewing the log clears this field.

View Mark Is set on messages on the disk, which haven't been viewed with the View function. Will be cleared after viewing.

File Is assigned by the transceiver at the time of reception. The numbering will be sequential starting with '000'. Note. If you don't do a Logout before turning off you transceiver, the current number will not be saved - So always do a logout...

Type   Indicates the type; DATA (8 bit), ASCII (7 bit) or PACKED (5 bit).

Priority Is usually NOR for normal, but can be SOS in case a message with distress priority is received.

Status   Indicates whether the message has been routed to local printer (Prn), diskette (Disk), remote printer (Rmt) or a combination thereof.

5.5.18 THE RECEIVE LOG FACILITIES

The following facilities are presented on the menu bar:

View	Views a message stored on disk.
Print	Prints a message stored on disk.
Logprint	Prints out the log.
Mail Request	Send a request for mail to a Capsat Gateway.

5.5.19 REQUESTING MAIL

If you normally receive your mail from a Company Mail System on a computer network (that connects to a Land Earth Station via a Capsat Gateway), you can use the *Request Mail* menu function to tell the Gateway to forward your mail to you.

When people on the Mail Network send messages to you, the messages will not be sent directly, but will instead be stored in the Gateways mailbox until you call in and request them with the *Request Mail* command
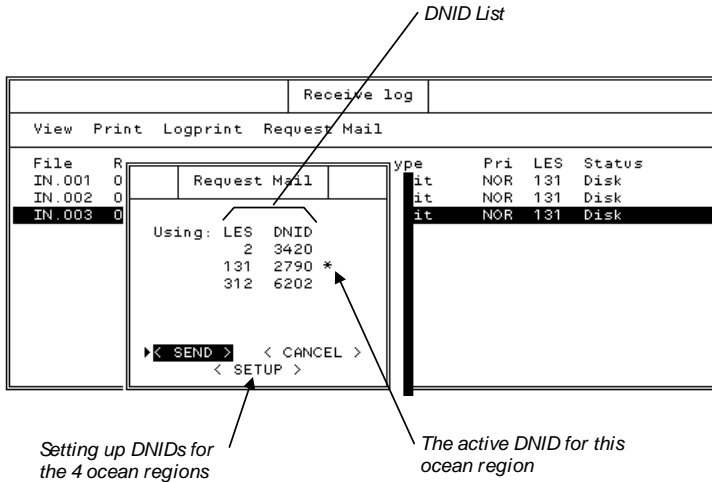
Figure 18 Requesting Mail

Your Transceiver must be registered at the Capsat Gateway for "Using Mailbox Service" if you want to be able to use this facility.

The request is sent as a datareport to a DNID. You must set-up which DNID to use before you can send any requests. The Capsat program can have one DNID for each ocean region.

5.5.20 ENHANCED GROUP CALL (EGC)

The Enhanced Group Call (EGC) facility enables your system to receive messages from different information providers. EGC messages will normally be printed, but you are able to

route the messages to disk as well. Please consult the chapter Message Routing on page 71.

The EGC messages can be divided in 3 major categories.

SafetyNET	Maritime Safety Information (MSI) from Information Providers registered by IMO for GMDSS purposes.
FleetNet	Information from authorised commercial Information Providers.
System	Supplied by Inmarsat.

Table 5 gives a quick view of the different EGC services.

Service	Abbreviated	Addressing	Type
General Call	GENERAL	All mobiles	System
Group call	GROUP	ENID	FleetNET
Navigational Warnings to Rectangular areas.	NAV_WARN	Position	SafetyNET
Meteorological and navigational Warnings to circular areas	NAV_WARN	Position	SafetyNET
Inmarsat system messages	INMARSAT	All or all in Ocean Region	System
Coastal Warning (NAVTEX).	COASTAL	Navarea, subarea (A-Z)	SafetyNET
Shore-ship Distress alert to circular area	DISTRESS	Position	SafetyNET
EGC system message	SYSTEM	Mobile number	System
Meteorological or Navarea warning or Meteorological Forecast.	MET_WARN	Navarea	SafetyNET
Download Group Identity	ENID	Mobile number	System
Search and Rescue Co-ordination to rectangular area	SAR	Position	SafetyNET
Search and Rescue Co-ordination to circular area	SAR	Position	SafetyNET
Chart correction service	CHART	Enid	FleetNET
Chart Correction Service for fixed areas	CHART	Area	SafetyNET

Table 5 Enhanced Group Call (EGC)

Note. If your position has the status INVALID in the Position window (Alt, P), the transceiver will receive all EGCs addressed by position.

5.5.21 THE EGC WINDOW

> 1. Choose *Options, Configuration, EGC* (Alt, O, C, E) to get the EGC window.
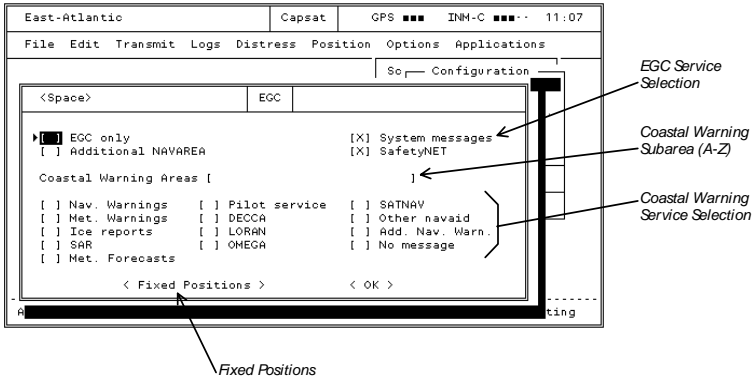
Figure 19 The EGC Window

EGC Service Selection Makes it possible to choose whether you want to receive a particular service type or not. FleetNET messages cannot be blocked. On maritime units this also applies to SafetyNET messages.

Coastal Warning Subarea (A-Z) Allows you to specify reception of messages addressed to one or several subareas within a NAVAREA. For instance you specify subarea A,C,E by typing 'ACE' in the field.

Coastal Warning Service Selection Allows you to mark 'X' the desired types of services for reception.

Fixed Positions Allows you to type in 5 additional positions in order to receive EGCs addressed to geographic areas including these.

Additional NAVAREA   Allows you to receive EGCs addressed to one additional area besides the one currently given by your position in the Position window.

5.5.22 EGC LOG

The EGC log holds information concerning the received EGC messages. The layout and the facilities strongly resemble those of the Receive Log, which we kindly ask you to consult. All EGC messages are named EGC.000, EGC.001 and so on. The priority field in the log may show the following codes.

Short	Type	Remarks
NOR	Normal	
SAF	Safety	
URG	Urgent	A message box will be displayed on the screen and a Beep will issued at regular intervals until you remove the box by pressing Esc. In addition the Distress Msg LED and the audio alarm on the Remote Alarm Box will be activated. The audio alarm is stopped by pressing the buzzer reset button on the Remote Alarm Box. The Distress Msg LED is turned off by pressing Esc at the Message Terminal or by pressing the Stop button on the transceiver.
SOS	Distress	A message box will be displayed on the screen and a Beep will issued at regular intervals until you remove the box by pressing Esc. In addition the Distress Msg LED and the audio alarm on the Remote Alarm Box will be activated. The audio alarm is stopped by pressing the buzzer reset button on the Remote Alarm Box. The Distress Msg LED is turned off by pressing Esc at the Message Terminal or by pressing the Stop button on the transceiver.

Table 6 EGC priority

5.5.23 ENID - EGC Network ID

The ENIDs are downloaded to your transceiver by the Download Group Identity service. When you have a particular ENID stored, you can receive EGCs addressed to this ENID. To check your ENIDs:

> 1. Choose Options, Configuration, ENIDs (Alt, O, C, I).

By Disabling an ENID, you will subsequently not receive EGCs addressed to this ENID. You can make an ENID active

again by selecting *Enable* from the menu of the ENID window.

5.5.24 DISTRESS

You cannot send a Distress Alert from the Capsat Program, but you can set the Distress Message via the Distress Menu:

```
┌─────────────────────────────────────────────────────────┐
│ <Space>      │  Setting Distress Alert  │                │
├─────────────────────────────────────────────────────────┤
│                                                          │
│  Land Station:                                           │
│ ▶▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭▭       ( ) Undesignated             │
│                            ( ) Fire/explosion            │
│  Latitude     00° 00,00 N  ( ) Flooding                  │
│  Longitude   000° 00,00 E  ( ) Collision                 │
│  Course      000 Degrees   ( ) Grounding                 │
│  Speed        0   Knots    ( ) Listing                   │
│                            ( ) Sinking                   │
│  Updated at  00:00 UTC     ( ) Disabled & adrift         │
│  Status      INVALID       ( ) Abandoning ship           │
│                            ( ) Req. Assistance           │
│                            ( ) Piracy/armed attack       │
│                  < OK >                                  │
└─────────────────────────────────────────────────────────┘
```
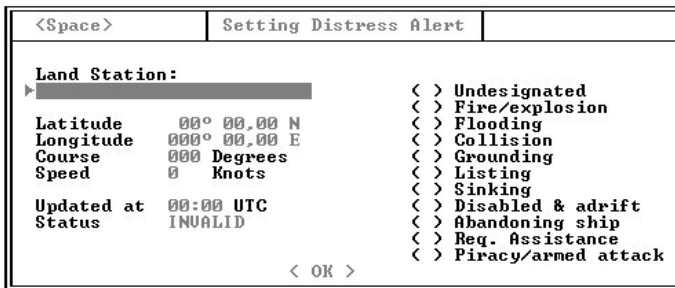
Figure 20 Setting Distress Message Window

Land Station Will normally be filled in with the station, that you used for your latest transmission. You may edit the field by pressing Spacebar.

Position Field Allows you to enter your current position.

Nature of Distress Shows here the types available for Maritime Distress.

The Maritime Distress Alert parameters set-up in the Distress Menu are transferred to the transceiver. The parameters are valid in the transceiver for an hour or until a distress acknowledgement is received. You don't send a Maritime Distress Alert from the Distress Menu. You will get a warning about this when you leave the Distress Menu:

```
┌──────────────┬─────────────────┬──────────────┐
│              │   Information   │              │
├──────────────┴─────────────────┴──────────────┤
│ This does not send a Distress Alert, it only sets the │
│ Distress Message.                               │
│                                                 │
│ You must use the Distress Alert button to send a │
│ Distress Alert                                  │
│                                                 │
│         Press any key to continue!              │
└─────────────────────────────────────────────────┘
```
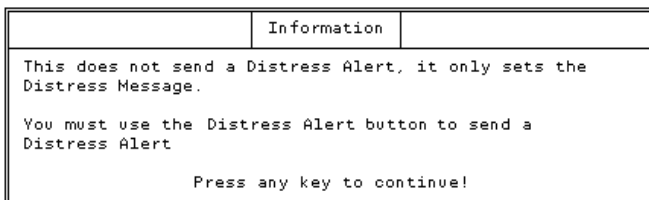
To actually send a Maritime Distress Alert you must press the Distress button on the AP5042 Alarm panel for at least 5 seconds until the Alarm indicator is continuously lit.

After you have sent a Maritime Distress Alert you may then send a Detailed Distress Message (see later).

5.5.25 SENDING A DETAILED DISTRESS MESSAGE.

1. Type in the message in the Text Field of the Editor.

2. Choose *Transmit* (Alt, T).

   Press the Tabulation Key to move the highlight one position to the right to the priority field '(•) Routine'.

3. Press Arrow Down twice to move to '( ) Distress' and press Spacebar to select. This causes the address field to show 'SEARCH & RESCUE'.

4. Press Enter to move the highlight to '< SEND >' and press Enter again to transmit.

   Note. If the Land Station field is empty, the highlight will be positioned there instead. Press Spacebar to get the Land Station list and select a station. Press Enter to move to '< SEND >'.

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> 5. Confirm the distress priority transmission by pressing Enter.

5.5.26 POSITION & GPS

Your geographical position is a key element in a maritime system. It is used in EGC reception to selectively receive the messages addressed to certain areas. Also, a correct position is vital when sending Distress in case of emergency.

The transceiver has a built-in GPS unit, which ensures that your equipment knows the correct position. If your transceiver has a built-in GPS, this will be indicated in the main Capsat window as shown below.

```
GPS ███    INM-C ██████   11:33
```
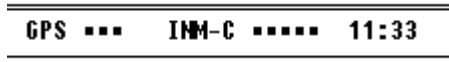
The mode of the GPS is displayed using small boxes. See Table 7.

GPS	Mode	Comment
• • •	Acquisition	The GPS module is trying to acquire the correct position. To ease the acquisition, the approximate position and time could be entered. Upon power-up the GPS module will always enter this mode. If the transceiver has a valid position stored in non-volatile memory, this will be fed to the GPS.
■ ■ •	2-D	The time, latitude and longitude are known. The number of small boxes indicates the quality of the GPS signal.
■ ■ ■	3-D	The time, latitude and longitude are known.

Table 7 GPS Status

The time supplied by the GPS will be used as the system time. This also includes the PC or Message Terminal. When the GPS is in 2-D or 3-D mode, you are not able to change the time or the position. If you do not have the correct local time, please check your time-zone. (Press F10, Select Options and Clock).

Maritime Units Only. If the position hasn't been updated in 4 hours an 'Update Position' warning is shown. This warning is acknowledged using the Esc key. In addition the Status Field of the main Capsat window will show 'Position' next to the Ocean Region. This indication is removed when the position has been updated. If it isn't updated within 12 hours, the position will become invalid.

5.5.27 SETTING THE POSITION

1. Choose *Position* (Alt, P)

2. Type in the position; Longitude: degrees, minutes and hundreds of a minute and so on.

3. Press Enter on the OK button to actually set the position.

```
┌──────────┬──────────┬──────────┐
│          │ Position │          │
├──────────┴──────────┴──────────┤
│                                 │
│ ▶Latitude    ███ ██,██ █        │
│  Longitude   012° 28,61 E       │
│  Course      350 Degrees        │
│  Speed       1   Knots          │
│                                 │
│  Updated at  14:06 UTC          │
│  Status      OK                 │
│                                 │
│          < OK >                 │
└─────────────────────────────────┘
```
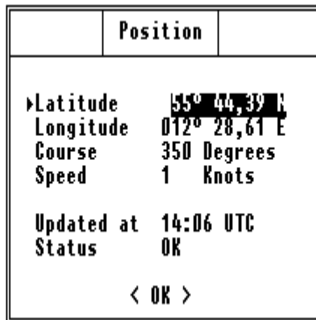
Figure 21 Setting the Position

When the position is shown on the screen, the values shown will be updated by the program allowing you to monitor the position generated by a the GPS module.

5.5.28 POSITION REPORTING

This facility allows you to program the Transceiver to send position reports unattended. The reports are sent as Data Reports to a DNID-mailbox in a compressed format.

This makes the reporting inexpensive compare to sending a text message containing a position and time like explained in the section about Special Options on page 53.

A brief description of DNIDs is given on page 95.

The transceiver may also be commanded remotely to send position reports. This is done by Polling. You need to contact the LES Operator on the LES you want to use for instruction on how to use polling.

The Transceiver can control up to four *connections*, numbered from 0 to 3. Each of these connections can hold one reporting program, but only one of the connections can be *local*. This is the one that you can program from the Capsat program. The other 3 connections must be set up from a remote site via polling.

Below is a example of the status of connection 0 and 1 when they are un-programmed (closed). If you want to see connection 2 and 3 you can select *More* on the menu.

Figure 22 Data Reporting

5.5.29 SETTING UP POSITION REPORTS

Important: Before you start to set up a program you should make sure that your Transceiver has a good satellite signal, as the transceiver needs the timing information from the Inmarsat-C System to be able to set up the program.

To set up a Position Report program on your Transceiver, you must proceed as below:

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1. Choose *Options, Configuration, Position Report* (Alt, O, C P) to get the Position Report window.

2. Select *Change, Open* from the menu.
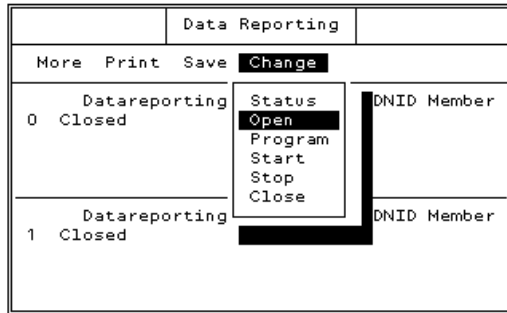
Figure 23 Setting up Data Reporting

You will now see a list of available DNIDs. You can mark one or more from the list, but the DNIDs must be from different ocean regions.

You can find out which ocean region the DNID belongs to by looking at its LES ID. The first digit of the (3 digit) LES ID is the ocean region number:

    0:      Atlantic West

    1:      Atlantic East

    2:      Pacific

    3:      Indian

Two marked DNID's

List of available DNIDs
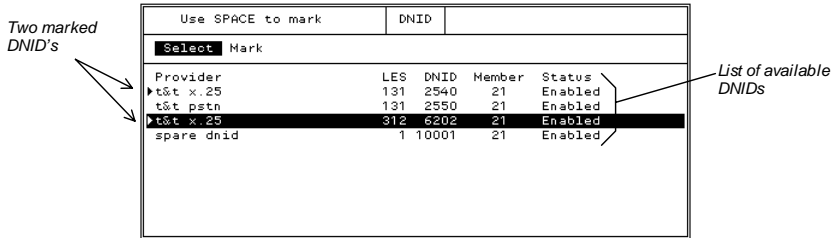
Figure 24 Setting Ocean Area on Data Reporting

You can use Spacebar or choose *Mark* to mark entries. When you choose *Select* and press ENTER you will be returned back to the Position Window and the Transceiver will now open the connection for you.
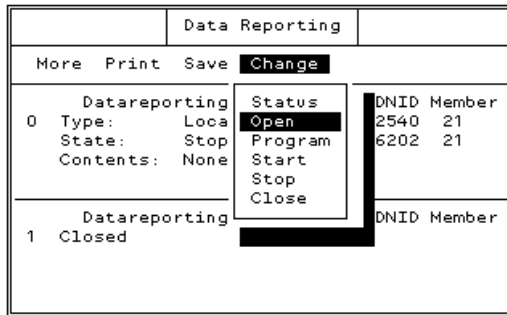
Figure 25 Changing Status on Data Reporting

You can see that the Connection Area for Connection 0 has now been filled with information about the Position Report program.

　　　3.　Select *Program* from the menu.

You can now specify how often you want your reports to be sent. The default is 60 minutes between each report.
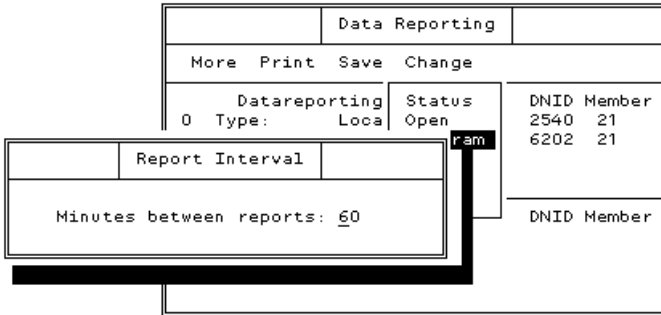
Figure 26 Reporting Interval

4. To finally start the reporting choose *Start* from the menu, and you will see a result like the one below:
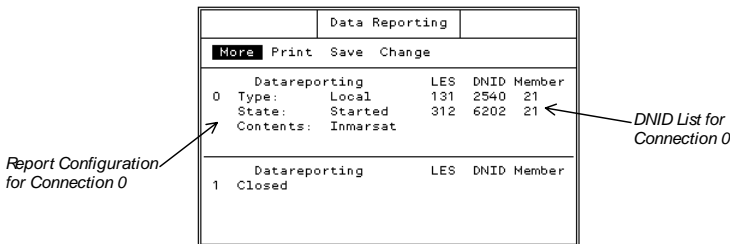
Figure 27 Starting Data Reporting

You now have an active Position Report Program!

The Report Configuration shows you the details of the current program:

Type: Can be *Local* or *Remote*. This tells you if the connection is one that you have made via the Capsat

Program or if it has been set up via polling from a remote site. One of the 4 connections can be local.

State: Can be *Started* or *Stopped*. This informs you if the connection is currently sending any reports.

Contents: Can be *None, ADS* or *Inmarsat.* The indication is None as long as the connection has not been programmed, ADS if the connection sends Position Reports in the *RTCA DO-212 Automatic Dependent Surveillance* data format (not supported by TT-3000E), and Inmarsat if the position reports are sent in the Inmarsat specified Landmobile or Maritime format. If this field is blank the connection is either not programmed or sends reports without positions.

5.5.30 CHECKING THE REPORTING FUNCTIONS

By selecting *Status* from the menu you can see the technical details of the local connection. The menu will be unavailable if you do not have a local connection open.

Below is an example:

Figure 28 Data Reporting Program Details

5.5.31 OCEAN REGION MANAGEMENT

The coverage areas of neighbouring satellites overlap. In many areas you will be able to use more than one ocean region.

5.5.32 SCAN

The transceiver scans the satellite frequencies in order to find the strongest signal. When the best signal is found, a login will be issued if need be. A scan may be performed within the limits of one Ocean Region or in all regions. You control this by:

1. Choose *Options, Scan* (Alt, O, S) to get the Scan menu.

2. Initiate a scan by selecting a specific Ocean Region or selecting an All ocean-scan. The '•' marks your selection.

5.5.33 LOGIN

The transceiver will automatically perform a login if necessary when you turn on the power. This is true in all cases, but one. A Land mobile unit will do nothing, if it's not commissioned. In that case you must manually perform a login.

1. Choose *Options, Login* and select the desired Ocean Region. A '•' will mark your selection and the Status Field of the Capsat window will show '<LOGIN>' until the login is completed.

You may force the transceiver to login on a specific satellite channel by choosing *Channel...* from the Login menu.

Do Manual Login when...	- You have logged out and you haven't turned off your equipment in the meantime. - You have turned on your system for the first time. - You want to operate in another Ocean Region.

5.5.34 LOGOUT

Before turning off your system you should perform a logout. This will instruct the transceiver to save certain system parameters (Numbers of EGC-, IN- and OUT-files). Also the Inmarsat-C system will be able to notify any calling parties, that your transceiver at the moment cannot be reached.

> 1. Choose *Options, Logout* (Alt, O, O) and confirm the Logout. The Status Field of the Capsat window will show '<LOGOUT>'.
>
> 2. When the Status Field has changed to 'Logged Out', you are welcome to turn off your equipment.

5.5.35 MISCELLANEOUS

> In this chapter we will briefly describe some of the rarely used facilities in the user interface.

5.5.36 NMEA-OUT

The NMEA-out feature allows TT-3000E to send GPS NMEA sentences to external equipment via the secondary COM port (RS-232) of the message terminal. The system complies with:

- NMEA 0183, version 3.00, July 1, 2000

- IEC 61162-1:2000, November 2000.

- IEC 61262-2, 1998

Not that in order to fully comply with IEC 61162-1/2, the TT-3606E opt. 003 NMEA Adapter must be used between the TALKER (3606E) and the LISTENER (External equipment).

The internal GPS unit of TT-3026C provides the position for the NMEA sentences.

The following sentences are transmitted:

- GLL – Geographic Position – Latitude/Longitude

- VTG – Course Over Ground and Ground Speed

- GGA – Global Positioning System Fix Data

- ZDA – Time & Date

An example of the sentences is shown below:

$GPGLL,5547.60,N,01231.40,E,143055,A,A*41
$GPVTG,28,T,,M,0,N,0,K,A*29
$GPGGA,143055,5547.60,N,01231.40,E,1,,01,,M,,M,,*5B
$GPZDA,143055,22,12,2006,,*49

Note, below is a list of unused fields in the sentences. These fields are empty as can be seen in the above example.

Type	Field	Data of unused field
VTG	3	Course over ground, degrees magnetic.
GGA	7	Number of satellites in use.
	9	Antenna altitude above/below mean sea level (geoid).

	11	Geoidal separation.
	13	Age of differential GPS data.
ZDA	5	Local zone hours.

There is approximately a one second interval between two equal sentences. The position is updated every 30 seconds.

NMEA-out is enabled/disabled from "Secondary serial port..." in the Options menu. When enabled, TT-3000E will immediately start sending out sentences at the secondary serial port. The port (COM1/COM2) used can be changed in the serial ports settings. Refer to 5.7.4 Configuring the Serial Port.

5.5.37 LINK TEST

The Link Test checks if your equipment meets the specifications set out by Inmarsat. As previously described, a Link Test will be carried out when performing a login for the first time. The test is then regarded as a commissioning procedure. You may do a Link Test at any time if you want to check your system again.

> 1. Choose *Options, Link test* (Alt, O, I) to have the Link Test window displayed. If a test has been carried out, the results will be shown. Each item will have the verdict OK or FAIL. If no test has been done with this unit, no results will be available.

2. Do a Link Test by choosing *Activate* from the menu bar. The Status Field of the Capsat window will show '<LINK TEST>' until the test has been completed.

3. During the Link Test the message:

    Automatic test mode: Normal communication disabled. Do not press any distress buttons unless you are in distress

    will be displayed.

4. When the link test is completed, the 'Link Test Finished' message is displayed/printed along with the results of the test. This may take up to 15 minutes!

5.5.38 POLLING

A "Poll" is a message, but it differs from normal messages in the way that it can only sent in the direction from a terrestrial user (telex, x.25 or telephone modem) towards the mobile unit and in the way that it may simultaneously be received by several mobile units.

A Poll can be addressed to:

- One specific mobile.

- A group of mobiles.

- A group of mobiles within a specified geographic or navigational area.

The reception of a poll can initiate the transmission of a position report or trigger some other pre-defined event. As shipped your system only supports transmission of

position reports in return to a poll. When a Capsat mobile unit responds to a Poll, the response is either forwarded to the terrestrial user at once, or it is stored at the Land Station for later retrieval. When receiving a poll the transceiver will generate a file containing the data of the poll. These files named POLLFILE.000, POLLFILE.001,... will be transferred to disk. No further action will be taken.

5.5.39 DNID - THE DATA NETWORK ID

The DNID is a unique number, which serves as a link between the terrestrial user and the mobile unit(s), i.e. the DNID is used when the terrestrial user issues a Poll and also when the mobile responds. A user may very well have several DNIDs. This is also the case for the mobile.

When several mobiles have the same DNID, this is called a group. Each mobile in the group is also designated a member number, which enables the terrestrial user to differentiate between the mobiles in the group. This is especially important, when responses from the mobiles are processed at the premises of the terrestrial user.

The user interface allows you to enable or disable DNIDs. If a DNID is disabled you will not receive any poll with this DNID or be able to use it for position reporting.

To change the status of a DNID:

1. Choose *Options, Configuration, DNIDs* (Alt, O, C, D) to have the DNID window displayed.

2. Choose *Enable* or *Disable* to change the status of a DNID entry. The entries can have the status *Enabled, Disabled, T&TPos on* and *T&TPos off*. The last two types will only appear if you have set this DNID to use the old T&T type position reporting.

The user interface also allows you to send a data report directly to a DNID:

1. Choose *Options, Configuration, DNIDs* (Alt, O, C, D) to have the DNID window displayed.

2. Move the highlight to the DNID, that you want to send to.

3. Choose *Transmit* and select either the current content of the editor or a disk file to be transmitted as a datareport. Please note that the size of the data report is limited to 120 bytes. If your message/file is too big, only the first 120 bytes are transmitted.

```
                 | DNID |
 Transmit
  File as datareport...
  Text in Editor as datareport
```
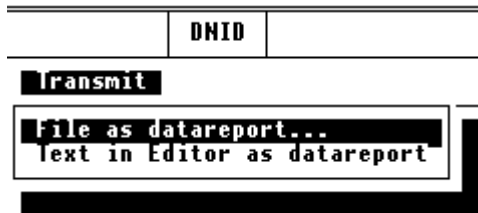
5.5.40 NCS CHANNELS

The system comes with 4 pre-programmed NCS channels. Upon receiving information from Inmarsat you may insert new channels in this table.

1. Choose *Options, Configuration, NCS-channels* (Alt, O, C, N) to have the NCS window displayed.

2. Choose *Insert* to insert a new NCS-channel.

5.5.41 TRANSCEIVER STATUS INFORMATION

General information of the transceiver is available. The given information is discussed in detail in the Installation and Service Manual. Only in case of problems, you may need to see this information.

1. Choose *Options, Transceiver status* (Alt, O, T) to have the Status window displayed.

2. Choose *Update* just once to have the window updated automatically every 5 seconds.

5.5.42 GPS STATUS INFORMATION

1. Choose *Options, GPS status* (Alt, O, G) to have the Status window displayed.

2. Choose *Update* just once to have the window updated automatically every 5 seconds.

5.5.43 PASSWORD

5.5.43.1 CAPSAT APPLICATION

The Capsat application has two passwords: One for message transmission and one for the program configuration.

Choose *Options, Configuration, Password* for entering passwords for the Configuration and Transmit Window.

You will be asked for the password in the following places:

Configuration Password:

The EGC Window when you select OK and press Enter. The Routing Window when you select OK and press Enter. The Open, Program, Start, Stop and Close menu selections in the Change Menu of the

Position Report Window. The DNID and ENID Windows when you select Enable or Disable and press ENTER.

Transmit Password:

The Transmit Window when you select OK and press Enter.

You can remove the passwords again if you choose *Password* again and re-enter your password twice.

5.5.43.2 *THE CAPSAT TRANSCEIVER*

The Transceivers own configuration can also be protected by a password. If this feature is enabled you may see an error message like the one below when you start the Capsat program.

```
                    | Info |
 --------------------------------------------------
 You need a Transceiver Configuration password to
                use this command

              Press Esc to continue!
```
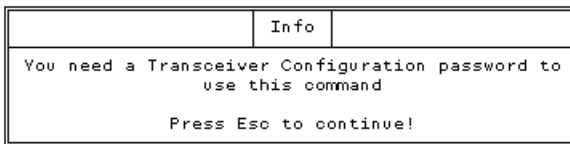
Figure 29 Password needed message

You can ignore this message if you do not need to change any Transceiver configuration (like message routing, printer settings etc.)

If you do need to change the Transceivers configuration you must enter the password in the Transceiver, by selecting the Terminal mode (Alt, O, C, T) and enter the following lines:

su *<user level><Enter>*

password*<Enter>*

where *user level* is either "sysadm" or another name supplied by your dealer. *password* is the password associated with that user level. Please note that the Transceiver will display stars instead of the letters in your password.

5.5.44 TEST MODE

The Distress Test Mode facility (Alt, O, E) allows test of the Distress Buttons, Distress LED's and wiring. When Distress Test Mode option is selected the Distress Test Mode message is displayed:

```
┌──────────────────────────────────────────┐
│                Cancel Test Mode           │
├──────────────────────────────────────────┤
│ Yes  No                                   │
├──────────────────────────────────────────┤
│ Distress buttons are under test.          │
│ Cancel the test mode if a real distress alert │
│ needs to be sent.                         │
│ Cancel?                                   │
└──────────────────────────────────────────┘
```

Figure 30 Test Mode

In Distress Test Mode the Distress Buttons can be activated and tested without issuing Distress Alerts. Distress Test Mode is terminated by pressing the Esc key. After Distress Test Mode is terminated activating the Distress Buttons will again result in a Distress Alert being sent. Read more about the distress test mode in the Alarm Panel installation manual.

5.5.45 TERMINAL MODE

Note**. Do not use the Terminal Mode unless you know what you are doing. When the terminal window is open no information windows or error windows are shown.**

Always leave the Terminal Mode (Press Esc) when you're done to ensure the functionality of your system.

The Terminal Mode is available for users wanting to customise their system to a degree not available from the windows of the Message Handling software.

In Terminal Mode you are in direct contact with the transceiver and you are able to issue commands by typing them from the keyboard.

1. Choose *Options, Configuration, Terminal mode* (Alt, O, C, T) and wait for the blinking cursor to appear. This may take a while if the transceiver and the Message Handling program is communicating.

2. Press Enter to see the prompt ' :' on the screen.

3. Type 'HELP' and Enter to get a list of the available commands.

4. Type in a command followed by ' ?' and press Enter to get detailed information.

5.5.46 MESSAGE LOG

All in- and outgoing messages are recorded in special log files on disk. Each log file may hold as many as 50 messages. The name of the log files have a special layout such as:

LOG09-97.001 LOG10-97.001 LOG10-97.002

where 09 and 10 is September and October respectively. 97 is the year. 001 and 002 is a sequential number within each month. A new log file is generated when a new month begins or when the size of the file gets larger than 100 Kb.

The information shown in the Transmit log, the Receive log and the EGC log is that of the 2 latest log files. This means, that the information in these log will show a maximum of 100 messages all together.

When the free disk space gets well below 150Kb, the program will ask you to insert an empty disk. A new log file is then generated on the new disk and you will be asked to insert the previous disk to have the program copy the latest log file on to the new disk. In this way you get continuity in the logs.

When using floppy diskettes, you may need to remove the message log disk from time to time in order to retrieve files on other disks. If the program needs the log file during this, you will be asked to insert the disk with the log files again.

5.5.47 INSPECTING OLD MESSAGE LOGS

Old message log files may be inspected and messages may be retrieved. This is done by:

1. Choose *Logs, Old log files* (Alt, L, O) to have a list of the log files presented.

2. Move the highlight to the log file, you want to see and choose *Select* which then presents a window as shown below.

3. Move the highlight to a message. You may now View, Print or even Copy the message to a separate file.

```
East-Atlantic              Capsat    GPS ▪▪▪  INM-C ▪▪▪▪▪ 13:11

 File  Edit  Transmit  Logs  Distress  Position  Options  Applications
┌──────────────────────────────────────────────────────────────┐
│                    LOG12-92.002                                │
│  ┌──────────────────────┐                                      │
│  │ View  Print  Copy                                           │
│                                                                │
│  Date     Time   Message              Status                   │
│  01-Dec-92 14:41  OUT.008  T&T Telex   Failed                  │
│  01-Dec-92 14:41  OUT.009  T&T Telex   Failed                  │
│  01-Dec-92 14:49  IN.073               Disk+Prn+Rmt            │
│  01-Dec-92 15:14  IN.074               Disk+Rmt               │
│  01-Dec-92 15:16  IN.075               Disk+Rmt               │
│  01-Dec-92 16:28  OUT.090  T&T Telex   Failed                  │
│  01-Dec-92 16:31  OUT.091  T&T Telex   ConfOK                  │
│  03-Dec-92 13:09  OUT.001  T+T This unit  ConfReq              │
│  03-Dec-92 13:12  OUT.002  T+T Fax     Failed                  │
│  03-Dec-92 12:22  IN.080               Disk                   │
│  03-Dec-92 12:02  OUT.097  581492380021  Failed               │
│  03-Dec-92 12:16  OUT.098  581492380021  Acknowledged         │
│                                                   ----«▪--------
│ A                                                 Inserting    │
└──────────────────────────────────────────────────────────────┘
```

Figure 31 Old Message Logs

5.5.48 ABOUT...

The About window gives you a summary information of your system, such as the program version, serial number, mobile number and type.

      1. Choose *File, About* (Alt, F, B)

5.5.49 INTERNET MAIL

When the Inmarsat-C network was launched the Internet Email facility was not commonly used and the Inmarsat-C protocols are therefore not prepared for sending Internet emails.

This problem has been solved such that the different Internet Email fields like address, CC address, Subject etc. are written into the normal Inmarsat-C mail as separate

lines with a keyword and the corresponding text. An example could be

TO: name@company.com

Where the "TO:" is the keyword and the rest of the text line is the Email recipient.

The different Inmarsat-C service providers do unfortunately not use the same keywords causing the email transmission to be somehow confusing.

In the InternetMail menu (please see Figure 32) the configuration for each service provider can be entered. When the parameters are correctly configured the Capsat program will automatically enter the service provider depending keywords and corresponding text in the Inmarsat-C message causing Internet Email message transmission to be as easy as all other message formats in the Inmarsat-C network.
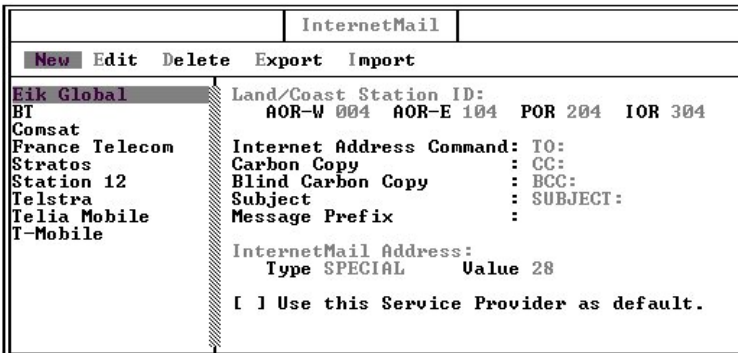
Figure 32 InternetMail Configuration Menu

When the Capsat is delivered all known service provider configurations are pre-entered, and it should therefore only

be necessary to use this menu if additional service operators offer Inmarsat-C email facilities.

If a new service provider has to be configured please use the following guidelines:

1. Chose Options, Configuration, InternetMail (Alt, O, C, M) to have the configuration menu presented.

2. Select New from the Menu bar and start with entering the service provider's name.

3. For each ocean area where the Operator is present the Inmarsat-C LES ID has to be entered. Leave unsupported ocean area fields empty.

4. For each of the items: "Internet Address Command", "Carbon Copy", "Blind Carbon Copy", "Subject" and "Message Prefix" the corresponding text has to be entered. Please refer to information given by the Operator. Unused fields are left empty and will therefore not be available when transmitting the email (please see section 5.5.6).

5. Depending on service provider configuration the Internet Email message is either transferred using Special Access Code (Special) or using X.25. Please select the correct format using the space button on the type field. The corresponding value field must be entered afterwards. Please refer to service provider information on type and value.

6. Finally it can be chosen that the service provider is used as default email operator

causing all emails be transmitted using this provider. This is done by checking the "Use this Service Provider as default". Obviously only one operator can be selected as default.

5.6   DIRECTORY

The Directory is a tool that you can use to organise and work with your files stored on disk.

> 1. Press F9 to access the Directory.

or

> 1. In Capsat choose *File, Directory* (Alt, F, D).
>
> 2. Press Esc to return.

5.6.1   *THE DIRECTORY WINDOW*
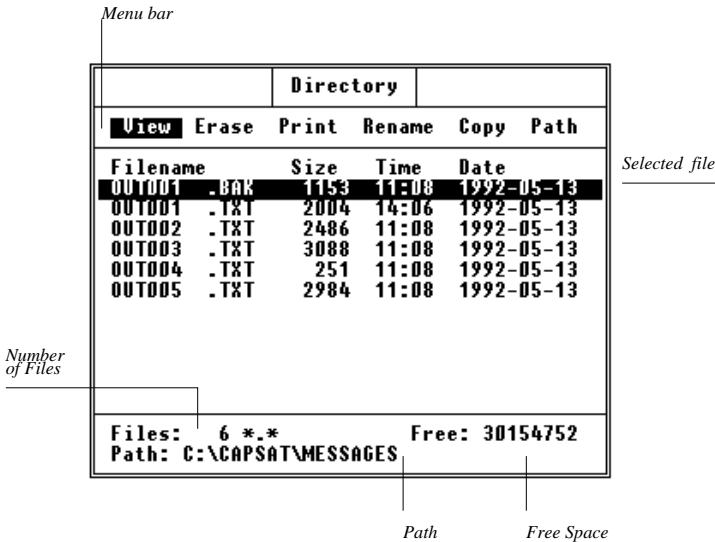
Figure 33 Directory Window

Menu bar Contains menus.

Selected File Is the file on which an operation is going to take place. Use Arrow Up/Down to select another file.

Path Indicates the name of disk and directory in which the presented files are located. On TT-3606 Message Terminal directories are not supported.

Free Space Is the space, that's free to use on the disk.

Number of Files   Is the number of files located on the disk or in the directory. Note. On the TT-3606 Message Terminal no more than 112 files can reside on a disk. Normally there will be Free Space left on the disk, but if the disk holds 112 files, you will not be able to store anymore files on the disk.

5.6.2   THE DIRECTORY FACILITIES

The following facilities are presented on the menu bar:

View	Allows you to inspect the contents of a file. You cannot change the contents of the file.
Erase	Deletes the selected file from the disk. You will be asked to confirm the deletion. Tip. To delete a number of files, mark the files by pressing Spacebar when they are selected one by one. Erase is then able to delete all the marked files in one operation.
Print	Prints the selected file.
Rename	Enables you to change the name of a file.
Copy	Makes a copy of the selected file.

Tip. To copy a number of files, mark the files by pressing Spacebar when they are selected one by one. When selecting Copy, you must then specify the path to which you want copy, i.e. C:\CAPSAT or A: .

Path   Changes the path of Directory making it possible to have files from a different drive/directory presented.

Note. Changing the path of the Directory does not affect the current path (Working directory) of Capsat and the Address Book.

The following is only available in the PC version of the Capsat Program:

When you select path you will see a graphical representation of the structure of your disk. You can now use the arrow keys to move the highlight to another directory.

Drive selection menu

Help information. Use Alt+D to go to the Drive selection menu.

The current directory is selected.

Space opens up the highlighted subdirectoty and displays its contents.

```
         ┌───────┬───────────┬───────┐
         │       │ Directory │       │
         ├───────┴───────────┴───────┤
         │→Drive                      │
         │┌──────────────────────────┐│
         ││ALT+D to select drive     ││
         ││SPACE to open directory   ││
         │└──────────────────────────┘│
         │▶she                        │
         │   ├──doc→                  │
         │   ├──releases              │
         │   ├──yarn                  │
         │   ├──mail                  │
         │   ├──source→               │
         │   ├──news                  │
         │   └──winbatch              │
         └────────────────────────────┘
```

The arrow symbol indicates that there are subdirectories in this directory.

Up arrow:	Goes up the directory tree. If you move above the top of the window, you will be moved one level up in the tree.
Down arrow:	Goes down the tree.
Left and right arrows:	Scrolls the display left and right.
Space:	Opens the highlighted directory and shows its contents. Directories with small arrows after their name contain other subdirectories.
ALT+D:	Goes to the Drive selection menu. You can select a new drive to be displayed in the window.

```
┌─────────┬──────────────┬─────────┐
│         │  Directory   │         │
├─────────┴──────────────┴─────────┤
│ Drive                            │
├──────────────────────────────────┤
│ ALT+D to select drive            │
│                          ┌───ctory│
│        ┌──────────────┐  │        │
│        │  New Drive   │  │        │
│        ├──────────────┤  │        │
│        │ A:           │  │        │
│        │ C:           │  │        │
│        │ D:           │  │        │
│        │ N:           │  │        │
│        │ V:           │  │        │
│        │              │  │        │
│        └──────────────┘  │        │
└──────────────────────────┴────────┘
```
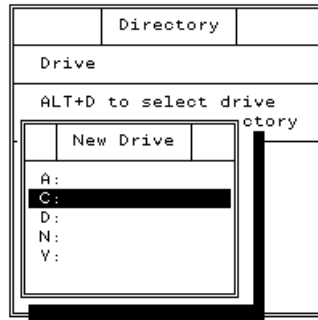
| Enter: | Selects the highlighted directory and returns you to the Directory Window. |

5.7 SYSTEM

System is a tool, that allows you to change certain system settings.

> 1. Press F10 to access the System window.

or

> 1. In Capsat choose Applications, *System* (Alt, A, S).

5.7.1 MOVING WINDOWS

The Capsat Message Handling program is divided in 4 (5) major parts:

> Capsat
>
> Address Book
>
> Directory

System

At any time there will be at least one window active for each part. This is true, even if you cannot see a certain one of the above mentioned parts. The windows within each part are positioned relative to each other. Moving one window will also move all other connected windows. E.g. moving a window in the Address Book will affect all windows in that part, but not in any other part.

Figure 34 Moving Windows

1. Get the window that you want to move, on top of the screen (i.e. with a shadow).

2. Press F10 to access the System window.

3. Choose *Move, Customize* (M, C).

4. Move the window(s) with the Arrow Keys and press Enter when you are satisfied. A beep

> while moving a window indicates that it cannot be moved any further in this direction.

5. Press Esc twice to return to the now moved window.

If you want the default setting back, choose *Standard setup* from the *Move* menu.

5.7.2   CHANGING COLOURS

The Capsat Message Handling program is divided in 4 (5) major parts:

> Capsat
>
> Address Book
>
> Directory
>
> System

The Capsat part is furthermore divided in 3 sub parts. Each part has a different colour set-up. Each part or sub part has up to seven colour fields. The names of the colour fields allow easy identification. However 3 names are standard:

General	The colour of the major parts of the window.
Cursor	The colour of the highlight or cursor found in all menus.
Standout	The colour of the window title and the short-cut character of the menus.

```
┌─────────────────────────────────────────────────────────┐
│ East-Atlantic              Ca┌──────┬────────────┐       │
│                              │      │  System    │       │
│ File E┌──────────────────┬───┴──────┴────────────┤       │
│       │ <Space>          │  GoTo  Move  Paint Options Exit│
│       │                  │        Capsat ●Black & White  │
│       │  To:             │        Addres  Standard colors│
│       │ ▶███████████     │        Direct  Customized colors│
│       │                  │        System                 │
│       │                  │        ┌────────────────┐     │
│       │                  │        │ 1 Capsat...    │     │
│       │  Land Station:   │   [X]  │ 2 Editor...    │     │
│       │                  │   [ ]  │ 3 Working...   │     │
│       │  [X] Text in editor   [X] │                │     │
│       │                  │        │                │     │
│       │          < SEND >│        │                │     │
│       │                  │        └────────────────┘     │
│       │                  │                               │
│  ─────────■─────────■─────────■─────────■─────────■──────«■───────│
│  ASCII:          1 Chars   Line   1 Col 1      Inserting │
└─────────────────────────────────────────────────────────┘
```
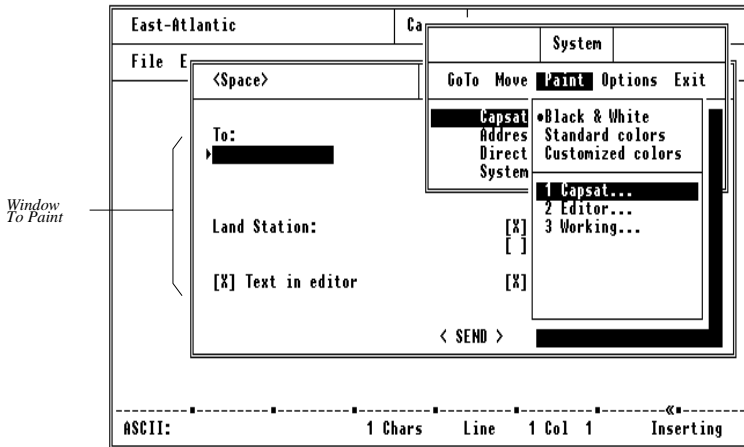
Window To Paint

Figure 35 Changing Colours

To change the colours of a window do the following:
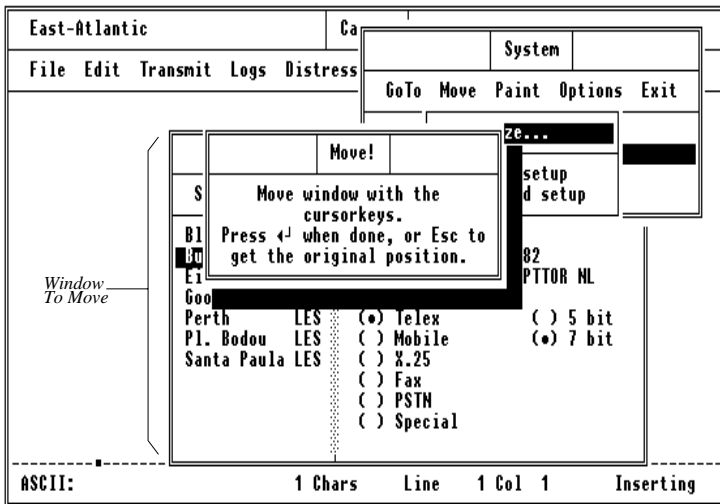
1. Get the window that you want to paint, on top of the screen (I.e. with a shadow).

2. Press F10 to access the System window.

3. Choose *Paint, Customise* (P, C).

4. In case of sub parts, choose the appropriate part.

5. Select the colour field, you want change.

6. Choose the new colour from the presented colour palette. All windows having the chosen colour field is updated immediately upon pressing Enter, allowing you to inspect the result right away.

7. Press Esc twice to return to the now painted window or select another colour field.

If you want the default setting back, choose *Standard setup* from the Paint menu.

Note. When the program detects a colour CGA screen, the 'Black & White' setting is not entirely black and white. This is because some LCD displays on portable PC's needs special colours in order to function correctly.

5.7.3 SETTING DISPLAY OPTIONS

1. Press F10 to access the System window.

2. Choose *Options, Display* (O, D) to get the Display window presented.

Figure 36 Setting Display Options

In the Display window you edit the following items:

43/50 lines   You can get 43 lines on the screen with an EGA
                 adapter and 50 lines with an VGA. Default is 25
                 lines.

Beep   You may set beep off. This applies only to invalid
                 keystrokes. Default is On.

Screen save   This facility shows a blank screen after a period of
                 inactivity. On the blank screen the current ocean
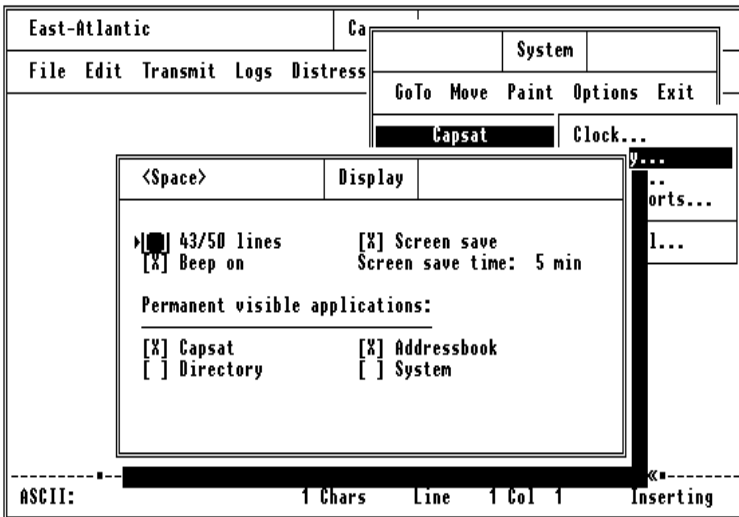   region, signal strength and time will be shown at
                 different positions, e.g.:

                 East Atlantic ■■■■■ 12:15

                 Pressing a key on the keyboard will show the
                 windows on the screen again. This is also the case,
                 if a new window is displayed by the program.
                 Screen save may be disabled. Default is Off.

Visibility   Controls the presentation of all the major parts of
                 the program. Each part, called an Application, may
                 be set to be shown at all times indicated by a '[X]'
                 or only to be shown when you're actually using
                 this part. Default is that Capsat and the Address
                 Book are shown at all times. Directory and System
                 are only shown, when you're actually using them.

The following is only available on the TT-3606E Message Terminal.

Brightness   You can adjust the display- and softkey-backlight
                 through the brightness level, which goes from 0
                 (no light) to 100 (maximum light).

The brightness level is not just the level of the display- and
softkey-backlight, but also of the color setup of the display.
Above a certain brightness level the program uses the
colors chosen by you (b&w, standard or customized) and

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below a certain level the night setup is used (red characters on black background).

The brightness control can be configured to manual or automatic. If the automatic brightness control is turned on the brightness level is based on the light level around the terminal. The user can still change the brightness level, but the automatic control will begin to adjust the brightness level again after 2 minutes. If the automatic brightness control is turned off, the chosen brightness level is never changed.

The brightness level can also be changed manually via the keyboard by pressing <Ctrl+u> to increase the level or <Ctrl+d> to decrease the level.

5.7.4 CONFIGURING THE SERIAL PORT

1. Press F10 to access the System window.

2. Choose *Options, Serial ports* (O, S) to get the Serial port window presented.

Please notice that it is not possible the select other than <Default>, while the transceiver is connected (Power ON). Therefore turn OFF the transceiver and wait for "Transceiver not connected!" to be displayed in the Status Field.
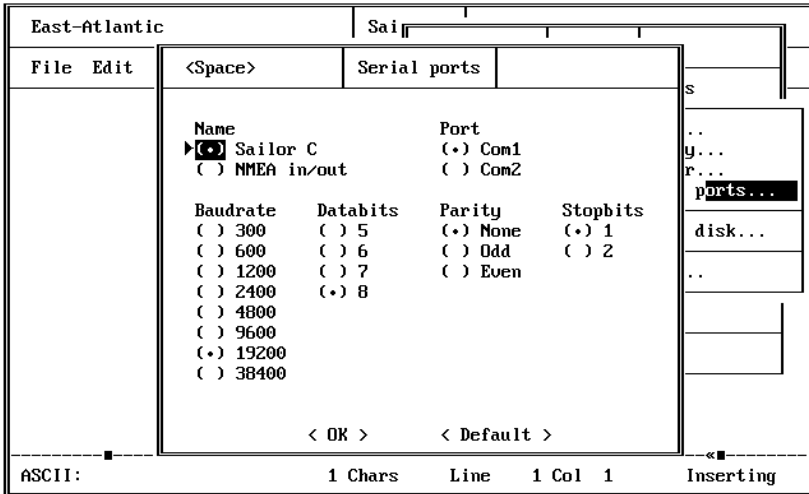
```
┌──────────────────────────────────────────────────────────────┐
│ East-Atlantic            │ Sai┌───┬──────┬──────┬──────┐      │
│──────────────────────────┴────┤   │      │      │      │      │
│ File  Edit   <Space>     Serial ports   │      │      │  s    │
│                                                     │           │
│            Name                Port                 │     ..    │
│          ▸(●) Sailor C       (●) Com1               │   y...    │
│            ( ) NMEA in/out   ( ) Com2               │   r...    │
│                                                     │ ▐orts...▌ │
│            Baudrate   Databits   Parity   Stopbits  │           │
│            ( ) 300    ( ) 5    (●) None   (●) 1      │  disk...  │
│            ( ) 600    ( ) 6    ( ) Odd    ( ) 2      │           │
│            ( ) 1200   ( ) 7    ( ) Even             │    ..     │
│            ( ) 2400   (●) 8                          │           │
│            ( ) 4800                                 │           │
│            ( ) 9600                           ┌─────┘           │
│            (●) 19200                          │                 │
│            ( ) 38400                          │                 │
│                                                                 │
│                   < OK >        < Default >                     │
│─────────────────────────────────────────────────────« ─────────│
│ ASCII:              1 Chars     Line    1 Col  1    Inserting   │
└─────────────────────────────────────────────────────────────────┘
```

Figure 37 Configuring the Serial Port

Normally you should not change this set-up, unless you want to use another port instead of Com1. To restore the default set-up move the highlight to '< Default >' and press Enter. Press Enter once more on '< OK >' to actually load the values.

5.7.5   USING COM2

1. Press F10 to access the System window.

2. Choose *Options, Serial ports* (O, S) to get the Serial port window presented.

3. Move the highlight to the Com2-field by pressing Arrow-Right and Arrow-Down.

4. Press Spacebar to get '(•) Com2'.

5. Press Enter to move highlight to '< OK >', and press Enter once more.

5.7.6 CONFIGURING THE PRINTER

1. Press F10 to access the System window.

2. Choose *Options, Printer* (O, P) to get the Printer window presented.

In the Printer window, you can control the following parameters.

Important: The TT3000E GMDSS system only supports the TT-3608A printer and therefore these parameters are not configurable when using this system.

Full page always	If set On, a full page is always printed no matter how short the message may be. If you are using a laser-printer you must set this On. Default is Off. In the Off position, a line '----' is printed between each printout.
Use Formfeed	If set On, a Formfeed character will be sent to the printer after every page printed. If you are using a laser-printer you must set this On. Default is Off.
Compressed	If set On, the characters are printed in compressed form allowing up to 132 characters per line. Only relevant for PC's having a local printer connected. Default is Off.
Header/Footer	If set On, a header and a footer is printed on every page. Only relevant for PC's having a local printer connected. Default is On.

Lines per page   Specify the maximum number of lines on a page. Default is 64.

Left margin   You may specify a number of characters for the left margin. Default is 5.

Printer Filter   This can have one of 3 settings:

None: There is no filtering

Normal: The program filters (removes) printer control characters from both the high and the low part of the ASCII table.

Low: The program filters printer control characters only from the low part of the ASCII table.

                        The filter setting should remain at *normal* unless you need to print graphic data (set it to *none*), or print special language characters such as Cyrillic (set it to *Low*).

5.7.7   SETTING THE SYSTEM CLOCK

1. Press F10 to access the System window.

2. Choose *Options, Clock* (O, C) to get the Clock window presented.

In the Clock window, you can change the current date and time of the system, i.e. both the transceiver and the PC/Message Terminal. You may also specify your time-zone, whether you're East, West or right on UTC. If you're East or West, you can specify the hours and minutes of your time-zone.

5.7.8 FORMATTING A FLOPPY DISK

If you are using a Message Terminal, it is possible to format 3½" 720 KB or 1.44 MB floppy disk within the program.

1. Press F10 to select the System window.

2. Choose *Options, Format disk* (O, F).

3. Confirm that you want to format the floppy disk. Warning. All data on the disk will be erased!

5.7.9 CONFIGURING THE MACRO KEY'S

On each side of the TT-3606E Message Terminal display is a column with six softkeys. These softkeys are pre-programmed with a default macro from factory and this setting can be viewed by pressing and holding a softkey for more than two seconds.

The default setting of the softkey macro's can also be viewed or altered by entering the softkey menu.

1. Press F10 to access the System window

2. Choose Options, Macro (O, M) to get the Macro window presented.

```
                              Macro
   Run  Record  Stop  Edit  Delete  Copy  Exchange  Export  Import

   Softkey :  Text (Help) :                    Size:
   SOFTKEY-01 *ESC                                1
   SOFTKEY-02 *Arrow UP                           1
   SOFTKEY-03 *Arrow DOWN                         1
   SOFTKEY-04 *ENTER                             1
   SOFTKEY-05 *Arrow LEFT                         1
   SOFTKEY-06 *Arrow RIGHT                        1
   SOFTKEY-07 View latest EGC mail               10
   SOFTKEY-08 View EGC-log                        8
   SOFTKEY-09 View latest received mail           9
   SOFTKEY-10 View receive-log                    7
   SOFTKEY-11                                     0
   SOFTKEY-12                                     0
```

Figure 38 Macro Configuration Menu

The Macro keys are numbered with the first key on the upper left corner the sixth key on the lower left corner, the seventh key on the upper right corner and the twelfth key on the lower right corner.

When working with macro's the current Macro status will be flashing in the lower left corner of the CAPSAT display (i.e. "running", "recording" ...).

If you for some reason want to stop the execution of a macro you can always press <Ctrl-S>. This will stop all macro execution.

A macro can hold a maximum of 494 keystrokes.

The following facilities are presented on the menu bar

Run	Run the selected macro
Record	Start recording a new macro
Stop	Stop recording the macro
Edit	Edit the explaining text connected to a macro. Please notice that it is not

possible to edit the actual macro functionality.

Delete   Delete a macro

Copy   Copy a macro

Exchange   Exchange on macro with another. This option is used when a macro should be assigned to another softkey

Export   Macro configuration can be exported to a floppy disk for later import in (another) Message Terminal

Import   Import of prior stored macro configuration.

5.7.10 RECORD A MACRO

A new macro can be recorded with the Record facility of the Macro window.

1. Press F10 to access the System window

2. Choose Options, Macro (O, M) to get the Macro window presented.

3. Place the highlight on the macro key, you want to assign to a new macro.

4. Choose Record to start recording a new macro and confirm by pressing <enter> that you will continue this action causing any prior recorded macro to be deleted.

5. Enter a text that describes the macro functionality. Please notice that if the first character is a "*" the macro will be executed

from the current window. All other macros are executed starting in the Capsat main window. If the first character is a "#" the macro will be executed with a delay of approximately half a second between each keystrokes.

6. Press any key, when you are ready to start recording the macro. Please see Figure 39.

```
|              |  Macro  |              |
| Press <Ctrl-S> to save/stop recording |
|        Press any key to continue!     |
```
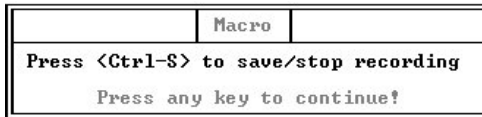
Figure 39 Start Recording Macro

7. You are now transferred to the main Capsat window and any keystroke you perform will be entered into the macro. Please notice that the text RECORDING is flashing in the lower left corner of the display.

8. When you have completed the actions you want to have included in the Macro press <Ctrl-S> to save/stop recording. The new macro is now saved and ready to be executed from the selected softkey or from the macro menu.

5.7.11 DELETING A MACRO

A macro can be deleted with the Delete facility of the Macro window.

1. Press F10 to access the System window

2. Choose Options, Macro (O, M) to get the Macro window presented.

3. Place the highlight on the macro key, you want to delete.

4. Choose Delete to delete the macro. You are requested to confirm the deletion. Please press <enter> to confirm.

6 TROUBLE SHOOTING

If the TT-3000E fails to work correctly please refer to the [1] TT-3000E Installation Manual and check that the system is coorectly installed.

7 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.

8 TRANSMISSION ERROR CODES

The following table lists the error codes the LES or NCS returns when a transmission error occurs. The error code will be shown in an ERROR window in the CAPSAT application.

Code	Comment
ACB	Access barred
ADR	Addressee refuses
ATD	Attempting to deliver the message
BUS	Busy
CCD	Call cut or disconnected
CIE	The LES ran out of processing/communications capacity to process your message
CNS	Call not started
FAU	Faulty
FSA	Fast select acceptance not subscribed
IAM	Was unable to process the address information in the following message:
IDS	Invalid data from ship
IDT	Input data timeout
IFR	Invalid facility request
IMS	Message size is invalid
IND	Incompatible destination
INH	Was unable to establish the type of message from the header
ISR	Invalid ship request
LEF	Local equipment failure
LPE	Local procedure error
MBB	Message broken by higher priority
MCC	Message channel congestion
MCF	Message channel failure
MKO	Message killed by operator

Code	Comment
MSO	Machine switched off
NAL	No address line was present
NDA	There was no delivery attempt
NFA	No final answerback
NIA	No initial answerback
NOB	Not obtainable
NOC	No connection
NP	No party
NTC	Network congestion
OAB	Operator aborted
OCC	Telex occupied
OOO	Out of order
PRC	Premature clearing
PRF	Protocol failure
RCA	Reverse charging acceptance not subscribed
REF	There was a failure in the remote equipment
RLE	Resource limit exceeded
RPE	Remote protocol error
RPO	RPOA (Recognised Private Operating Agency) out of order
SCC	Call completed successfully
SHE	Mobile unit hardware error
SNF	The satellite network has failed
SPE	Mobile unit protocol error
SUC	Test results being delivered
TBY	Trunks busy
TGR	TDM group reset
TIM	Timeout
WFA	Wrong final answerback
WIA	Wrong initial answerback

Table 8 Transmission Error Codes