

Thrane & Thrane

TT-10202 Message Handling Software
Operators Guide

Version 2.20

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About This Manual

This manual describes how to operate the TT-10202 Message Handling Software for the Capsat system. The program comes as a DOS program for IBM compatible Personal Computers or as a built in program in the dedicated TT-3606A Message Terminal. Information in this manual applies to both types unless otherwise noted.
The functionality of the Inmarsat-C system in general is not discussed.

Getting Started

Personal Computer Operation

This chapter describes the installation and start-up of the Capsat Message Handling program on a PC. This chapter is not relevant if you have a Message Terminal for your transceiver.

The program is delivered on both a 5¼" and a 3½" floppy disk for your convenience. The disk contains the file: CAPSAT.EXE

The program can be executed immediately from the floppy disk, but if your PC has a hard disk, you should install the program there. It is recommended, that you create a separate directory to hold the Capsat program.

Note. The CAPSAT.EXE file holds all configuration information within the file itself. If you are using a virus scanner which check on execute files size or check-sums changes, it will inform that the CAPSAT.EXE have changed from time to time.

Starting Up from a Hard Disk

In the following a step-by-step guide on how to install the program on a hard disk is given.

1. Insert the floppy disk with the TT-10202 Message Handling program in your drive A.
2. Type `c:` and press Enter to get drive C as your current drive.
3. Type `cd \` and press Enter to change to the root directory of C.
4. Type `md capsat` and press Enter to create a directory named Capsat.
5. Type `cd capsat` and press Enter to change to the newly created directory.
6. Type `copy a:capsat.exe` and press Enter to copy the program on to the hard disk.
7. Type `md messages` and press Enter to create a sub directory to hold incoming messages routed to disk.

8. Type `md egc` and press Enter to create a sub directory to hold incoming EGC messages routed to disk.
9. Type `capsat` and press Enter to start up the program.

Note. Please keep the original disk as a backup copy.

Starting Up from a Floppy Disk

1. Boot your PC with DOS.
2. Insert the floppy disk with the TT-10202 Message Handling program in drive A and close the drive.
3. Type `A:` and press Enter to make sure your current drive is A.
4. Type `capsat` and press Enter to start the program.

Note. Please make a copy of the original disk and keep it as backup.

Demonstration Mode

The program may be operated in a special demo mode, which allows you to simulate operation without connecting a Capsat Transceiver. This mode is invoked by typing `capsat /d` when loading the program.

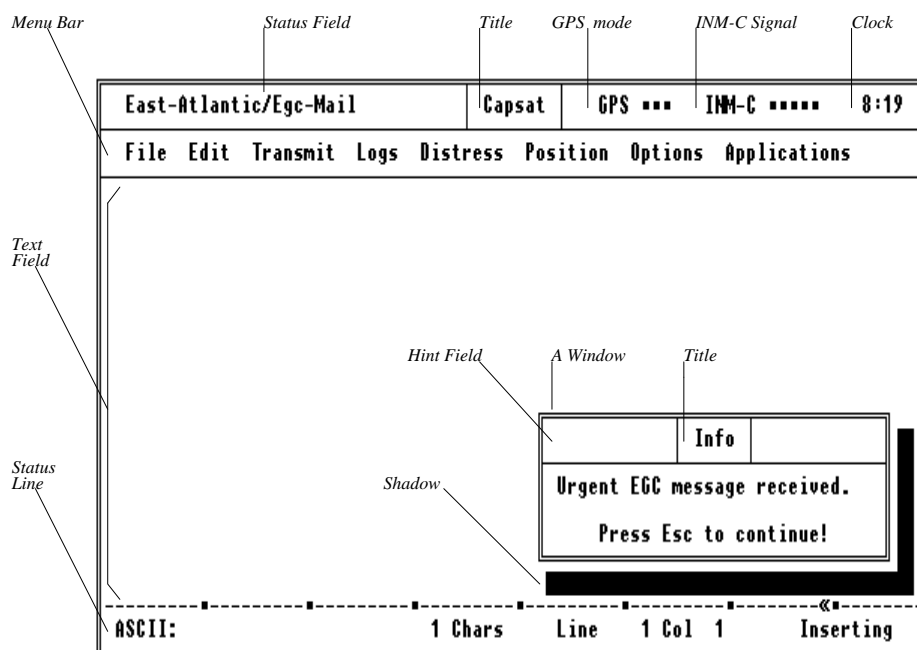
Terminating the Program

1. Choose *File, Exit* (Alt, F, X) in the Capsat window.
- or*
2. Press F10 to get the System window and choose *Exit*.

Temporary Files

The program creates some temporary files during execution. If you have a RAM drive installed, you can get a considerable speed up by specifying the path of the RAM drive in an environment variable called TMP. For instance if you have a RAM drive as drive E:, you should include 'SET TMP=E:\' in your AUTOEXEC.BAT file.

Basic Concepts



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 39 for further info.

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.

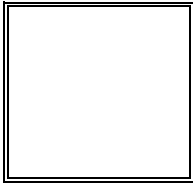
Hint Field May show miscellaneous status information or hints about which key to press. This will be '<Space>' for Spacebar and '<Enter>' for the Enter key.

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

Special Keys on the Keyboard

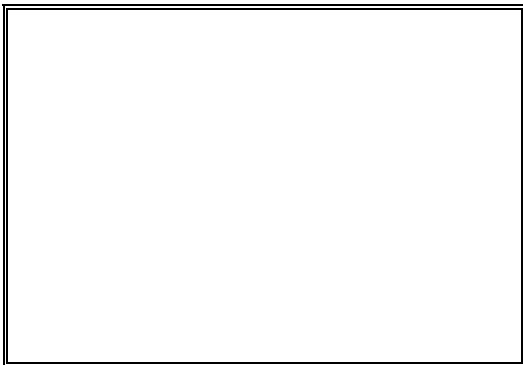
To operate the Capsat Message Handling program you need to know which keys to press. In this chapter we will explain the functionality of the special keys on your keyboard.

Esc Pressing Esc will always take you one step back.



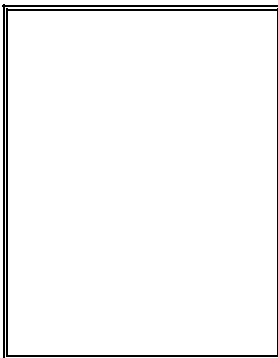
Previous Action	Hitting Esc will...
Just had a window displayed	Remove the window
Revising a value in a field	Cancel revise and restore the original content

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.

Getting Started

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...
Blinking cursor in Text Field	Get Highlight in the Menu Bar	Alt
Highlight in the Menu Bar	Blinking cursor in the Text Field	Alt
Blinking 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.

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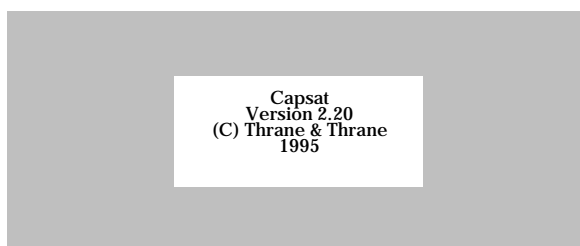
First Time With Capsat

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.

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.
- ◆ PC Load the Capsat program as described in the chapter Personal Computer Operation on page 2.



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. If your system is of the Landmobile type consult the chapter Landmobile Commissioning on page 8, otherwise continue with the next chapter Maritime Commissioning.

Maritime Commissioning

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

- ◆ Scan All satellite channels will automatically be scanned in order to determine the best channel. The Status Field will show '<SCAN>' and the login lamp on the transceiver blinks each time it synchronises with a satellite.
- ◆ Login A login is automatically generated to the Inmarsat-C Network. When the login is completed, the status field should show one of the following 4 ocean regions:

West Atlantic	East Atlantic	Pacific	Indian
---------------	---------------	---------	--------
- ◆ Link Test The first time a transceiver performs a login on 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.
A test distress call is included in the Link Test for these systems. When the message:

Please initiate Distress as part of Link Test.

appears on the screen, you must:

Select	What to do...	Remarks
Either :	Nothing	The transceiver will issue the distress automatically within 1-2 minutes. (Recommended).
Or:	Press both Set and ALARM buttons on the transceiver for minimum 5 seconds.	Warning! This must be done within 1 minute from the time the message appears.

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.

Landmobile Commissioning

When your landmobile 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.

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.

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 as if you were using a typewriter.
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.

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.

Getting Started

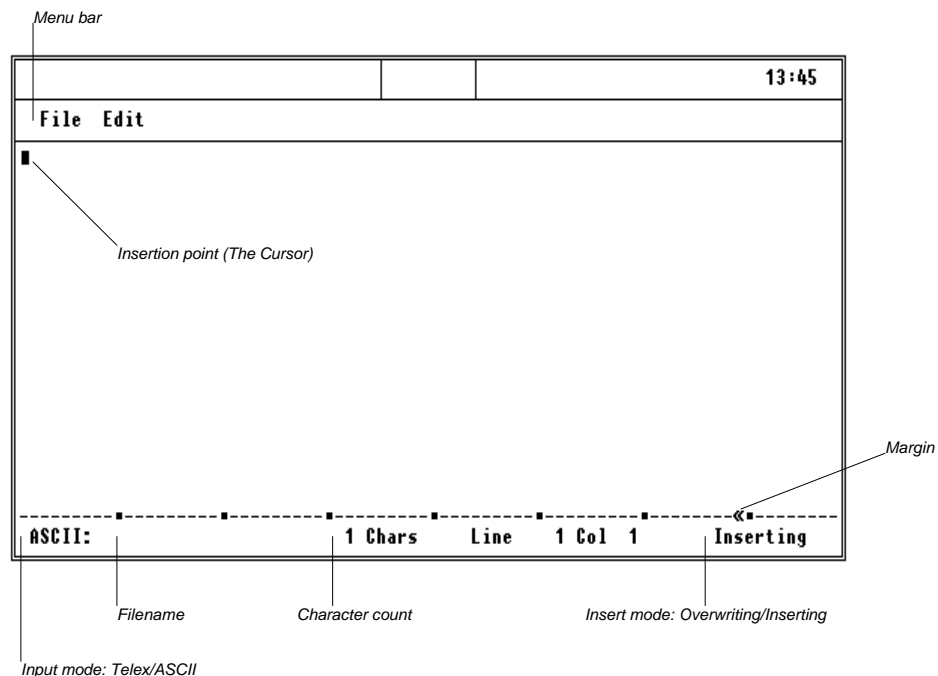
16. After approx. 5 minutes you will receive the message. The mail lamp will start flashing. When the lamp stops flashing, your message is received and will be printed.

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.

The Editor Window

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



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.

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.

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.

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 does not hold spaces unless you have typed them.

Saving Your Work

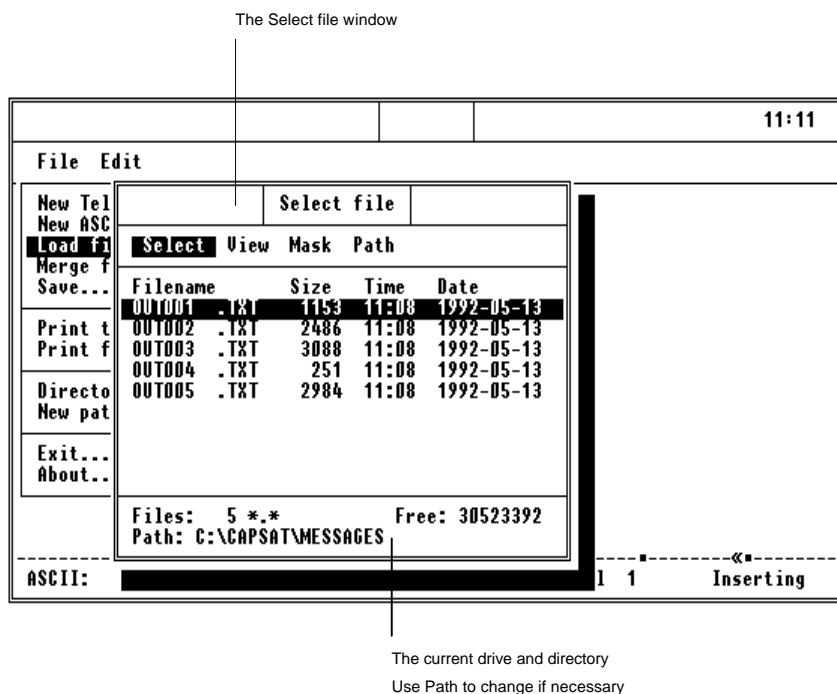
1. Choose *File, Save* (Alt, F, S).
2. Type in the name of the file. The name may consist of 1 to 8 characters. The editor will append .TXT to the name. This is called an extension.
3. Press Enter to actually save the file.

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.

Opening an Existing Message

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



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

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

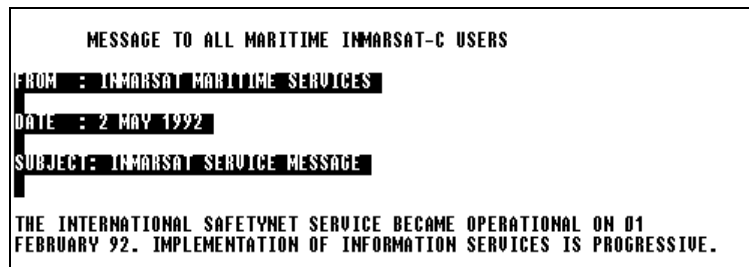
Typing over Text

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.

Selecting a Block of Text

1. Position the cursor at the beginning of the text you want to select.
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.

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.

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.

Deleting Selected Text

1. Select the text you want to delete.
2. Choose *Edit, Clear* (Alt, E, E).

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.

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.

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.

Printing

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

or

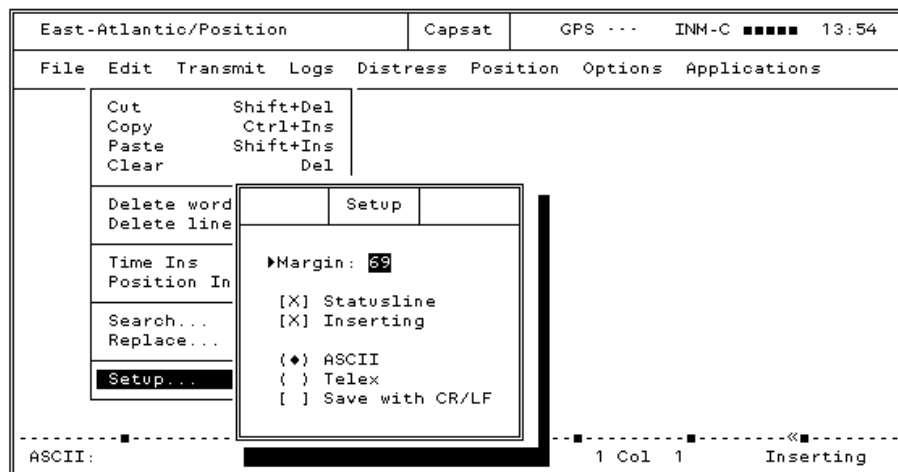
2. Choose *File, Print file* (Alt, F, P) to print a message from the disk.

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.



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

Capsat Address Book

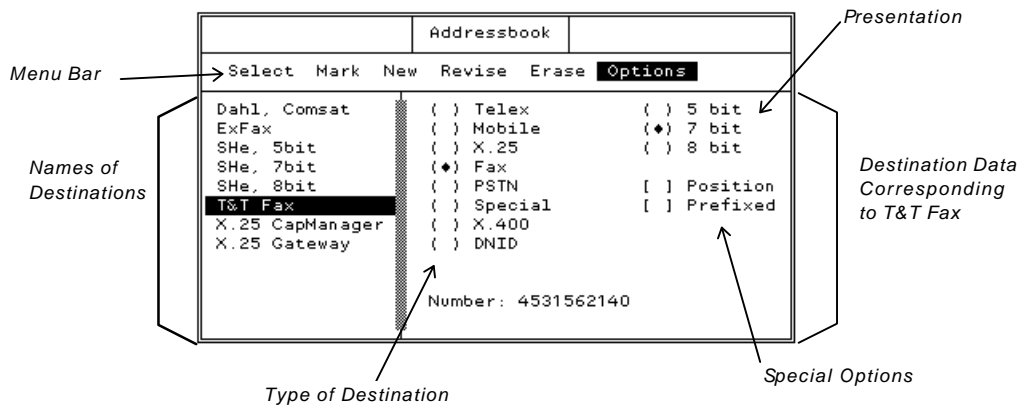
The Address Book conveniently stores the details of all your destinations. Up to 100 destinations can be stored.

1. Press F3 to access the Address Book

or

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

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 so-called '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.

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 the name to be <i>myfile</i> , the name will actually be <i>myfile.dst</i> .
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.

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. Note. X.400 addressing is entirely done in the message text and no number can be specified in the addressbook!
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.

Accessing the Different Networks.

Type	Format of number	Presentation
Telex	Country code + Subscriber No	5 or 7 bit
Mobile	Ocean Region + Mobile No 581 - East Atlantic 582 - Pacific 583 - Indian 584 - West Atlantic	5 or 7 bit
Mobile	Ocean Region + Mobile No 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
X.400	All address information must be given in the message text! Consult the relevant X.400 guide.	
DNID	DNID number and Member number. See your DNID Table for valid entries	5, 7 or 8 bit

Capsat

1. Press F2 to access Capsat.

or

2. Press Esc a number of times until all overlaying windows are removed. If you are running the Dual Purpose Version [Radiotelex and Capsat in One...], you must use F2.

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

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 18.

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

Presentation

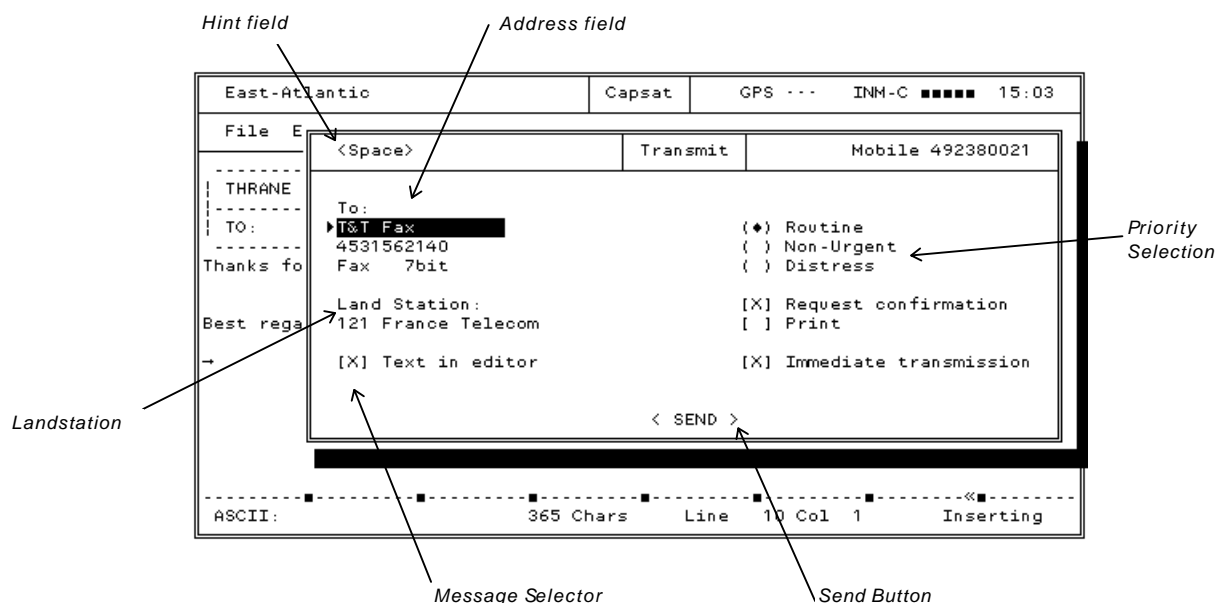
The message can be sent in 3 different formats known as 5 bit, 7 bit and 8 bit presentation.

- 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 datafile.

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	Available on System	Explanation
Distress	Maritime	Routed directly to SAR
Routine	Maritime/Landmobile	Forwarded immediately
Non-Urgent	Maritime/Landmobile	Delayed forwarding

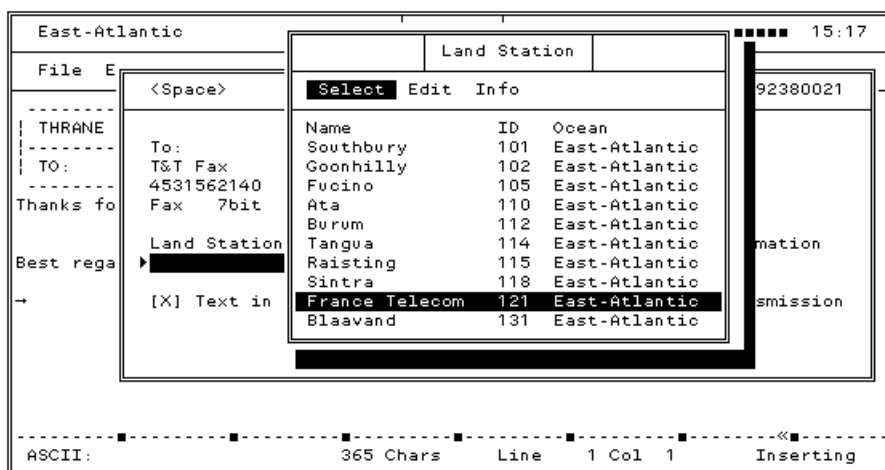
Land Station Is the station to use for the transmission.

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.

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 18.
4. Press Spacebar to get a list of Land Stations.



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.

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 32 Kb, which is the absolute maximum message length.

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.

Printing a Message on Transmission

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

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.

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				
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 : 00T.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

Message Name (Msg) Is assigned by the transceiver at the time of transmission. 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...

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 <i>Confirm</i> 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.

The Transmit Log Facilities

The following facilities are presented on the menu bar:

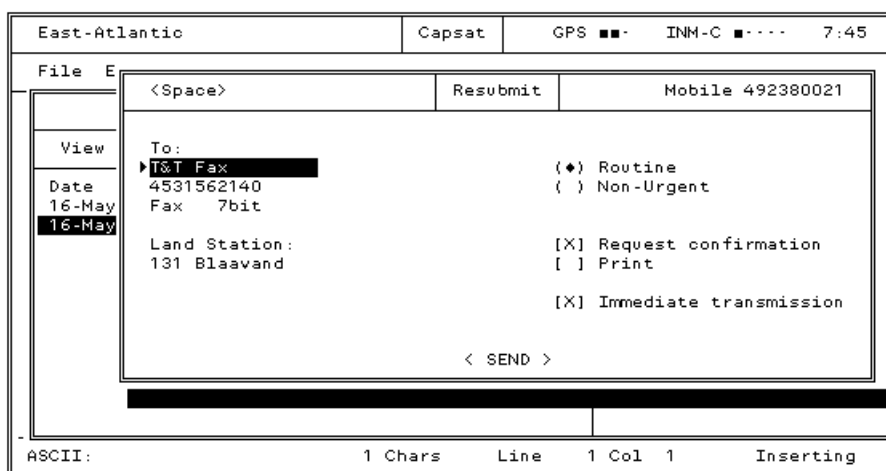
View	View a message.
Resubmit	Send a message again.
Confirm	Explicitly requests confirmation status at the Land Station of a particular entry.

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

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.



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 on a local printer or a remote printer connected to the T-Bus of the transceiver. 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".

Message Routing

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

PC Version Only

<Space>	Routing		
	Diskette	Local Prn	Remote Prn
Mail	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EGC System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EGC FleetNet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶EGC SafetyNET Routine+Safety	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EGC SafetyNET Urgent+Distress	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Message log files	<input checked="" type="checkbox"/>		
Local printer installation	<input type="checkbox"/>	PC	<input checked="" type="checkbox"/> Transceiver
No automatic printer changeover	<input type="checkbox"/>		
Path of Mail: C:\utils\voapsat			
Path of EGC: C:\utils\CAPSAT			
Path of Log: C:\UTILS\CAPSAT			
< OK >			

Capsat

Mail	Normal business mail.
EGC System	-
EGC FleetNet	Maritime Systems: Must be routed to at least one of the medias. If you have '[X]' in Message Log files, the messages will be saved on disk in the log file, which is OK.
EGC SafetyNET Routine and Safety Priority	Maritime Systems: Must be routed to at least one of the medias. If you have '[X]' in Message Log files, the messages will be saved on disk in the log file, which is OK.
EGC SafetyNET Urgent and Distress Priority	Maritime Systems: Must at least be routed to one of the printers.
Local printer installation ¹	The local printer may be connected either to the PC or the transceiver.
No automatic printer switchover ¹	The Capsat program will normally change printer port to its own port (on the PC or the TT-3606A) in case the Transceiver does not have a printer. By checking this box you can disable this automatic feature. The Transceiver will from then on wait for you to attach a printer to its port.
Path of Mail ¹	Save incoming business mail here as separate files (IN.000, IN.001, ...).
Path of EGC ¹	Save incoming EGC mail of all categories here as separate files (EGC.000, EGC.001, ...).
Path of Log ¹	The message log files will be saved here.

¹ These fields does not exist on TT-3606 Message Terminal. The local printer must be connected to the transceiver.

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

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

Maritime Systems:

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.

The *Local Printer Installation* will always have a checkmark in the *Transceiver* box.

Landmobile Systems:

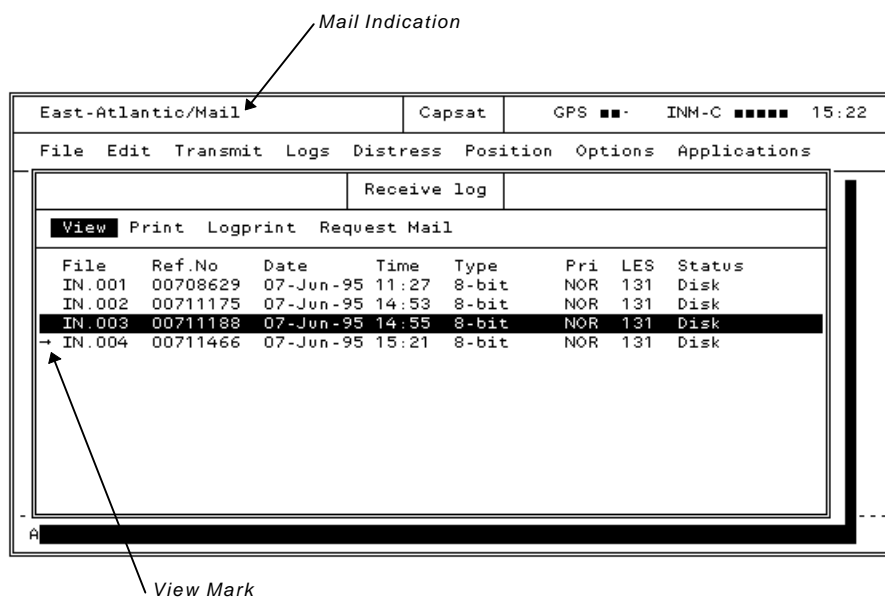
If the *Message Log files* box has no checkmark, and none of the 3 boxes for *Mail* has a checkmark then the program will put a mark in *Diskette* for you.

The same goes for the 4 EGC Message types.

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).



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.

The Receive Log Facilities

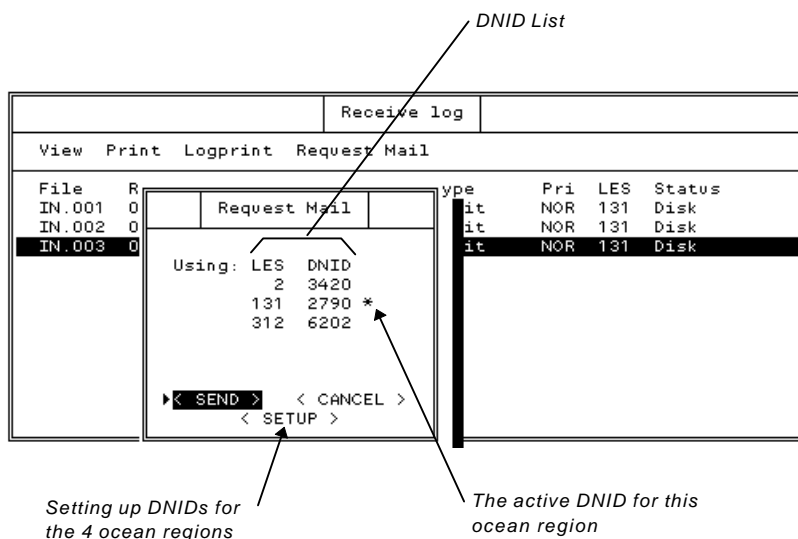
The following facilities are presented on the menu bar:

- 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.

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



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 setup which DNID to use before you can send any requests. The Capsat program can have one DNID for each ocean region.

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 29.

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 authorized commercial Information Providers.

System Supplied by Inmarsat.

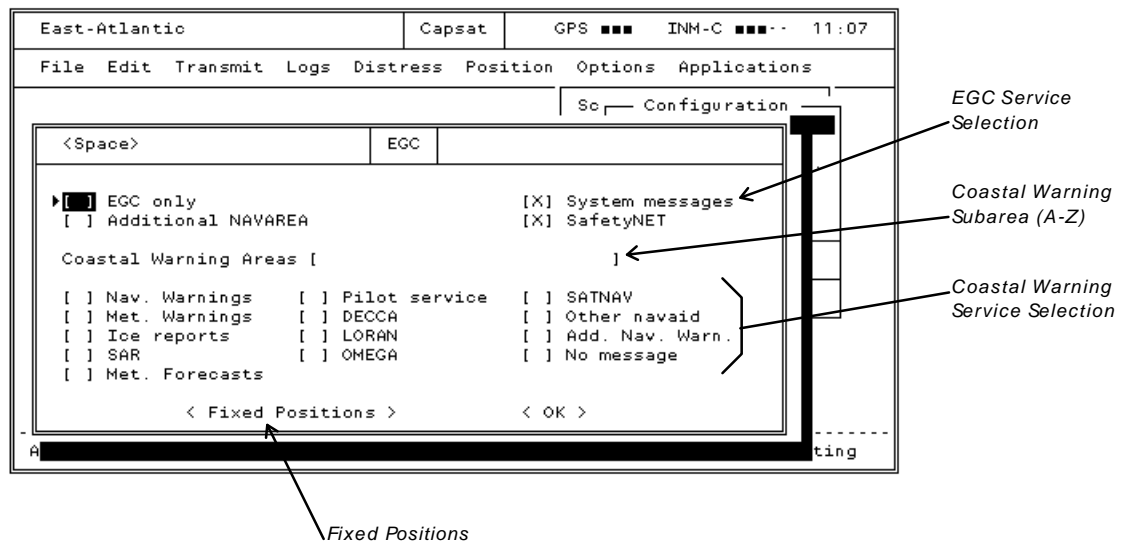
The following table gives a quick view of the different EGC services.

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 Coordination to rectangular area	SAR	Position	SafetyNET
Search and Rescue Coordination to circular area	SAR	Position	SafetyNET
Chart correction service	CHART	Enid	FleetNET
Chart Correction Service for fixed areas	CHART	Area	SafetyNET

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

The EGC Window

1. Choose *Options, Configuration, EGC* (Alt, O, C, E) to get 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.

EGC only Will instruct the transceiver to stay tuned to the NCS-channel at all times intercepting all EGCs. The transceiver will not be able to do normal message reception and transmission. When choosing '< OK >' after specifying EGC only, you will be asked to confirm a logout. When turning 'EGC only' off again, you must manually initiate a login by choosing *Options, Login* in the Capsat window.

EGC Log

The EGC log holds information concerning the received EGC messages. The layout and the facilities strongly resembles 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.
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.

ENID - EGC Network ID

The ENID's 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).

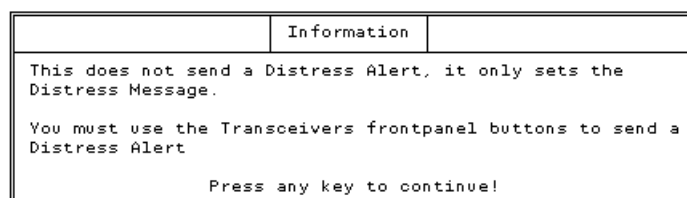
By Disabling an ENID, you will subsequently not receive EGCs addressed to this ENID. You can make an ENID active again by selecting *Enable* from the menu of the ENID window.

Distress

When you select Distress from the menu, different things will happen depending on whether you have a Maritime or a Landmobile System.

Maritime Distress

You cannot send a Distress Alert from the Capsat Program, but you can set the Distress Message via the Distress Menu. You will be warned about this when you select the Distress Menu.



You will then see the Distress Message Dialog:

<Space>		Setting Distress Message	
Land Station:			
131 Blaavand		<input type="checkbox"/> Unspecified <input type="checkbox"/> Explosion/fire <input type="checkbox"/> Flooding <input type="checkbox"/> Collision <input type="checkbox"/> Grounding <input type="checkbox"/> Listing <input type="checkbox"/> Sinking <input type="checkbox"/> Disabled & adrift <input type="checkbox"/> Abandoning ship <input type="checkbox"/> Req. Assistance <input type="checkbox"/> Piracy	
Latitude	55° 44,65 N	<input type="checkbox"/>	
Longitude	012° 28,62 E		
Course	151 Degrees		
Speed	2 Knots		
Updated at 14:01 UTC			
Status OK			
< OK >			

Land Station points to the Land Station field.

Position Field points to the Latitude and Longitude fields.

Nature of Distress points to the list of distress types.

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. If the status is INVALID, you should type in your position if at all possible.

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

To actually send a Maritime Distress you must press the Set and Alarm button and on the transceiver simultaneously for at least 5 seconds until the Alarm indicator starts flashing.

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

Landmobile Alert

Sending a Distress Alert on landmobile terminals is not allowed. You can instead send a Landmobile Alert.

If you want your landmobile system to be able to do landmobile alert, you must contact a Land Station to have your mobile registered. In addition you must program the transceiver to support it, by entering Terminal mode (Alt, O, C, T) and enter the following line:

```
set -z MOBAlert=ON
```

<Space>	Landmobile Alert
Land Station:	(♦) Unspecified
131 Blaavand	() Ambulance
Latitude 55° 44,69 N	() Fire
Longitude 012° 28,58 E	() Police
Course 000 Degrees	() Hijack
Speed 0 Knots	() Under attack
Updated at 05:09 UTC	() Dangerous leak
Status OK	() Accident
	() Vehicle breakdown
	() Severe weather
< SEND >	

Land Station

Nature of Alert

Position Field

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. If the status is INVALID, you should type in your position if at all possible.

Nature of Alert Shows here the types available for Landmobile Alert.

Sending a Landmobile Alert

1. Choose *Distress* (Alt, D). The highlight will be placed on the Land Station field.
2. If the Land Station field is empty, press Spacebar to choose a station from the Land Station list.
3. If the Position field status shows INVALID, type in the correct position if known.
4. Mark the appropriate Nature of Alert if you've got the time.
5. Press the Arrow Keys to move the highlight to '< SEND >' and press Enter.
6. You will be asked to confirm the transmission. Press Enter to confirm.

Sending a detailed Distress Message.

1. Type in the message in the Text Field of the Editor.
2. Choose *Transmit* (Alt, T).
3. Press the Tabulation Key to move the highlight one position to the right to the priority field '(●) Routine'.

Note. The Address Book may popup when doing this, if the address field is empty. Just select the first destination as the address won't be used.

4. Press Arrow Down twice to move to '() Distress' and press Spacebar to select. This causes the address field to show 'SEARCH & RESCUE'.
5. 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 >'.
6. Confirm the distress priority transmission by pressing Enter.

Note. This applies only to Maritime Units.

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 may have 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 ... IMM-C ..... 11:33
```

The mode of the GPS is displayed using small boxes. See table below.

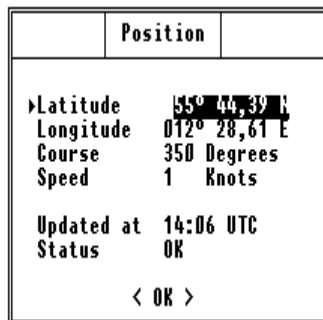
GPS	Mode	Comment
• • •	Acquisition	The GPS module is trying to acquire the correct position. To ease the acquisition, the approximate position and time could be entered. Upon power-up the GPS module will always enter this mode. If the transceiver has a valid position stored in non-volatile memory, this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

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 timezone. (Press F10, Select Options and Clock).

Maritime Units Only. If the position hasn't been updated in 4 hours, the Status Field of the main Capsat window will show 'Position' next to the Ocean Region. If it isn't updated within 12 hours, the position will become invalid.

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.



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.

Position Reporting

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

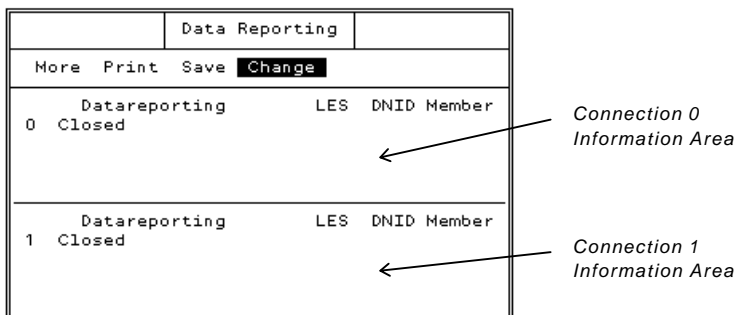
This makes the reporting inexpensive compare to sending a text message containing a position and time like explained in the section about Special Options on page 19.

A brief description of DNIDs is given on page 47.

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.

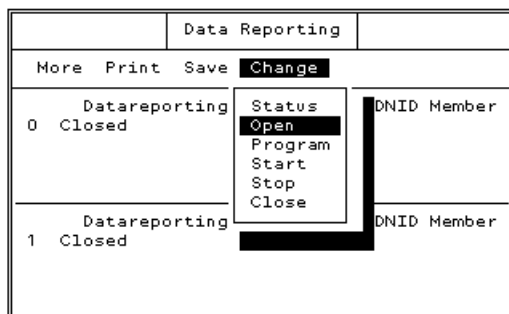


Setting up Position Reports

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

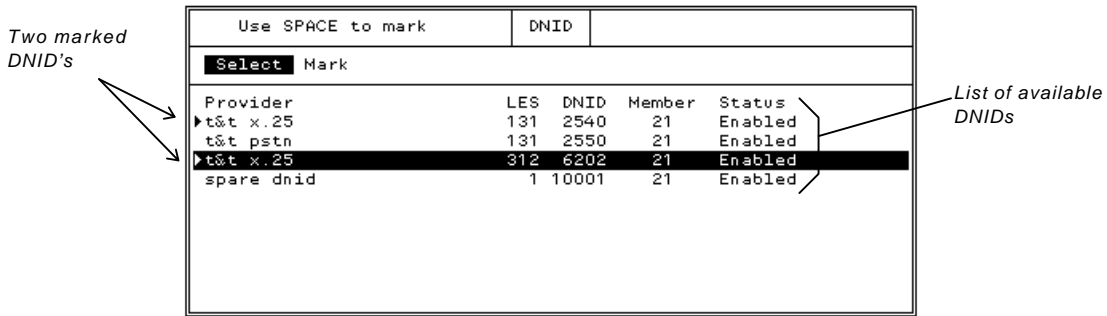
To set up a Position Report program on your Transceiver, you must proceed as below:

1. Choose *Options, Configuration, Position Report* (Alt, O, C P) to get the Position Report window.
2. Select *Change, Open* from the menu.

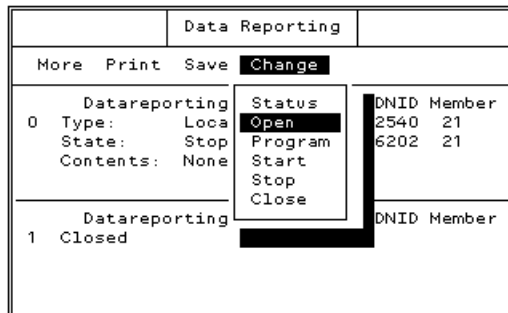


You will now see a list of available DNIDs. You can mark one or more from the list, but the DNIDs must be from from different ocean regions. You can find out which ocean region the DNID belongs to by looking at it's LES ID. The first digit of the (3 digit) LES ID is the ocean region number:

- 0: Atlantic West
- 1: Atlantic East
- 2: Pacific
- 3: Indian



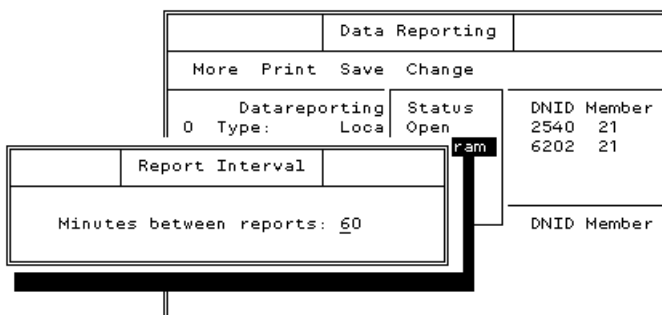
You can use Spacebar or choose *Mark* to mark entries. When you choose *Select* and press ENTER you will be returned back to the Position Window and the Transceiver will now open the connection for you.



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.



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

		Data Reporting			
		More	Print	Save	Change
0	Datareporting	LES	DNID	Member	
	Type: Local	131	2540	21	
	State: Started	312	6202	21	
	Contents: Inmarsat				
1	Datareporting	LES	DNID	Member	
	Closed				

Report Configuration for Connection 0

DNID List for Connection 0

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 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, 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.

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:

The number of reports that has been successfully sent since the system was turned on

Report interval measured in frames (8.64 seconds). 417 frames = 60 minutes.

The active DNID in this ocean region

The start time of the program and the time of the next report in frame numbers and UTC time

The status of the program scheduler. You may see 'frametime error' here if your system does not have synchronization.

LES	DNID	Mem	OK	Err	Inter	Total	Rem	Sign	P/R	Slt
131	2540	21	1	0	417	-----	-----	-----	-	--

```

Start at : 3869 (95-05-17 09:17:08)
Next at  : 4286 (95-05-17 10:17:10)
End at   :
Status   : 0 - OK
    
```

Position Report Format

The Transceiver will as default send locally programmed position reports in the Inmarsat defined Landmobile and Maritime position report format, but you can change this if you have the need to work with the newer and more advanced RTCA DO-212 ADS format.

You must change the format setting before you open your local connection as the setting will only be checked by the Transceiver when a connection is opened.

If you want your system to send position reports in the RTCA DO-212 ADS format, you must program the Transceiver to support it, by entering Terminal Mode (ALT, O, C, T) and enter the following line:

```
set -z POSFORMAT=ADS
```

This will not affect the format of the existing connections. It only specifies which format will be used when you open a new local connection.

Ocean Region management

The coverage area of neighbouring satellites overlap. In many areas you will be able to use more than one ocean region. The Landmobile and the Maritime units behave differently in these conditions. The basic difference is that, the Landmobile version will do nothing to change the current situation unless commanded. This means, that it will stay tuned to the same satellite unless you tell it otherwise. The Maritime, on the other hand, will take certain action on its own initiative as explained in the following.

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. Maritime units may end up in logging in to another region when being unable to detect a good enough signal in the specified region.

Do
Manual
Scan
when...

You want to force a maritime unit to stay within a specific Ocean Region

You want find the best possible satellite frequency of all the regions.

Automati
c Scan on
Maritime
Units
when...

Bulletin Board Error Rate (BBER) gets above 80.

24 hours have elapsed since the last scan.

Power-on and Non-commissioned.

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 Landmobile 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 landmobile system for the first time.

You want to operate in another Ocean Region.

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 have changed to 'Logged Out', you are welcome to turn off your equipment.

Miscellaneous

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

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 have 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 have been completed.
3. Maritime Systems Only. A test distress call is included in the Link Test for these systems. When the message:

Please initiate Distress as part of Link Test

appears on the screen, you must:

Select	What to do...	Remarks
Either :	Nothing	The transceiver will issue the distress automatically within 1-2 minutes. (Recommended).
Or:	Press both Set and ALARM buttons on the transceiver for minimum 5 seconds.	Warning! This must be done within 1 minute from the time the message appears.

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!

Polling

A "Poll" is a message, but it differs from normal messages in the way that it can only be 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. On PCs, the files will be placed in the start-up directory. No further action will be taken.

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.



NCS Channels

The system comes with 5 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.

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.

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.

Password

Capsat Application

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

The the *Options, Configuration, Password* you can enter 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.

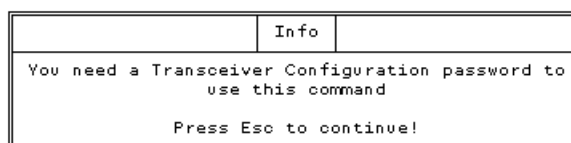
Transmit Password:

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.

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.



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:

```
set -d < Enter >
```

```
password < Enter >
```

where you must type your Transceivers configuration password instead of the word *password*. Please note that the Transceiver will display stars instead of the letters in your password.

When you have set the Transceiver password you will see the following response:

Terminal	
<pre>: set -d Enter current system password > ***** The password will expire in 1 hour : -</pre>	

You will then have 60 minutes to make your changes.

Terminal Mode

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 '?' and Enter to get a list of the available commands.
4. Type in a command followed by '?' and press Enter to get detailed information.

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

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:

LOG09-93.001 LOG10-93.001 LOG10-93.002

where 09 and 10 is September and October respectively. 93 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.

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	

-----<-----
Inserting

About...

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

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

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

2. In Capsat choose *File, Directory* (Alt, F, D).

3. Press Esc to return.

The Directory Window

The screenshot shows a window titled "Directory" with a menu bar at the top containing "View", "Erase", "Print", "Rename", "Copy", and "Path". Below the menu bar is a table of files with columns for "Filename", "Size", "Time", and "Date". The first row, "OUT001 .TXT", is highlighted and labeled as the "Selected file". Below the table, the status bar shows "Files: 6 *.*" and "Free: 30154752". The path "C:\CAPSAT\MESSAGES" is also visible at the bottom.

Filename	Size	Time	Date
OUT001 .TXT	1153	11:08	1992-05-13
OUT001 .TXT	2004	14:06	1992-05-13
OUT002 .TXT	2486	11:08	1992-05-13
OUT003 .TXT	3088	11:08	1992-05-13
OUT004 .TXT	251	11:08	1992-05-13
OUT005 .TXT	2984	11:08	1992-05-13

Files: 6 *.* Free: 30154752
Path: C:\CAPSAT\MESSAGES

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.

Directory

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 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.

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.

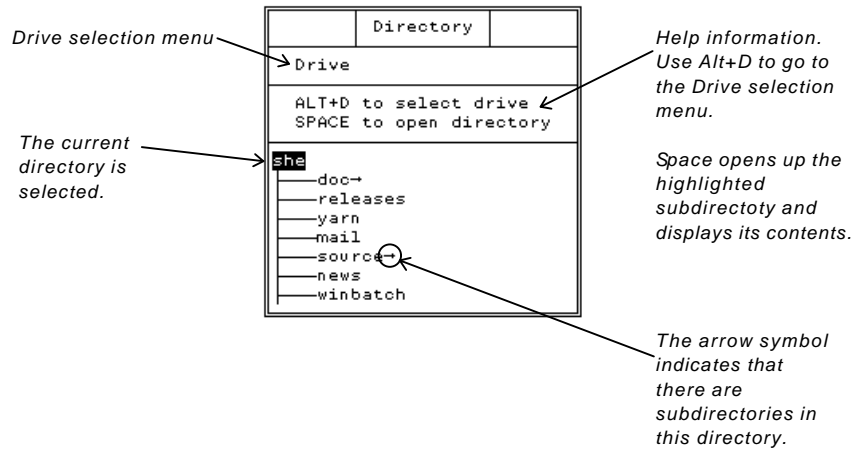
Tip. To copy a number of files, mark the files by pressing Spacebar when they are selected one by one. When selecting Copy, you must then specify the path to which you want copy, i.e. C:\CAPSAT or A: .

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

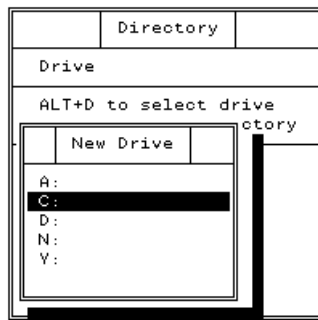
Note. Changing the path of the Directory does not affect the current path (Working directory) of Capsat and the Address Book.

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.



- Up arrow:** Goes up the directory tree. If you move above the top of the window, you will be move 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 contains other subdirectories.
- ALT+D:** Goes to the *Drive* selection menu. You can select a new drive to be displayed in the window.



- Enter:** Selects the highlighted directory and returns you to the Directory Window.

System

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

1. Press F10 to access the System window.

or

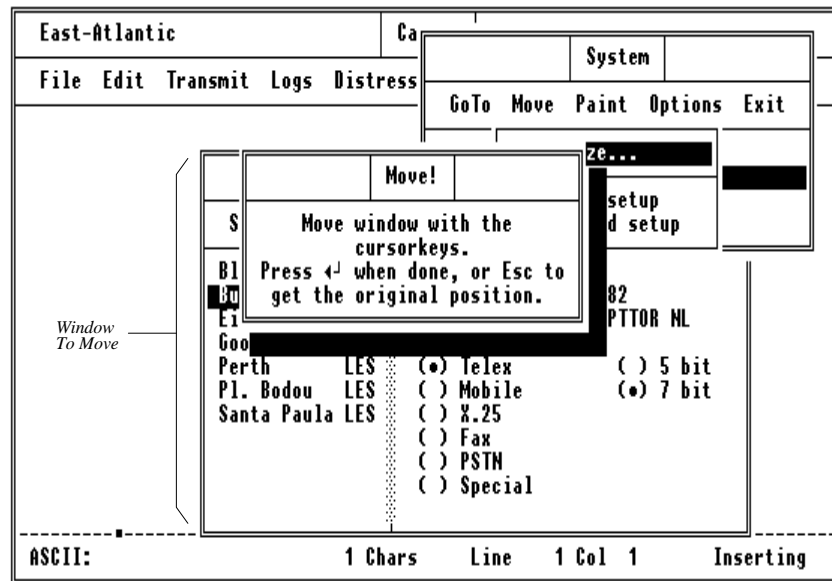
2. In Capsat choose Applications, *System* (Alt, A, S).

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 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.



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.

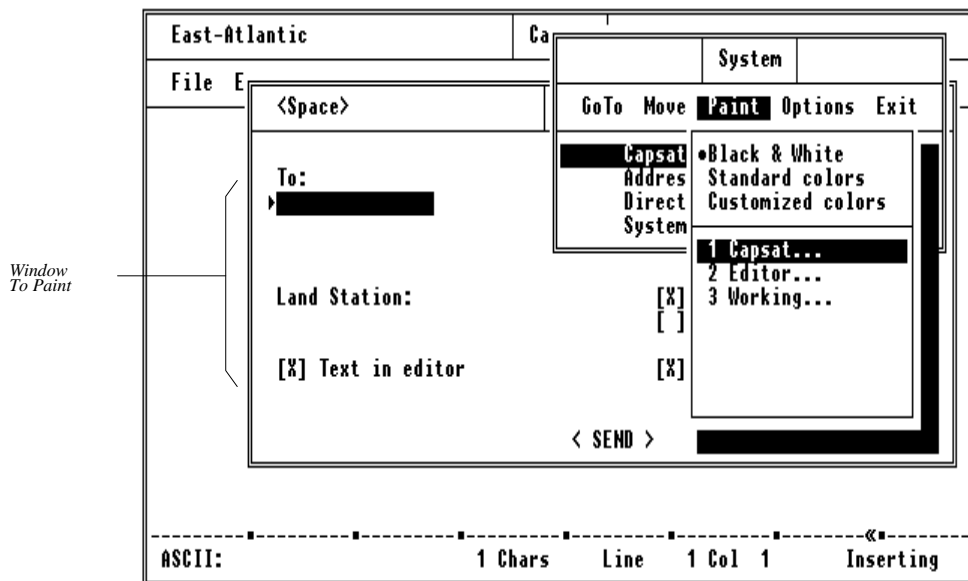
Changing Colors

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 color set-up. Each part or sub part has up to seven color fields. The names of the color fields allow easy identification. However 3 names are standard:

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



To change the colors of a window do the following:

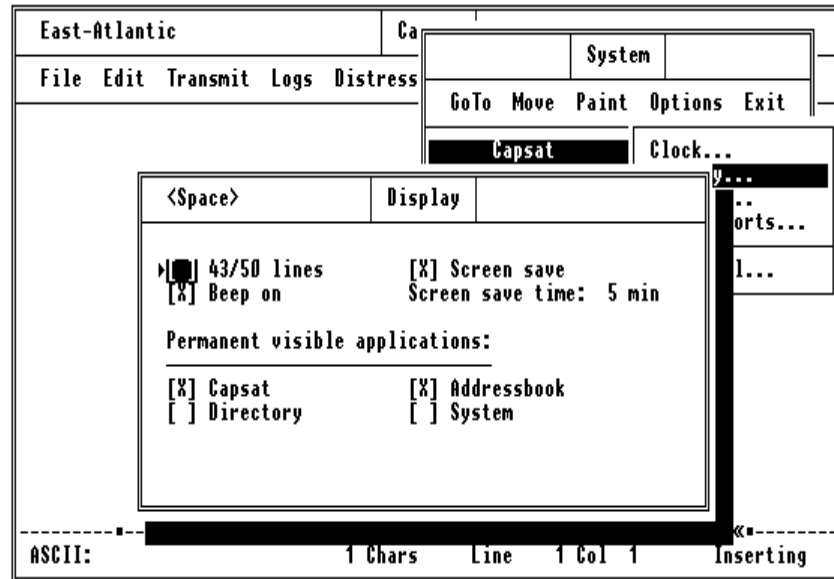
1. Get the window, that you want to paint, on top of the screen (I.e. with a shadow).
2. Press F10 to access the System window.
3. Choose *Paint, Customize (P, C)*.
4. In case of sub parts, choose the appropriate part.
5. Select the color field, you want change.
6. Choose the new color from the presented color palette. All windows having the chosen color 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 color field.

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

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

Setting Display Options

1. Press F10 to access the System window.
2. Choose *Options, Display (O, D)* to get the Display window presented.



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.:

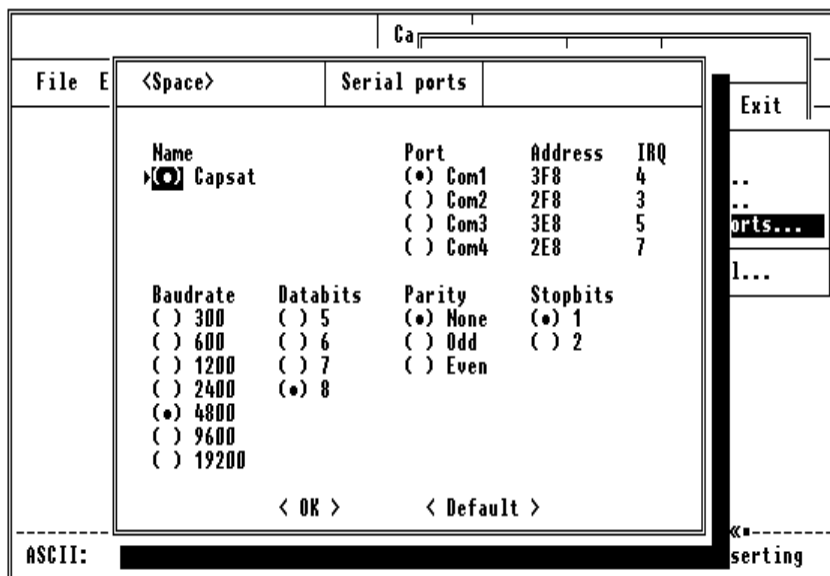
East Atlantic ■■■■■ 12:15

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.

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.



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.

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.

Using Com3 or Com4 (PC only)

It is very important that the address and the IRQ is correct. This depends on the type of PC, that you are using. The default set-up matches a PC/AT type computer. We recommend that you use the addresses and IRQs listed in the table below. Take care that the set-up matches the set-up of your serial card. On some serial cards it is not possible to specify IRQ 2, 5 or 7. It is possible to use IRQ 3 or 4, if no other port uses this IRQ simultaneously!

	Com3 IRQ	Com3 Addr	Com4 IRQ	Com4 Addr
PC/XT	2	3E8	7	2E8
PC/AT	5	3E8	7	2E8
PS2	3	3220	3	3228

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.

- 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 special language characters such as Cyrillic (set it to *Low*).

The setting applies to systems having the printer connected to the transceiver as well as systems having it connected to the PC/Message Terminal. Refer to the chapter Message Routing on page 29 for more information concerning this.

Important. Maritime systems must have the printer connected to the transceiver.

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 timezone, whether you're East, West or right on UTC. If you're East or West, you can specify the hours and minutes of your timezone.

Formatting a Floppy Disk

If you are using a Message Terminal, it is possible to format 3½" 720 KB floppy disk within the program. PC users must format their disks using the DOS format command.

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!

Troubleshooting

Personal Computer Requirements

The following applies to PC users only!

The Capsat Message Handling program TT-10202 for Personal Computers executes under MS or PC DOS from version 2.00.

To run the Capsat Message Handling software, the Personal Computer must be IBM compatible. The following two demands are particularly important.

- ◆ **Video Hardware.**
The hardware must support direct memory access to the video buffer. For monochrome (MDA) at address B000:0000 and color (CGA/EGA/VGA) at address B800:0000.
- ◆ **Interrupt and Serial Port Hardware.**
The Personal Computer must support the INTEL 8259A Programmable Interrupt Controller (PIC) and the National Semiconductor 8250, 16450 or 16550 Universal Asynchronous Receiver Transmitter (UART) chips as documented in the IBM Technical Reference manual.

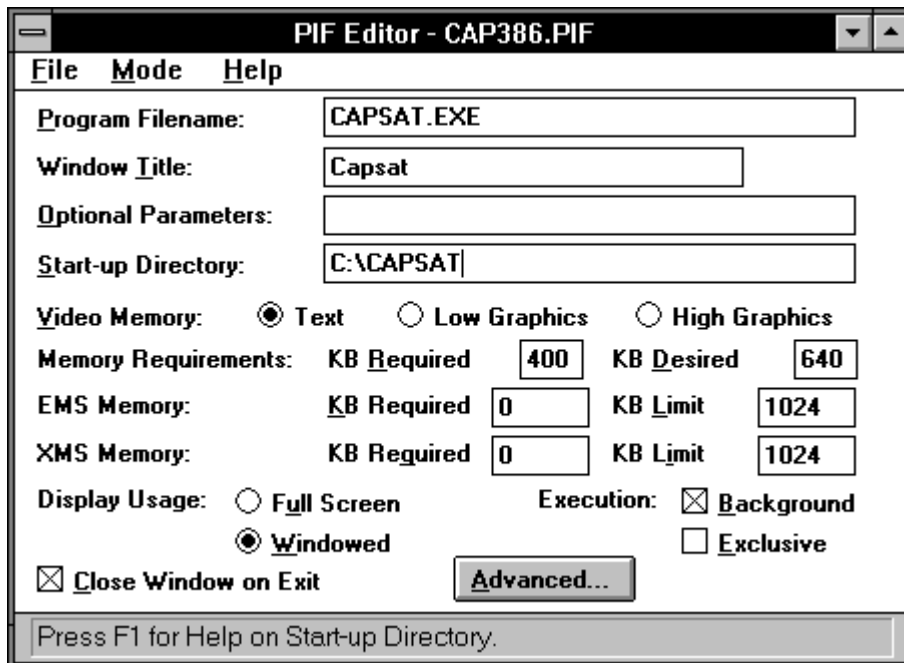
Com1: Address=3F8 and IRQ 4

Com2: Address=2F8 and IRQ 3

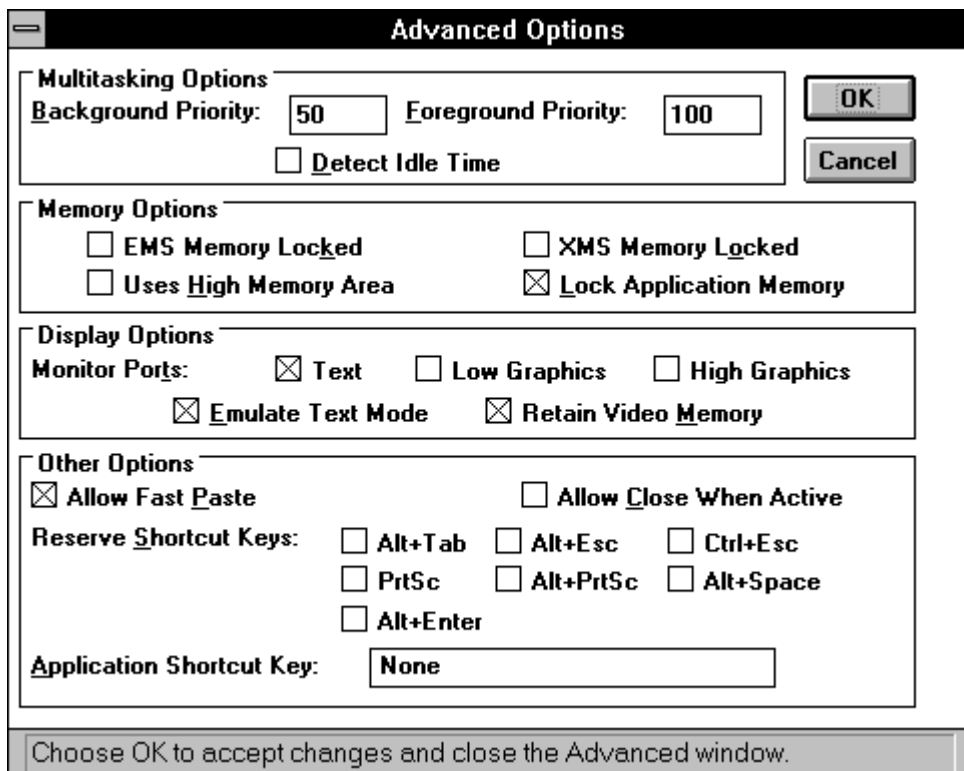
CAPSAT.EXE and Microsoft Windows

The Capsat Message Handling program may be executed under Microsoft Windows version 3.0 or later. We recommend the following steps in order to ensure trouble free execution.

1. Start-up the PIF Editor.
2. Create a PIF-file for CAPSAT.EXE. See the following pictures for set-up in 386 mode.



PIF Editor Screen - 386 Mode



PIF Editor Screen - Advanced 386 Mode

3. Save the PIF-file.
4. Make a new program item in the Program Manager.

Still there may be problems with the serial communication between the PC and the transceiver. Even at 4800 Baud characters may be lost depending on the speed of your PC. If characters are lost this way, you will be advised by the program to communicate at a lower speed, e.g. 2400 or 1200. Please refer to the chapter *Configuring the Serial Port* on page 59. If at all possible use serial boards with the National 16550 UART, as this provides a 16 byte receive FIFO.

Serial Communication

The serial communication between the PC/Message Terminal and the transceiver is vital. If characters are lost, the program will perform poorly and report 'Transceiver not connected' from time to time. If you experience this, please check the following:

1. Hardware flow control is used. If you are using a cable, that hasn't been supplied from Thrane & Thrane, please check that your cable has the connections listed below. The PC/Message Terminal is a DTE and the transceiver is a DCE.

Name	Signal description	9-Pin DCE	9-Pin DTE	25-Pin DTE
RxD	Received Data	2	2	3
TxD	Transmitted Data	3	3	2
DTR	Data Terminal Ready	4	4	20
GND	Ground	5	5	7
CTS	Clear To Send	8	8	5

2. Resident programs loaded in your AUTOEXEC.BAT may cause characters to be lost, if they disable interrupts too long. This may be true for some keyboard drivers and energy management programs on portable PCs. Remove the resident programs one by one until the problem disappears. This problem is most likely to appear when running on a very slow PC or when running the program in a DOS-window under Microsoft Windows.

The Address Book is not Saved (PC only)

The Address Book is saved, when you quit the program. If you turn off your PC without quitting, the Address Book is not saved. If you have terminated the program the correct way and the Address Book still is not saved, then there's a problem with your TMP-environment variable in your AUTOEXEC.BAT file. If the TMP-variable is set to an invalid path, you will not be able to retrieve the Address Book. Correct this and try again.

Codepages and Funny Characters

If the corners and junctions of the window frames appear as funny characters, your PC is probably set-up to use a set of characters not supporting the corners and junctions. This is the case, if you are using codepage 850. To solve the problem use for instance codepage 437. To

Troubleshooting

use codepage 437 in Denmark, requires the following lines in CONFIG.SYS and AUTOEXEC.BAT:

CONFIG.SYS:	COUNTRY=045,437,C:\DOS\COUNTRY.SYS DEVICE=C:\DOS\DISPLAY.SYS CON=(EGA,437,1)
AUTOEXEC.BAT	MODE CON CODEPAGE PREPARE=((437) C:\DOS\EGA.CPI) MODE CON CODEPAGE SELECT=437 KEYB DK,,C:\DOS\KEYBOARD.SYS

8 Bit Transmission is not Transparent

When you send or receive messages as 8 bit messages you would expect them to be identical to the original message. This may not be true as the Land Station may add a header to the message. This facility is configurable at the Trane & Thrane supplied Land Stations, so you may or may not get this problem.

Transmission Error Codes

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
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	Ressource limit exceeded
RPE	Remote protocol error
RPO	RPOA (Recognized 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

Telex Country Destinations Codes (F69)

Country Name	Code	Answerback
AFGANISTAN	79	AF
ALASKA	200	UA
ALBANIA	604	AB
ALGERIA	408	DZ
ANDORRA	590	
ANGOLA	991	AN
ANGUILLA	391	
ANTIGUA & BARBUDA	393	AK
ARAB UNITED EMIRATES	893	EM
ARGENTINE	33	AR
ATLANTIC EAST OCEAN	581	X
ATLANTIC WEST OCEAN	584	X
ASCENSION ISLAND	939	
AUSTRALIA	71	AA
AUSTRIA	47	A
BAHAMAS	297	BS
BAHRAIN	490	BN
BANGLADESH	780	BJ
BARBADOS	392	WB
BELGIUM	46	B
BELIZE	371	BZ
BENIN	972	BC
BERMUDA	290	BA
BOLIVIA	309	BV
BOTSWANA	962	BD
BRAZIL	38	BR
BRUNEI	809	BU
BULGARIA	67	BG
BURKINA FASO	978	UV
BURMA	83	BM
BURUNDI	903	BDI
CAMEROON	970	KN
CANADA	21	CA
CAPE VERDE	993	CV
CAYMAN ISLANDS	293	CP
CENTRAL AFRICAN REP.	971	RC
CHAD	976	
CHILE	34	CL, CK, CZ, CB, CT
CHINA	850	CN
CHRISTMAS ISLAND	766	
COCOS KEELING ISLAND	766	IO, KL
COLOMBIA	35	CO
CONGO	981	KG
COOK ISLANDS	772	RG

Country Name	Code	Answerback
COSTA RICA	376	CR
CUBA	28	CU
CYPRUS	605	CY
CZECHOSLOVAKIA	66	C
DENMARK	55	DK
DIEGO GARCIA	938	DG
DJIBOUTI	979	DJ
DOMINICA	394	DO
DOMINICAN REP.	201	DR
ECUADOR	308	ED
EGYPT	91	UN
EL SALVADOR	373	SR
EQUATORIAL GUINEA	999	
ETHIOPIA	980	ET
FALKLAND ISLANDS	306	FK
FAROE ISLANDS	502	FA
FIJI	701	FJ
FINLAND	57	SF
FRANCE	42	F
FRENCH GUIANA	300	
FRENCH POLYNESIA	702	FP
GABONESE REP.	973	GO
GAMBIA	996	GV
GERMANY (WAS EAST)	69	DD
GERMANY (WAS WEST)	41	D
GREECE	601	GR
GHANA	94	GH
GIBRALTAR	405	GH
GREENLAND	503	GD
GRENADA	395	GA
GUADALOUPE	299	GL
GUAM	700	GM
GUATEMALA	372	GU
GUIANA FRENCH	300	FG
GUYANA	295	GY
HAITI	203	HI
HAWAII	704	HM
HONDURAS	374	HO
HONGKONG	802	HX
HUNGARIAN	61	H
ICELAND	501	IS
INDIA	81	IN
INDIAN OCEAN	583	X
INDONESIA	73	IA
INMARSAT ATLANTIC EAST	581	X
INMARSAT PACIFIC	582	X
INMARSAT INDIAN	583	X
INMARSAT ATLANTIC WEST	584	X

Country Name	Code	Answerback
IRAN	88	IR
IRAQ	491	IK
IRELAND	500	EI
ISREAL	606	IL
ITALY	43	I
IVORY COAST	983	
JAMAICA	291	JA
JAPAN	72	J
JORDAN	493	JO
KAMPUCHEA	807	KA
KENYA	987	KE
KOREA REP.	801	K
KUWAIT	496	KT
LEBANON	494	LE
LESOTHO	963	LO
LIBERIA	997	LI
LIBYA	901	LY
LUXEMBOURG	402	LU
MACAO	808	OM
MADAGASCAR	986	MG
MALAWI	904	MI
MALAYSIA	84	MA
MALDIVES	896	MF
MALI	985	MJ
MALTA (TELEMALTA)	406	MW
MARSHALL ISLANDS	765	MS
MARTINIQUE	298	MR
MAURITANIA	974	MTN
MAURITIUS	966	IW
MEXICO	22	ME
MICRONESIA	764	FM
MONTSERRAT	396	MK
MOROCCO	407	M
MOZAMBIQUE	992	MO
NAMIBIA	908	WK
NETHERLANDS	44	NL
NETHERLANDS ANTILLES	390	NA
NEW CALEDONIA	706	NM
NEW ZEALAND	74	NZ
NICARAGUA	375	NU
NIGER	975	NI
NIGERIA	905	NG
NORWAY	56	N
OMAN	498	ON
PACIFIC OCEAN	582	X
PAKISTAN	82	PK

Country Name	Code	Answerback
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PANAMA	379	PG
PAPUA NEW GUINEA	703	NE
PARAGUAY	305	PY
PERU	36	PE
PHILIPPINES	75	PH, PM, PN
POLAND	63	PL
PORTUGAL	404	P
PUERTO RICO (RCAC)	205	PT
PUERTO RICO (AACR)	206	PD
QATAR	497	DH
REUNION	961	RE
RODRIGUEZ	825	
ROUMANIA	65	R
SAINT. LUCIA	398	LC
SAINT VINCENT	399	VQ
SAIPAN	760	MN
SALOMON ISLANDA	778	HQ
SAMOA, AMERICAN	770	SB
SAMOA, WESTERN	779	SX
SAUDI ARABIA	495	SJ
SENEGAL	906	SG
SIERRE LEONE	998	SL
SINGAPORE	87	RS
SOMALIA	900	SM
SOUTH AFRICA	95	SA
SPAIN	52	E
SRI LANKA	803	CE
SUDAN	984	SD
SURIMANE	304	SN
SWAZILAND	964	WD
SWEDEN	54	S
SWITZERLAND	45	CH
SYRIA	492	SY
TAIWAN	859	TW
TANZANIA	989	TZ
TELEMALTA	406	MW
THAILAND	86	TH
TOGOLESE	977	TO
TONGA	777	TS
TRANSKEI	968	TT
TRINIDAD & TABAGO	294	WG
TUNESIA	409	TN
TURKEY	607	TR
TURKS ISLANDS	296	TQ
U.S.S.R.	64	SU
UGANDA	988	UG

Country Name	Code	Answerback
UNITED KINGDOM	51	G

Telex Country Destinations Codes (F69)

USA (ITT)	230	UD
USA (TRT)	231	UT
USA (RCA)	232	UR
USA (GRAPHNET)	233	UB
USA (ITT)	234	UI
USA (DTS)	235	
USA (MCI)	236	UW
USA (CCI)	237	UC
USA (FTCC)	238	UF
USA (TCC)	239	UE
VANUATU	771	NH
VATICAN CITY STATE	504	VA
VENDA	95	SA, CX, VM
VENEZUELA	31	VC
VIRGIN, S. CROIX	208	VN
YEMEN (P. D. R. OF)	806	YD
YEMEN A.R.	895	YE
YUGOSLAVIA	62	YU
ZAIRE	982	ZR
ZAMBIA	902	ZA
ZIMBABWE	907	ZW

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