

OPERATOR MANUAL
VHF DSC

RM2042

SAILOR COMPACT 2000 PROGRAMME

FOR YOUR INFORMATION

All information and illustrations in this manual are based on the information available when this manual was printed.

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We make reservations concerning errors in this manual, and all specifications are subject to change without further notice.

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1.2.2 Interfaces

For use with S. P. Radio VHF transceivers (simplex as well as duplex), the DSC is equipped with a serial interface which allows for fully automatic DSC operation. This interface also works with the S. P. Radio scrambler option.

For VHF's without serial interface, the DSC has a 600 ohms balanced output plus key information for use with independent VHF units where the DSC works as an encoder.

A serial interface to navigational equipment, that conforms to the NMEA 0183 standard, is also standard.

For ships where the DSC unit is not located near the steering wheel, an S. P. Radio remote alarm box can be connected for remote control of distress calls and indication of received distress and urgency messages.

The DSC unit can furthermore be connected to a Centronics compatible line printer.

1.2.3 Call composition

Since the DSC protocol specifies a great variety of calls, the composition of the calls can be fairly complex. To ease the daily use of DSC and in order to simplify the composition of calls, your DSC is equipped with a menu operated user interface.

The calls are easily composed because of the menu operated user interface that guides you through the call composition. Likewise, the functions of the controls and their location are designed for quick and efficient operation, minimizing the risk of inadvertent activation.

The encoding of calls is divided into 'simple calls' and 'complete calls'. The simple calls need only a limited amount of information to be transmitted. This is done because most calls will be simple ship/ship or ship/shore calls where one party calls another telling that he would like to talk on a specific working channel.

The individual selective ship/ship and ship/shore calls can be best compared to ordinary telephone calls where you dial a number and wait for the called party to answer.

The complete calls contain more specific information that has to be entered before the calls can be transmitted. A call of this type could e.g. be to ships in a specific geographical area.

1.2.4 Features

Your VHF DSC includes a number of features that makes the everyday use of DSC easier.

It is possible to store frequently used calls in the built-in address book. The calls can be stored under a name that refers the call to a ship or company. A specific call is easily found by using the alphabetical search function which makes it simple to find and transmit the stored calls. The address book can contain up to 40 calls.

It is also possible to store a list of your most frequently used stations with their names and numbers, coast stations as well as mobile stations, in the built-in station register. This means that instead of remembering the

number for each station, you can use the alphabetical search function and find the name of the wanted station and use that in the call composition. The station register can contain up to 100 stations.

Real-time clock.

Channel 70 is used for digital selective calling on VHF. To ensure continuous watch on channel 70, the VHF DSC receiver modem has a separate channel 70 receiver.

If a GPS or another type of navigational equipment is connected, the ship's position will automatically be inserted in a distress call.

Used with an S.P. Radio simplex or duplex VHF transceiver, the VHF DSC gives you a fully automated system, allowing you to send automatic acknowledgments of calls and giving you access to the coast stations' automatic services.

Your VHF DSC also supports the Automatic Transmitter Identification Service (ATIS) used in the Rhine radiotelephone service. A connected S. P. Radio VHF transceiver can ask the DSC to transmit an ATIS call each time the handset key is released, or when the handset key has been pressed for more than 5 minutes.

The received calls can be printed as they arrive if a Centronics compatible printer is connected.

1.3 About the manual

This manual describes the use of the VHF DSC receiver modem. The manual is divided into three major parts 'OPERATION', 'SET-UP' and 'CALLS'.

The principles and facilities of the user interface are described in Chapter 3: 'OPERATION'.

Details about how to set-up the various functions and features of the VHF DSC are described in Chapter 4: 'SET-UP'.

It is recommended to first read the Chapter 'OPERATION' to understand the basic use of the VHF DSC. It is then an easy task to transmit calls using Chapters 5 to 11 as reference.

The chapters 12 and 13 describe the use of the address book and station register.

2 CONTROLS

When designing the controls for your VHF DSC, we have used the company's extensive knowledge/experience in manufacturing maritime communication equipment to ensure that the location and the functions of the controls are designed for quick and efficient operation. This ensures that your everyday use of the equipment becomes as easy as possible.

2.1 Design philosophy

The philosophy behind the design of the front plate has been to keep the most vital and most used information/features on the front plate in shape of keyboard keys. This gives an easy access to the equipment's main functions.

2.1.1 The keyboard

The design and placement of the keys has been done with the intent of placing keys that belong together, i.e. have related functions, into logically connected groups.

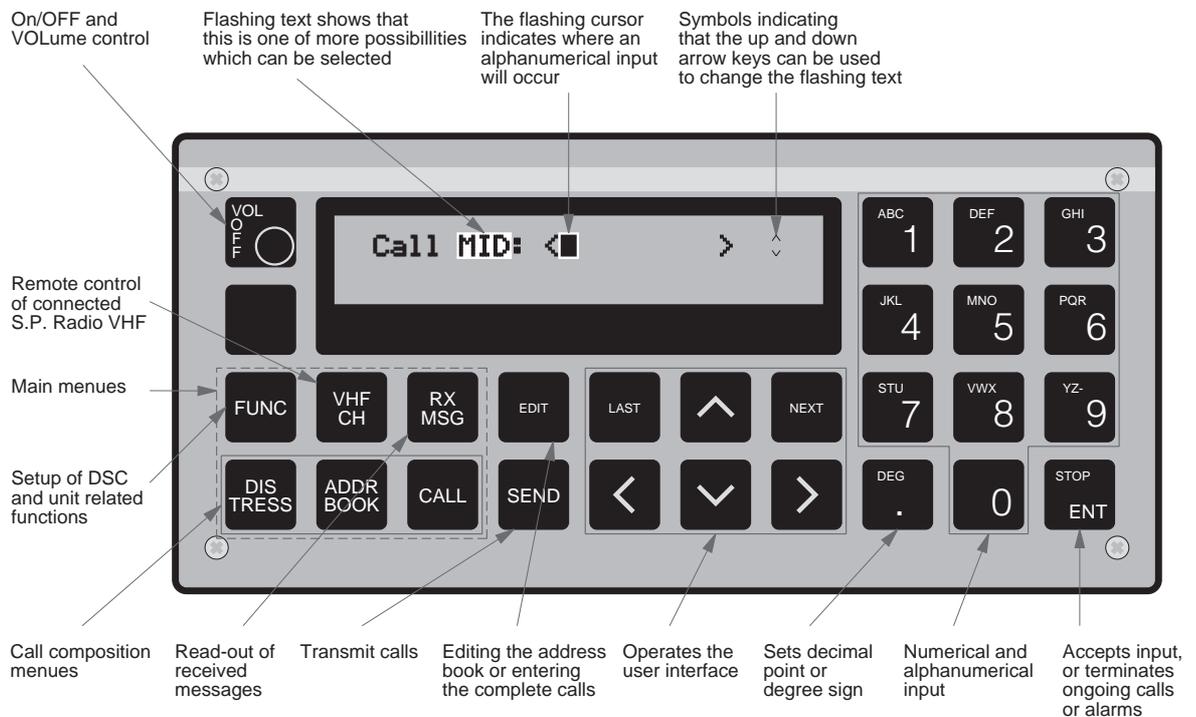
When you look at the front plate, you will note that the keys that select e.g. the main menus are placed in one group, the keys that are used to move around in the menus are placed in another and the keys used for alphanumerical input are placed in a third group.

The keys are placed in a manner that minimizes the risk of inadvertent activation of distress calls.

2.1.2 The display

In order to make the operation of the equipment as easy as possible, your VHF DSC is equipped with a fully alphanumeric LCD-display.

This makes it possible to use a menu guided user interface, making it an easy task to compose all kinds of calls, since the read-out in the menus is in plain language.



2.1.3 The menus

Your VHF DSC has of course much more features and facilities than are readily visible on the front plate. These features are selected via the main menus that are accessible from the front plate.

To give an example, pressing the **CALL** key places you in the call composition menu where it is possible to construct a simple individual (or group) call with only a limited amount of information. But by pressing **CALL** and then pressing **EDIT**, you now have access to construct any type of call that you want, containing exactly the type of information that you want.

In the same manner, pressing the **FUNC** key gives you access to a menu containing a number of functions that, when designing the front plate, were considered to be secondary and therefore only selectable through a menu. This is for instance set-up of time and display backlight.

The use of the menus is described in chapter 3.

In the following paragraph is given a short overview of which functions the various control keys give access to.

The description of the keys is likewise placed in their logical groups.

2.2 Control keys

 Volume control and On/Off switch for the main supply.

 The **FUNC** key for the main menu, gives access to the sub-menus containing the functions to set-up the VHF DSC. The choices of sub-menus are:

Display Display set-up menu, used to change illumination and read-out angle.

Position Gives access to enter/edit/view the ship's position.

Station Gives access to enter new stations into the station register.

Time Gives access to set/edit time zone and the internal UTC clock.

Test Makes an internal device test.

Print Gives access to print-out the distress and ordinary call's message buffers. The address book, the station register and the unit set-up can also be printed.

Options Gives access to different service programmes.

 Selects the distress menu.

  When pressed simultaneously, the distress call is transmitted.

    These four keys reset the VHF DSC to a known start menu, selected by the choice of key.

 If an S.P. Radio VHF transceiver is connected, this menu allows you to control the VHF channel setting from the DSC.

 Selects the address book menu, where you can transmit the stored calls.

  Selects the address book edit menu, where you can edit the content of the address book.

 Selects the received calls menu. The calls are separated into distress and ordinary calls.

 Selects the menu for simple ship/ship or ship/shore calls.

Select the menu for complete ship/ship or ship/shore calls.

 The edit key can only be used as shown together with the two main keys **ADDRBOOK** and **CALL**, and when using 'FUNC - Position' where you must press **EDIT** to change a position previously stored.

 Starts the transmission of the DSC call.

The left and right arrows are used to move the cursor from item to item in the menus, while **NEXT** and **LAST** are used to select the next or previous menu.

 Returns to the previous menu, until the main menu is reached.

 Moves the cursor to the left. If the cursor is placed in an input field, the information is deleted.

 Moves the cursor to the right.

 When the small \uparrow arrow is shown in the display, the up and down arrows can be used to toggle between choices in the menu.

 When the small \downarrow arrow is shown in the display, the up and down arrows can be used to toggle between choices in the menu.

 Is used to accept the data currently shown in the display, and continue to the next menu.

 Digits from 0 to 9, or letters from A to Z, depending on the type of requested input.

 Used to accept information in a field, and move on to the next field, or to abort the transmission of a DSC call.

 Sets the decimal point or the degree sign.

3 OPERATION

3.1 General operation

Your S.P Radio VHF DSC modem is menu operated, and therefore easy to use.

The menus use plain language and the design philosophy has been to minimize the number of menus used to compose a call. This makes your everyday use of the VHF DSC easy, because this limits the amount of information to remember.

The main menus are selected by means of the menu keys on the front plate i.e. **FUNC**, **VHF/CH**, **RX/MSG**, **DISTRESS**, **ADDRBOOK** and **CALL**.

In the main menu, you can move around in the sub-menus with the arrow keys **<**, **>**, **^**, **v** and the **NEXT** and **LAST** keys. With **NEXT** you choose the next sub-menu and with **LAST**, you return to the previous menu.

In some menus you have to select the information, and in others you have to input the information. An item is selected if it is flashing in the display, and the selection can be changed by means of the arrow keys. You accept the selection when you press **NEXT** in order to proceed with the next sub-menu. Where inputs are expected, the numerical keyboard is used to enter either digits or letters depending on the type of input.

3.2 Menu operations

The following gives 3 examples of how the keys are used when operating the user interface.

3.2.1 Using the arrow keys

The **<** and **>** arrow keys are used to move around in menus where you have to make a selection.

In the shown menu you can move from the option *Display* to the option *Position* by pressing the **>** arrow key.

If instead you wanted to move from the option *Display* to the option *Options* you could have pressed the **<** key once or the **>** key six times. The **^** and **v** keys have no function in this type of menu.

The **^** and **v** arrow keys are used in menus where more information than shown in the display is accessible and can be scrolled into the display by means of the **^** and **v** keys. This is always shown in the display by means of a pair of small up/down arrows in either the upper or lower right corner of the display.

Main menu keys:



Cursor/menu control keys:



Input keys:



Press **FUNC**



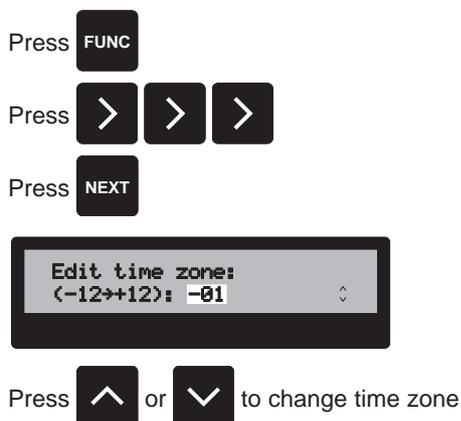
Press **>**



Press **FUNC** **<**



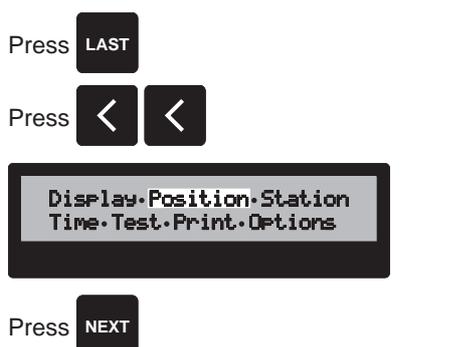
An example is the selection of time zone: Press **FUNC**, move the cursor until *Time* is flashing and press **NEXT**. By pressing the \wedge and \vee keys, the flashing time zone option in the lower line be changed from -12 to +12.



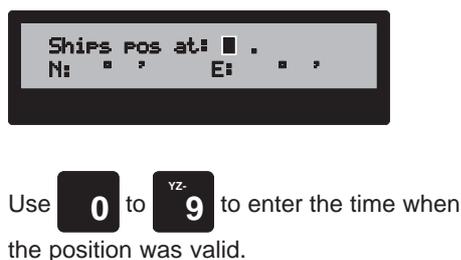
3.2.2 Entering digits

Some menus require you to input numerical data. This is for example the case with MID-numbers and position information. The following example shows the input sequence for ships' position information.

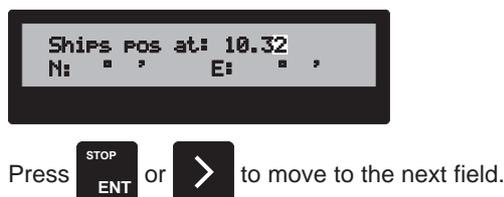
Press **LAST**, move the cursor until *Position* is flashing and press **NEXT**.



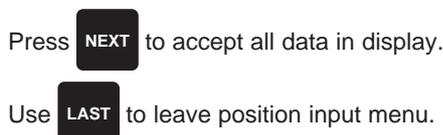
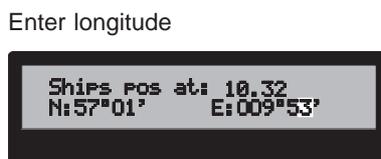
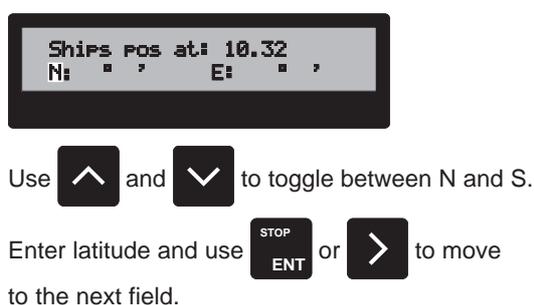
The cursor is now flashing which indicates that an input is expected; this case you have to enter the time when the position was valid. Use the numerical keyboard to enter the time. If you enter an incorrect digit, you can delete the digit by pressing the \leftarrow key.



When you have filled in the time, the cursor is flashing on the last digit of the time field. To move on to the next input field, press **ENT** or \rightarrow .



The cursor is now flashing on *N/S*. The small up/down arrow symbol is shown in the lower right corner of the display symbolizing that the \wedge and \vee keys can be used to toggle between *N*(orth) and *S*(outh). The arrow symbol is only present when it is possible to use the \wedge or \vee keys. When the hemisphere is correct, just start entering the latitude. Press **ENT** or \rightarrow to move the cursor to *E/W* (can be changed with the \wedge and \vee keys). Press **ENT** or \rightarrow to enter the longitude. You have now entered the entire position information.



Press **NEXT** to accept and store the input or press **LAST** to discard the input and return to the previous menu.

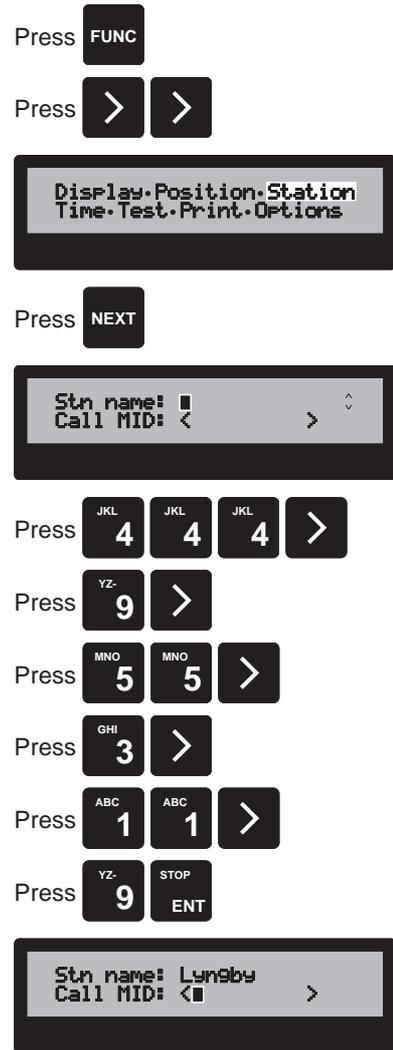
3.2.3 Entering letters

Some menus require you to input letters. This is the case when you enter new stations in the station register and calls in the address book and when you use the alphabetical search function. The following example shows the input sequence for entering a new name in the station register.

Press **FUNC**, move the cursor until *Station* is flashing and press **NEXT**. The cursor is now flashing in the input field after *Stn name*, where the name is to be entered. Each number key holds up to three letters. So if you e.g. want to store the station 'Lyngby' in the station register, locate the key that holds the letter L which is the key with the digit 4. Press 4 once to write a J or three times if you want to write an L. Use > to move to the next letter. Press 9 to write a y etc. < can be used to delete erroneously entered letters.

If the name of the new station has two words, press > twice to separate the words. The first character of the second word will then be written in capitals.

Accept the name by pressing **ENT**, and the cursor will move to the second line where you are prompted for the 9 digit MID number.



4 SET-UP

4.1 Change display light and read-out angle

The display light and read-out angle can be set/modified by pressing **FUNC**.

The option 'Display' is now flashing in the display. Press **NEXT** to select this option.

The display illumination/keyboard light can be set in four steps 0 - 3, when the digit following the 'Light:' option is flashing. 0 is no display illumination/keyboard light. 1 is lowest display illumination and keyboard light on. 2 is medium display illumination and no keyboard light. 3 is full display illumination and no keyboard light. Use \wedge and \vee or the numerical keyboard to set the desired value.

Use the \leftarrow or \rightarrow key to change to the setup of display view angle.

The digit following the 'View angle:' option is now flashing. The view angle can be set in ten steps 0 - 9. If the unit is mostly seen from the top, a large value is recommended. If the unit is mostly seen from the bottom, a small value is recommended. Use \wedge and \vee or the numerical keyboard to set the desired value. Press **NEXT** to confirm and return to the original menu.

Press **FUNC**



Press **NEXT**



Change with \wedge or \vee or **0** to **3**

Move from item to item with \leftarrow and \rightarrow



Change with \wedge or \vee or **0** to **9**

Move from item to item with \leftarrow and \rightarrow

Press **NEXT** to confirm the setup.

4.2 Enter/change position information

This is not necessary if a GPS or similar navigational equipment is connected or a S.P. Radio alarm unit with a GPS is connected.

The position information can be entered/modified by pressing **FUNC**.

The option 'Display' is now flashing in the display. Press **>** to make the option 'Position' flash. The option can now be selected by pressing **NEXT**.

If navigational equipment is connected, the display now shows the ship's latest known valid position along with the time the position was valid. The position resolution is typically 1/100 of a minute. If the position has previously been manually entered, the position resolution is only 1 minute. If no navigational equipment is connected, and the position has not previously been entered, the cursor is flashing where the time is to be entered.

Start by pressing **EDIT**. It is now possible to enter/edit the latest known position and the time the position was valid, using the numerical keyboard.

When an input field has been filled in, press **ENT** to accept the information in the field, or press **>** to move to the following field without accepting the data.

When the cursor is flashing on the N or E, **^** and **v** can be used to toggle between N/S, and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the **^** or **v** keys.

The **<** key is used to delete erroneously entered data.

When the position has been entered, press **NEXT** to accept and store the position, or else press **LAST** to discard the changes.

Press **FUNC** **>**



Press **NEXT**



Press **EDIT** to start editing.

Use **0** to **9** to enter time and position.

Use **ENT** to accept data in a field.

Use **>** to move to the next field.

Use **<** to delete data.

Use **^** and **v** to toggle between N/S and E/W.

Press **NEXT** to accept all data in display and store.

Press **LAST** to discard changes and return to the main options menu.

4.3 Set-up time

The time can be set/modified by pressing **FUNC**.

The option 'Display' is now flashing in the display. To select the option 'Time' press < or > a number of times, until the option 'Time' is flashing. The option can now be selected by pressing **NEXT**.

The first item to be set is the time zone. This is done by pressing ^ or v a number of times, until the zone is correct. Then press **NEXT** to accept the time zone and set-up the UTC time.

The next menu enables you to edit the UTC time and date. The left and right arrows are used to move from e.g. hours to minutes. ^ and v are used to increment or decrement the currently selected item. When the UTC time and date are correct press **NEXT** to accept.

Press **FUNC** > > >

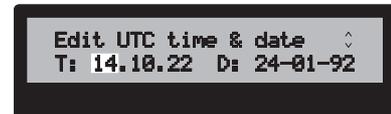


Press **NEXT**



Change with ^ or v

Accept with **NEXT**



Increment with ^ decrement with v

Move from item to item with < and >

Accept with **NEXT**

4.4 View identification numbers

The unit's MID and common interest (group) numbers can be found by pressing **FUNC**.

Press **FUNC** 

The option 'Display' is now flashing in the display, press < to change to the option 'Options'. When 'Options' is flashing, press **NEXT** to select.



Display Position Station
Time Test Print Options

Press **NEXT** 

You are now in the options menu. This menu is used to change between the various options. The selected option can be changed by pressing \wedge or \vee . When the option 'Identification numbers' is flashing, press **NEXT** to select.



Options: ∇
Identification numbers

Press **NEXT** 

The ship's nine digit MID number is now displayed. To view the ship's common interest (group) numbers press \wedge or \vee a couple of times. It is not possible for the user to change the identification numbers. Press **LAST** to return to the 'Options' menu.



Ship MID <219123456> ∇

Use  and  to view groupe numbers.

Press **LAST**  to return.

4.5 View the type of VHF installation

The type of the VHF connected must be set correctly to communicate correct with the VHF transceiver. The type of VHF can be viewed by pressing **FUNC**.

The option 'Display' is now flashing in the display. Press **<** to change to the option 'Options'. When 'Options' is flashing press **NEXT** to select.

You are now in the options menu. The **^** and **v** keys are used to change between the various options. Press **^** to make the option 'VHF settings' flash on the second line of the display, and press **NEXT** to select this option.

It is not possible for the user to set-up or alter the type of connected VHF transceiver.

Press **FUNC** **<**

```
Display·Position·Station
Time·Test·Print·Options
```

Press **NEXT** **^**

```
Options:
VHF settings
```

Press **NEXT**

```
Type of VHF:
SP simplex, serial if.
```

4.6 Automatic acknowledgment of calls

If a S.P. Radio VHF transceiver is connected, the VHF DSC can operate in automatic mode. This means that the VHF DSC automatically sends acknowledgments of received individual calls. It is possible for the operator to select whether this option is wanted.

To set-up the option concerning automatic acknowledgment of individual calls press **FUNC**.

The option 'Display' is now flashing in the display. Press < to change to the option 'Options'. When 'Options' is flashing press **NEXT** to select.

You are now in the options menu. The \wedge and \vee keys are used to change between the various options. Press \wedge twice to make the option 'Acknowledge of calls' flash on line two of the display, and press **NEXT** to select this option.

The following menu is used to select whether you want automatic acknowledgments of received individual calls. If you want automatic acknowledgments use < or > to make 'Yes' flash, and press **NEXT** to store. If you do not want automatic acknowledgments of received individual calls select 'No' and press **NEXT** to store.

If you selected automatic acknowledgment, you can select your position to be inserted automatically in the acknowledgment call. If you want the position inserted, use < or > to make 'Yes' flash, and press **NEXT** to store. If you do not want the position to be inserted in the acknowledgment call use < or > to make 'No' flash and press **NEXT** to store. If the calling station proposes a working channel in the call, the working channel will be inserted in the call if the channel is valid. If the channel is invalid, the acknowledgment call will contain the telecommands 'Unable to comply' - 'Unable to use channel'. If the proposed mode of subsequent communication is invalid, the acknowledgment call will contain the telecommands 'Unable to comply' - 'Unable to use mode'.

You can select automatic acknowledgments of polling calls. If you want automatic acknowledgment select 'Yes' or else select 'No' and press **NEXT** to store.

Press **FUNC** <



Press **NEXT** \wedge \wedge



Press **NEXT**



Use < and > to change.

Press **NEXT** to store.



Use < and > to change.

Press **NEXT** to store.



Use < and > to change.

Press **NEXT** to store.

You can select automatic acknowledgment of ship's position registration update calls. If you will allow automatic acknowledgment select 'Yes' or else select 'No' and press **NEXT** to store.

A screenshot of a menu displayed on a screen. The text reads "Auto ackn. of ships pos update calls? Yes.No". The text is in a monospaced font and is centered on a light gray background within a black border.

Use  and  to change.

Press  to store.

If you make an automatic telephone call to a coast station (Chapter 9), but the coast station is occupied and responds with a 'busy message', the coast station might make an automatic ring-back within a period of 15 min. to comply with the telephone call. You can select automatic acknowledgment of such a ring-back call. If you will allow automatic acknowledgment select 'Yes' or else select 'No' and press **NEXT** to store.

A screenshot of a menu displayed on a screen. The text reads "Auto ackn. of coast stn ring-back calls? Yes.No". The text is in a monospaced font and is centered on a light gray background within a black border.

Use  and  to change.

Press  to store.

4.7 Printer set-up

If a printer is connected, you can have the calls printed out as they arrive. To set-up the options concerning automatic print-out of received calls press **FUNC**.

The option 'Display' is now flashing in the display. Press **<** to change to the option 'Options'. When 'Options' is flashing press **NEXT** to select.

You are now in the options menu. The **^** and **v** keys are used to change between the various options. Press **^** three times to make the option 'Printer settings' flash on line two of the display, and press **NEXT** to select this option.

There are three modes for the printer: On, Off and Test Mode. If the printer is 'On', you can have the messages automatically printed out in clear text as they arrive. If no printer is connected, select the option 'Off'. The 'Test mode' option prints out the symbol numbers in the incoming call regardless of the call might be erroneous or directed to somebody else. This option is used for test by the national telecommunication administrations and has no operational use.

You can now choose the number of characters on the printout. If you have a standard printer, select the 80 characters pr. line mode. If you have a small and narrow printer with fx. 24 or 40 characters pr. line, select the 24 characters mode and press **NEXT** to store.

Note that the connected printer must be Centronics compatible.

Press **FUNC** **<**



```
Display Position Station
Time Test Print Options
```

Press **NEXT** **^** **^** **^**



```
Options:
Printer settings
```

Press **NEXT**



```
Auto Rxt156 Print-out:
On Off Test mode
```

Use **<** and **>** to change.

Press **NEXT** to store.



```
Number of characters on
line: 24 80
```

Use **<** and **>** to change.

Press **NEXT** to store.

4.8 Set-up of alarms

When a call is received the VHF DSC display flash a text which indicate the kind of the received call. At the same time an audible alarm sounds. It is possible to disable the audible alarm for all calls except distress and safety calls. If a S.P. Radio VHF transceiver is connected, the VHF can be used to give a more powerful alarm.

To set-up the options concerning audible alarms press **FUNC**.

The option 'Display' is now flashing in the display. Press **<** to change to the option 'Options'. When 'Options' is flashing press **NEXT** to select.

You are now in the options menu. The **^** and **v** keys are used to change between the various options. Press **^** four times to make the option 'Alarms' flash on line two of the display, and press **NEXT** to select this option.

If you want to disable the audible alarm use **<** or **>** to make the option 'Yes' flash in the display. If you do not want to disable the alarm select 'No' and press **NEXT** to store and continue.

If you want to use the VHF transceiver for the audible alarm, use **<** or **>** to make the option 'Yes' flash in the display, or else select 'No' and press **NEXT** to store and continue.

Press **FUNC** **<**



Display • Position • Station
Time • Test • Print • Options

Press **NEXT** **^** **^** **^** **^**



Options: v
Alarms

Press **NEXT**



Disable audio alarm (not
dist. & safety)? Yes.No

Use **<** and **>** to change.

Press **NEXT** to store.



Use VHF for audio
alarm? Yes.No

Use **<** and **>** to change.

Press **NEXT** to store.

4.9 Set-up warning time for old position

If a GPS or a similar navigational equipment is connected to the VHF DSC, the ship's position is automatically inserted in a call where and when it is needed or requested. If however the GPS lacks connection to the satellites, the position can be more or less out of date. For that reason it is possible to set-up a maximum time for how old the ship's position must be for automatic insertion in the call. If the position is older than the specified number of minutes, the operator is asked to accept the known old position or to edit/enter the position.

To set-up the warning time press **FUNC**.

The option 'Display' is now flashing in the display. Press **<** to change to the option 'Options'. When 'Options' is flashing press **NEXT** to select.

You are now in the options menu. The **^** and **v** keys are used to change between the various options. Press **v** twice to make the option 'Warning for old position' flash on line two of the display, and press **NEXT** to select this option.

You can now enter the number to show how old you will allow a position to be in minutes using the numerical keyboard. The maximum value is 255 minutes equal to 4 hours and 15 minutes.

Press **FUNC** **<**



Display·Position·Station
Time·Test·Print·Options

Press **NEXT** **v** **v**



Options: **Warning for old position**

Press **NEXT**



Warn when position is
older than: 120 minutes.

Use **0** to **9** to change.

Press **NEXT** to store.

4.10 View software version

The unit's software version can be found by pressing **FUNC**.



The option 'Display' is now flashing in the display, press < to change to the option 'Options'. When 'Options' is flashing, press **NEXT** to select.



You are now in the options menu. This menu is used to change between the various options. The selected option can be changed by pressing ^ or v. Press v to make the option 'Version' flash, then press **NEXT** to select.



5 DISTRESS CALL

A distress call contains the following information:

- Type of distress
- MID number of the ship in distress
- Position and
- Valid time of position.

If a GPS is connected, the position and time are automatically inserted in the call. If no position information is available or if the position is older than the user selected time, the user is prompted to enter/edit/accept the position.

5.1 Undesignated distress

A distress call can be transmitted at any time by pressing **DISTRESS** and **SEND** simultaneously. The nature of distress will then be an undesignated distress, and if a position is stored in the unit, this position will automatically be inserted in the call.



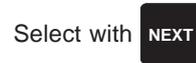
5.2 Complete distress call

5.2.1 Nature of distress

It is possible for the user to manually insert the nature of distress in the call. The nature of distress menu is found by pressing **DISTRESS**.

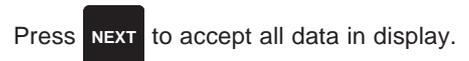
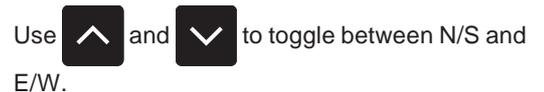
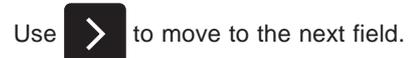
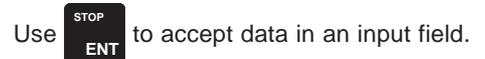
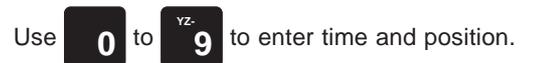


It is now possible to use \wedge and \vee to find the appropriate nature of distress. The nature of distress is selected by pressing **NEXT**.



5.2.2 Position information

If no position is stored in the unit, the user can enter the latest known valid position and the valid time of the position. If position is unknown, press **NEXT** to continue. A known position is entered by means of the numerical keyboard. When an input field, e.g. the time, is entered, press **ENT** to confirm and you move to the next input field or you can use \gt to move to the next field. \lt is used to delete erroneously entered data. When the position has been entered press **NEXT**.



5.2.3 Transmission

The unit is now ready to transmit a distress call with the selected information. The call is sent by pressing **DISTRESS** and **SEND** simultaneously for 5 sec.

A distress transmission consists of the transmission of 5 consecutive identical distress calls and takes approximately 3 sec. (five times the length of an ordinary call). The call can at any time be terminated by pressing **STOP**. If **STOP** is pressed, the call is considered incomplete and the unit will return to normal operation.

If a S.P. Radio VHF radiotelephone is connected, the DSC unit will automatically switch the radiotelephone to the international distress frequency, i.e. VHF channel 16, after transmission of the distress call.

When the distress call has been transmitted, the DSC unit monitors channel 70 for distress acknowledgment calls. The unit will automatically continue to transmit distress calls with a random delay of 3 1/2 to 4 1/2 minutes until a distress acknowledgment call is received. The user can at any time terminate the retransmission cycle by pressing any key. During the actual retransmission of the call, just pressing **STOP** will terminate the call.

When a distress acknowledgment call has been received, the automatic retransmission cycle is cancelled, the display starts to flash and the audible alarm sounds. To stop the audible alarm and view the received distress acknowledgment call press **NEXT**.

You are now in the **RXMSG** menu, where the information from the received call can be viewed by pressing **NEXT** a couple of times.



Press  and 

During transmission the display shows:

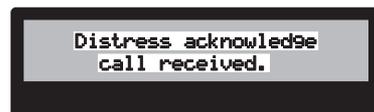


Press  if you want to terminate call.

During retransmission cycle the display shows:



Press any key if you want to terminate retransmission cycle.



Press 



Press   ...

6 DISTRESS RELAY

There are two ways of creating a distress relay call.

Firstly, standing in the **RXMSG** menu and receiving a distress call without an acknowledgment, and if the distress call is not more than 5 minutes old, you can transmit a distress relay call. This way of transmitting distress relays is described in chapter 11.2.

Secondly a self composed distress relay call which can be one of four different calls depending on the type of address.

The call consists of an address, a category (Distress), a telecommand (Distress relay), the MID number of the ship in distress (if known), and the position of the ship in distress, along with the nature of distress.

To select the call menu, press **CALL**. You are now in the simple call menu.

To start entering the information in the distress relay call, press **EDIT**.

The following menu is for selecting the type of call. Use > to change to the option 'Distress' and press **NEXT** to select.

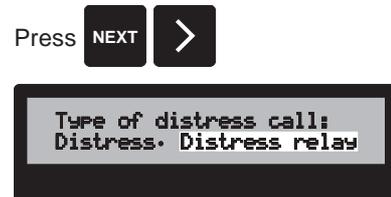
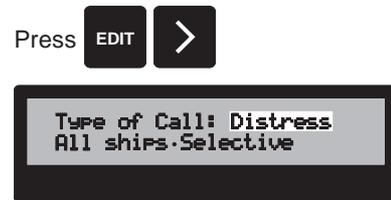
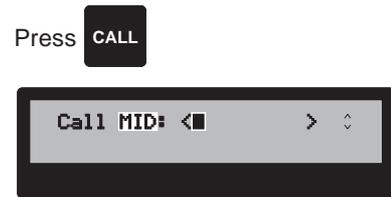
This menu is to select between a distress call or a distress relay call. Press < or > to make the option 'Distress relay' flash, and press **NEXT** to select.

6.1 Selecting the address

As mentioned above, you can choose from four different kinds of addresses for the distress relay call. Use < and > to change between the various options, and press **NEXT** to select.

6.1.1 Call to all stations

If 'All ships' is selected, it is not necessary to enter further address information.



6.1.2 Call to geographical area

The geographical area to be called, can now be entered using the numerical keyboard. The area to be described is defined with the coordinates of the left upper corner (N/W-corner) and in degrees of latitude and longitude. The reference point is the values entered after N: and E:. The vertical side length is the value entered after the first Δ and the horizontal side length is the value entered after the second Δ .

When an input field is filled in, press **ENT** to accept the information in the field, or press **>** to move the cursor to the following field without accepting the data.

When the cursor is flashing on N or E, \wedge and \vee can be used to toggle between N/S, and E/W. This is symbolized by the small up/down arrow in the upper right corner of the display. This arrow is only present when it is possible to use the \wedge or \vee keys.

The **<** key is used to delete erroneously entered data.

When the geographical area has been entered, press **NEXT** to accept, or else press **LAST** to discard.



Use **0** to **9** to enter geographical area.

Use **STOP ENT** to accept data in a field.

Use **>** to move to the next field.

Use **<** to delete data.

Use **\wedge** and **\vee** to toggle between N/S and E/W.

Press **NEXT** to accept all data in display.

Press **LAST** to discard changes and return.

6.1.3 Call to group of ships

If 'Group' has been selected, the nine digit group number of the ships to be called, can now be entered using the numerical keyboard. Note that group numbers always starts with a '0'. **<** can be used to delete erroneously entered data. When the group number has been entered press **NEXT** to accept.



Use **0** to **9** to enter group number.

Use **<** to delete.

Press **NEXT** to accept.

6.1.4 Call to individual station

If 'Individual' has been selected, the following menu shall be used to enter the address of the party to call. The three letters text after 'Call' should be flashing. If the text does not flash, press **<** a number of times, until it does.

Use **<** to delete old information.

6.1.4.1 Entering a MID number

If the flashing text reads 'stn', use \wedge or \vee to change the flashing text to 'MID'. When 'MID' is flashing, the nine digit MID number of the ship to be called, can be entered using the numerical keyboard. **<** may be used to delete erroneously entered data. When the MID number has been entered press **NEXT** to accept.



Use **\wedge** and **\vee** to toggle from 'stn' to 'MID'.

Use **0** to **9** to enter MID number.

Use **<** to delete.

Press **NEXT** to accept.

6.1.4.2 Selecting a pre-programmed station

If the text flashing reads 'MID', use \wedge or \vee to change the text to 'stn'. When the text 'stn' is flashing, it is possible to select a station stored in the station register using the numerical keyboard.

Press the key that holds the first letter of the station. If the station register is empty, a message is displayed, or else a station that starts with the selected letter appears on the first line of the display. Use \vee to search backwards or use \wedge to search forward alphabetically.

When the wanted station is displayed, press **NEXT** to select.



Use \leftarrow to delete.

Use \wedge and \vee to toggle from 'MID' to 'stn'.

Use $\overset{\text{ABC}}{1}$ to $\overset{\text{YZ}}{9}$ to select a letter.



Use \wedge to search forward alphabetically.

Use \vee to search backwards alphabetically.

Use \leftarrow to delete.

Press **NEXT** to accept.

6.2 Selecting the nature of distress

Now it is possible to use \wedge and \vee to find the appropriate nature of distress. The nature of distress is selected by pressing **NEXT**.



Change with \wedge and \vee

Select with **NEXT**

6.3 Entering the number of the ship in distress

The following menu is used to enter the MID number of the ship in distress. If the ship's MID number is unknown, press **NEXT** when 'Unknown' is flashing. If the MID number is known, press \leftarrow or \rightarrow so a cursor occurs where the MID number is to be entered. Now enter the MID number using the numerical keyboard. \leftarrow can be used to delete erroneously entered data. When the MID number is correctly entered, press **NEXT**.



Use \rightarrow to change between 'Unknown' and MID number.

Use $\overset{\text{0}}{0}$ to $\overset{\text{YZ}}{9}$ to enter MID number.

Use \leftarrow to delete.

Press **NEXT** to accept.

6.4 Position information

If the position of the ship in distress is known, it can be entered using the numerical keyboard. When an input field, e.g. the time, is entered, press **ENT** to accept and move to the next input field or use **>** to move to the next field. **<** is used to delete erroneously entered data. When the position has been entered press **NEXT**. If the position is unknown, just press **NEXT** to continue.



Use **0** to **9** to enter time and position.

Use **STOP ENT** to accept data in an input field.

Use **>** to move to the next field.

Use **<** to delete data.

Use **^** and **v** to toggle between N/S and E/W.

Press **NEXT** to accept all data in display.

6.5 Transmission

Before the distress relay call can be transmitted, the distress relay call may be confirmed. Press **<** to select Yes and **NEXT** to confirm. The unit is now ready to transmit a distress relay call with the selected information. Press **SEND** to transmit the call.



Press **SEND** to transmit call.

The call takes approximately 0.7 second.



Use **STOP ENT** to abort call.

The call can be aborted by pressing STOP.

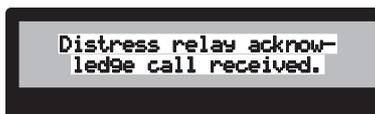


If the distress relay call is not directed to a coast station, the call is only transmitted once, and the unit does not wait for an acknowledgment.



Press any key to terminate retransmission cycle.

If the distress relay call is directed to a coast station, the VHF DSC will now be stand by for a distress relay acknowledgement from the coast station. If an acknowledgment is not received from the coast station within 5 minutes, the call is retransmitted. If an acknowledgment is not received within the following 5 minutes, the call is considered incomplete, and a new call must be initiated manually. The retransmission cycle can be terminated by pressing any key.



Press **NEXT**

When an acknowledgment call has been received, a possible retransmission cycle is cancelled, the display starts to flash, and the audible alarm sounds. To stop the audible alarm and view the received acknowledgment call, press **NEXT**.



Press **NEXT** **NEXT** ...

You are now in the **RXMSG** menu, where the information in the received call can be viewed by pressing **NEXT** a couple of times.

7 STANDARD CALL

An individual digital selective call consists of: the address i.e. the MID number of the party to call, a category, a first message (two telecommands), a second message e.g. a proposed work channel or the ship's position and information that tells if acknowledgment of the call is requested. The above information has to be entered by the user.

In the standard call, the unit automatically fills in some of the information. This kind of call is used for ship/ship and ship/shore calls where acknowledgement is requested, and can be compared to an ordinary telephone call.

Press **CALL** to start entering the necessary information.

The following menu is used to enter the address of the party to call. The three letters text after 'Call' should be flashing. If the text does not flash, press < a number of times, until it does.

7.1 The call menu

7.1.1 Entering a MID number

If the flashing text reads 'stn', use \wedge or \vee to change the flashing text to 'MID'. When the text 'MID' is flashing, the nine digit MID number of the ship to be called, can be entered using the numerical keyboard. < can be used to delete erroneously entered data. When the MID number has been entered press **NEXT** to accept.

7.1.2 Selecting a pre-programmed station

If the flashing text reads 'MID', use \wedge or \vee to change the flashing text to 'stn'. When the text 'stn' is flashing, a station stored in the station register can be selected using the numerical keyboard.

Press the key which represents the first letter of the station. If the station register is empty, a message is displayed, else a station that starts with the selected letter appears on the first line of the display. If it is not the correct station use \vee to search backwards or \wedge to search forward alphabetically.

When the correct station is displayed, press **NEXT** to select.

Press **CALL**

Use  to delete old information.



Use  and  to toggle from 'stn' to 'MID'.

Use **0** to **9** to enter MID number.

Use  to delete.

Press **NEXT** to accept.



Use  to delete.

Use  and  to toggle from 'MID' to 'stn'.

Use **1** to **9** to select a letter.



Use  to search forward alphabetically.

Use  to search backwards alphabetically.

Use  to delete.

Press **NEXT** to accept.

7.2 Selecting an additional message

In the standard call, the category of the call is automatically inserted as 'routine' and the first message, which consists of two telecommands, are automatically entered with the type of following communication i.e. 'F3E simplex' and 'no information'. If however the call is directed to a coast station and a S.P. Radio duplex VHF is connected, you have the choice between 'F3E Simplex', 'F3E Duplex' and 'Data Duplex'.

An additional message (the second message) can now be selected. Use < or > to change between the three options and press **NEXT** to select.



Use  and  to change.

Press  to select.

7.2.1 Position information

If the option 'Position' is selected and a GPS is connected, the position is automatically inserted in the call. If no GPS is connected, and the position has not previously been entered or the position is older than an user defined time, the cursor is flashing where the time is to be entered.

When an input field is filled in, press **ENT** to accept the information in the field, or press > to move to the following field without accepting the data.

When the cursor is flashing on N or E, ^ and v can be used to toggle between N/S, and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the ^ or v keys.

The < key is used to delete erroneously entered data.

When the position has been entered, press **NEXT** to accept and store the entered position and continue the input sequence, or press **LAST** to discard the input and return to the previous menu.



Use  to  to enter time and position.

Use  to accept data in an input field.

Use  to move to the next field.

Use  to delete data.

Use  and  to toggle between N/S and E/W.

Press  to accept all data in display.

Use  to leave position input menu.

7.2.2 Working channel

If the option 'Work chan' is selected, you can enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephones currently selected channel is proposed, but you can of course enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering another channel number here you also change the channel on the VHF.

NEXT is used to accept the channel number and continue the input sequence, **LAST** returns you to the previous menu.



Use  to  to enter channel no.

Press  to accept and continue.

Press  to discard and return.

7.2.3 No additional message

If you do not want an additional message, select 'Omit' and press **NEXT**. The second message will then be inserted in the call as 'no information'.

7.3 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check if the channel is free.

If the channel is free, the call is immediately transmitted. The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.

When the call has been transmitted, the VHF DSC monitors channel 70 for an acknowledgment of the call. If an acknowledgment is not received within 5 min., the call is retransmitted. If an acknowledgment is not received within the following 5 min., the call is considered to be incomplete, and you must manually initiate a new call.

When an acknowledgment call has been received, a possible retransmission cycle is cancelled, the display starts to flash, and the audible alarm sounds for 10 sec. To stop the audible alarm and view the received acknowledgment call, press **NEXT**.

You are now in the **RXMSG** menu, where the information in the received call can be viewed by pressing **NEXT** a couple of times.



Call: <219123456>
Press SEND for call

Press **SEND** to transmit call.



Call in Progress

Use **STOP ENT** to abort call.



Waiting for acknowledge.

Press any key to terminate retransmission cycle.



Acknowledge
call received.

Press **NEXT**



01 Feb 92 17:59 Acknow
Individual F3E Simplex

Press **NEXT NEXT ...**

8 EXTENDED CALL

8.1 Individual call

An individual digital selective call consists of: the address i.e. the MID number of the party to call, a category, a first message (two telecommands), a second message e.g. a proposed work channel or the ship's position and information that tells if acknowledgment of the call is requested.

In the extended individual call, **all** of the above information has to be entered by the user. If you do not need to transmit a specific category or telecommand, you might as well use the simple individual call.

To select the call menu, press **CALL**. You are now in the simple call menu.

To start entering the information in the extended call, press **EDIT**.

The following menu is used to select the type of call. Press **NEXT** to make a 'Selective' call.

This menu is used to select the kind of address in the call. Press **NEXT** to select 'Individual'.

The following menu is used to enter the address of the party to call. The three letter text after 'Call' should be flashing. If the text does not flash, press < a number of times, until it does.

8.1.1 The call menu

8.1.1.1 Entering a MID number

If the flashing text reads 'stn', use \wedge or \vee to change the flashing text to 'MID'. When the text 'MID' is flashing, the nine digit MID number of the ship to be called, can be entered using the numerical keyboard. < can be used to delete erroneously entered data. When the MID number has been entered press **NEXT** to accept.

Press **CALL**



Press **EDIT**



Press **NEXT**



Press **NEXT**

Use **<** to delete old information.



Use **\wedge** and **\vee** to toggle from 'stn' to 'MID'.

Use **0** to **9** to enter MID number.

Use **<** to delete.

Press **NEXT** to accept.

8.1.1.2 Selecting a pre-programmed station

If the flashing text reads 'MID', use \wedge or \vee to change the flashing text to 'stn'. When the text 'stn' is flashing, it is possible to select a station stored in the station register using the numerical keyboard.

Press the key which represent the first letter of the station. If the station register is empty, a message is displayed, or else a station that begins with the selected letter appears on the first line of the display. If it is not the correct station use \vee to search backwards or \wedge to search forward alphabetically.

When the correct station is displayed, press **NEXT** to select.



Use \leftarrow to delete.

Use \wedge and \vee to toggle from 'MID' to 'stn'.

Use $\overset{ABC}{1}$ to $\overset{YZ}{9}$ to select a letter.



Use \wedge to search forward alphabetically.

Use \vee to search backwards alphabetically.

Use \leftarrow to delete.

Press **NEXT** to accept.

8.1.2 Selecting the call priority

The call's category information is used to define the degree of priority. The priority can be chosen from five possibilities. It is noted that safety related calls, i.e. calls containing the categories 'Urgency', 'Distress', and 'Safety' are transmitted without checking for an idle channel, and therefore may collide with other calls.



Use \leftarrow and \rightarrow to change.

Press **NEXT** to select.

8.1.2.1 Distress priority

If the priority 'Distress' has been selected, you must now select the distress priority. If the priority 'Distress relay' is selected, it is possible to transmit a distress relay call without having received a distress call. This is typically done if the ship in distress has not had the time to transmit a distress, or does not have digital selective calling equipment. If 'Telecom' is selected, the call is an ordinary call with the priority distress.



Use \leftarrow and \rightarrow to change.

Press **NEXT** to select.

8.1.3 Selecting first message

The first message consists of two telecommands.

8.1.3.1 First telecommand

The first telecommand is e.g. used to specify the type of following communication, or to ask the called station for information.



Use \wedge and \vee to change.

Press **NEXT** to select.

8.1.3.2 Second telecommand

The possible choices of second telecommand depend on the selected first telecommand. If for instance 'Data transmission' is selected as the first telecommand, you can only choose from second telecommand that tells what kind of data protocol there is used in the transmission.

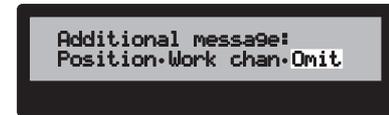


Use  and  to change.

Press  to select.

8.1.4 Selecting second message

An additional message (the second message) can now be selected. The additional message can either be the ship's position, or a proposed working channel for the following communication. If no additional message is wanted select 'Omit'. Use < or > to change between the three options and press NEXT to select.



Use  and  to change.

Press  to select.

8.1.4.1 Position information

If 'Position' is selected and a GPS is connected, the position is automatically inserted in the call. If no GPS is connected, and the position has not previously been entered or the position is older than the user defined time, the cursor is flashing where the time is to be entered.

When an input field is filled in, press ENT to accept the information in the field, or press > to move to the following field without accepting the data.

When the cursor is flashing on N or E, ^ and v can be used to toggle between N/S and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the ^ or v keys.

The < key is used to delete erroneously entered data.

When the position has been entered, press NEXT to accept the input position and continue in the input sequence, or press LAST to discard the input and return to the previous menu.



Use  to  to enter time and position.

Use  to accept data in an input field.

Use  to move to the next field.

Use  to delete data.

Use  and  to toggle between N/S and E/W.

Press  to accept all data in display.

Use  to leave position input menu.

8.1.4.2 Working channel

If 'Work chan' is selected, you can now enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephone's currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering the channel number here also changes the channel on the VHF.

NEXT is used to accept the channel number and continue the input sequence, **LAST** is used to return to the previous menu.



Use  to  to enter channel no.

Press  to accept and continue.

Press  to discard and return.

8.1.4.3 No additional message

If you do not want an additional message, select 'Omit' and press **NEXT**. The second message will then be inserted in the call as 'no information'.

8.1.5 Selecting the end of sequence character

The end of sequence character determines if the call is with or without request for an answer. If you want an answer to the call select 'With', else shift to 'Without', and press **NEXT** to select.



End of call:
Call With/Without answer

Use  and  to change.

Press  to select.

8.1.6 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check if the channel is free.

If the channel is free, the call is immediately transmitted.

The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.



Call: <219123456>
Press SEND for call

Press  to transmit call.



Call in Progress

Use  to abort call.

8.1.6.1 Call with acknowledge request

When the call has been transmitted, the VHF DSC monitors channel 70 for an acknowledgment of the call. If an acknowledgment is not received within 5 min., the call is retransmitted. If an acknowledgment is not received within the following 5 min., the call is considered to be incomplete, and you must manually initiate a new call.



Waiting for acknowledge.

Press any key to terminate retransmission cycle.

When an acknowledgment call has been received, a possible retransmission cycle is cancelled, the display starts to flash, and the audible alarm sounds for 10 sec. To stop the audible alarm and view the received acknowledgment call, press **NEXT**.



Acknowledge
call received.

Press 

You are now in the **RXMSG** menu, where the information in the received call can be viewed by pressing **NEXT** a couple of times.



01 Feb 92 17:59 Acknow
Individual F3E Simplex

Press   ...

8.1.6.2 Call without acknowledge request

If the call does not contain an acknowledge request as end of the sequence character, a message appears when the call is transmitted.



Call transmitted.

8.2 Common interest (group) call

A common interest call address a group of ships having a common interest. The call consists of: the address i.e. the group number of the parties to call, a category, a first message (two telecommands), a second message e.g. a proposed work channel or the ship's position.

To select the call menu, press **CALL**. You are now in the simple call menu.

To start entering the information in the common interest call, press **EDIT**.

The following menu is used to select the type of a call. Press **NEXT** to make a 'Selective' call.

This menu is used to select the kind of address in the call. Press **<** to change to the option 'Group', and press **NEXT** to select.

8.2.1 Entering the group number

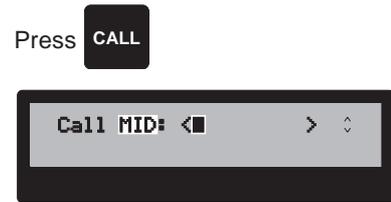
The nine digit group number of the ships to be called, can now be entered using the numerical keyboard. Note: Group numbers always starts with a 0. **<** can be used to delete erroneously entered data. When the group number has been entered press **NEXT** to accept.

8.2.2 Selecting the call priority

The call's category information is used to define the degree of priority. The priority can be chosen from five possibilities. It is noted that safety related calls, i.e. calls containing the categories 'Urgency', 'Distress', and 'Safety' is transmitted without checking for an idle channel, and therefore may collide with other calls.

8.2.2.1 Distress priority

If the priority 'Distress' has been selected, you must now select the distress priority. If the priority 'Distress relay' is selected, it is possible to transmit a distress relay call without having received a distress call. This is typically done if the ship in distress has not had the time to transmit a distress, or does not have digital selective calling equipment. If 'Telecom' is selected, the call is an ordinary call with the priority distress.



Use **0** to **9** to enter group number.

Use **<** to delete.

Press **NEXT** to accept.



Use **<** and **>** to change.

Press **NEXT** to select.



Use **<** and **>** to change.

Press **NEXT** to select.

8.2.3 Selecting first message

The first message consists of two telecommands.

8.2.3.1 First telecommand

The first telecommand is e.g. used to specify the type of following communication, or to ask the called station for information.



```
Message 1 (Telecmd 1): ◁
F3E/G3E simplex
```

Use  and  to change.

Press  to select.



```
Message 1 (Telecmd 2): ◁
No information
```

Use  and  to change.

Press  to select.

8.2.3.2 Second telecommand

The possible choices of second telecommand depend on the selected first telecommand. If for instance 'Data transmission' is selected as the first telecommand, you can only choose from second telecommand that tells what kind of data protocol there is used in the transmission.

8.2.4 Selecting second message

An additional message (the second message) can now be selected. The additional message can either be the ship's position, or a proposed working channel for the following communication. If no additional message is wanted select 'Omit'. Use < or > to change between the three options and press **NEXT** to select.



```
Additional message:
Position-Work chan-Omit
```

Use  and  to change.

Press  to select.

8.2.4.1 Position information

If 'Position' is selected and a GPS is connected, the position is automatically inserted in the call. If no GPS is connected, and the position has not previously been entered or the position is older than the user defined time, the cursor is flashing where the time is to be entered.



```
Ships pos at: [ ] . [ ] '
N: [ ] ' E: [ ] '
```

Use  to  to enter time and position.

Use  to accept data in an input field.

Use  to move to the next field.

Use  to delete data.

Use  and  to toggle between N/S and E/W.

Press  to accept all data in display.

Use  to leave position input menu.

When an input field is filled in, press **ENT** to accept the information in the field, or press > to move to the following field without accepting the data.

When the cursor is flashing on N or E, and can be used to toggle between N/S and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the or keys.

The < key is used to delete erroneously entered data.

When the position has been entered, press **NEXT** to accept the input position and continue in the input sequence, or press **LAST** to discard the input and return to the previous menu.

8.2.4.2 Working channel

If 'Work chan' is selected, you can now enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephone's currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.



```
Work channel: 12
```

Note: Entering the channel number here also changes the channel on the VHF.

NEXT is used to accept the channel number and continue the input sequence, **LAST** is used to return to the previous menu.

8.2.4.3 No additional message

If you do not want an additional message, select 'Omit' and press **NEXT**. The second message will then be inserted in the call as 'no information'.

8.2.5 Selecting the end of sequence character

The end of sequence character determines if the call is with or without request for an answer. If you request an answer to the call select 'With', else shift to 'Without', and press **NEXT** to select.

8.2.6 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check upon the channel.

If the channel is free, the call is immediately transmitted.

The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.

8.2.6.1 Call with acknowledge request

When the call has been transmitted, the VHF DSC monitors channel 70 for an acknowledgment of the call. If an acknowledgment is not received within 5 min., the call is retransmitted. If an acknowledgment is not received within the following 5 min., the call is considered to be incomplete, and you must manually initiate a new call.

When an acknowledgment call has been received, a possible retransmission cycle is cancelled, the display starts to flash, and the audible alarm sounds for 10 sec. To stop the audible alarm and view the received acknowledgment call, press **NEXT**.

You are now in the **RXMSG** menu, where the information in the received call can be viewed by pressing **NEXT** a couple of times.

8.2.6.2 Call without acknowledge request

If the call do not contain an acknowledge request as end of sequence character, a message appears when the call is transmitted.

Use **0** to **9** to enter channel no.

Press **NEXT** to accept and continue.

Press **LAST** to discard and return.



Use **<** and **>** to change.

Press **NEXT** to select.



Press **SEND** to transmit call.



Use **STOP** **ENT** to abort call.



Press any key to terminate retransmission cycle.



Press **NEXT**



Press **NEXT** **NEXT** ...



8.3 Geographical area call

A geographical area call address all ships in a specific geographical area. The call consists of the address i.e. the geographical area, a category, a first message (two telecommands), a second message e.g. a proposed work channel or the ship's position.

To select the call menu, press **CALL**. You are now in the simple call menu.

To start entering the information in the geographical area call, press **EDIT**.

The following menu is used to select the type of a call. Press **NEXT** to make a 'Selective' call.

This menu is used to select the kind of address in the call. Press **>** to change to the option 'G.Area', and press **NEXT** to select.

8.3.1 Entering the geographical area

The geographical area to be called, can now be entered using the numerical keyboard. The area to be described is defined with the coordinates of the left upper corner (N/W-corner) and in degrees of latitude and longitude. The reference point is the values entered after N: and E:. The vertical side length is the value entered after the first Δ , and the horizontal side length is the value entered after the second Δ .

When an input field is filled in, press **ENT** to accept the information in the field, or press **>** to move to the following field without accepting the data.

When the cursor is flashing on N or E, \wedge and \vee can be used to toggle between N/S and E/W. This is symbolized by the small up/down arrow in the upper right corner of the display. This arrow is only present when it is possible to use the \wedge or \vee keys.

The **<** key is used to delete erroneously entered data.

When the geographical area has been entered, press **NEXT** to accept, or else press **LAST** to discard.

8.3.2 Selecting the call priority

The call's category information is used to define the degree of priority. The priority can be chosen from five possibilities. It is noted that safety related calls, i.e. calls containing the categories 'Urgency', 'Distress', and 'Safety' are transmitted without checking for an idle channel, and therefore may collide with other calls.

Press **CALL**



Press **EDIT**



Press **NEXT** **>**



Press **NEXT**



Use **0** to **9** to enter geographical area.

Use **STOP ENT** to accept data in a field.

Use **>** to move to the next field.

Use **<** to delete data.

Use **^** and **v** to toggle between N/S and E/W.

Press **NEXT** to accept all data in in display.

Press **LAST** to discard changes and return.



Use **<** and **>** to change.

Press **NEXT** to select.

8.3.2.1 Distress priority

If the priority 'Distress' has been selected, you must now select the distress priority. If the priority 'Distress relay' is selected, it is possible to transmit a distress relay call without having received a distress call. This is typically done if the ship in distress has not had the time to transmit a distress, or does not have digital selective calling equipment. If 'Telecom' is selected, the call is an ordinary call with the priority distress.



```
Type distress Priority:
Distress relay·Telecom
```

Use  and  to change.

Press  to select.

8.3.3 Selecting first message

The first message consists of two telecommands.

8.3.3.1 First telecommand

The first telecommand is e.g. used to specify the type of following communication, or to ask the called station for information.



```
Message 1 (Telecmd 1):
F3E/G3E simplex
```

Use  and  to change.

Press  to select.

8.3.3.2 Second telecommand

The possible choices of second telecommand depend on the selected first telecommand. If for instance 'Data transmission' is selected as the first telecommand, you can only choose from second telecommand that tells what kind of data protocol there is used in the transmission.



```
Message 1 (Telecmd 2):
No information
```

Use  and  to change.

Press  to select.

8.3.4 Selecting second message

An additional message (the second message) can now be selected. The additional message can either be the ship's position, or a proposed working channel for the following communication. If no additional message is wanted select 'Omit'. Use < or > to change between the three options and press NEXT to select.



```
Additional message:
Position·Work chan·Omit
```

Use  and  to change.

Press  to select.

8.3.4.1 Position information

If 'Position' is selected and a GPS is connected, the position is automatically inserted in the call. If no GPS is connected, and the position has not previously been entered or the position is older than the user defined time, the cursor is flashing where the time is to be entered.

When an input field is filled in, press **ENT** to accept the information in the field, or press **>** to move to the following field without accepting the data.

When the cursor is flashing on N or E, **^** and **v** can be used to toggle between N/S and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the **^** or **v** keys.

The **<** key is used to delete erroneously entered data.

When the position has been entered, press **NEXT** to accept the input position and continue in the input sequence, or press **LAST** to discard the input and return to the previous menu.



Use **0** to **9** to enter time and position.

Use **ENT** to accept data in an input field.

Use **>** to move to the next field.

Use **<** to delete data.

Use **^** and **v** to toggle between N/S and E/W.

Press **NEXT** to accept all data in display.

Use **LAST** to leave position input menu.

8.3.4.2 Working channel

If 'Work chan' is selected, you can now enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephone's currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering the channel number here also changes the channel on the VHF.

NEXT is used to accept the channel number and continue the input sequence, **LAST** is used to return to the previous menu.



Use **0** to **9** to enter channel no.

Press **NEXT** to accept and continue.

Press **LAST** to discard and return.

8.3.4.3 No additional message

If you do not want an additional message, select 'Omit' and press **NEXT**. The second message will then be inserted in the call as 'no information'.

8.3.5 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check upon the channel.

If the channel is free, the call is immediately transmitted.

The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.



Press **SEND** to transmit call.



Use **ENT** to abort call.



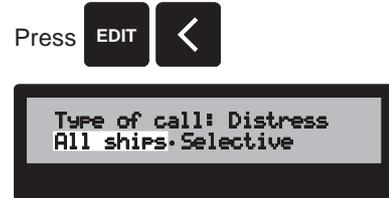
8.4 All ships call

An all ships call consists of a category, a first message (two telecommands), and a proposed work channel.

To select the call menu, press **CALL**. You are now in the simple call menu.

To start entering the information in the all ships call, press **EDIT**.

The following menu is used to select the type of a call. Use **<** to change to the option 'All ships' and press **NEXT** to select.



8.4.1 Selecting the call priority

The call's category information is used to define the degree of priority. The priority can be chosen from three possibilities. It is noted that safety related calls, i.e. calls containing the categories 'Urgency', 'Distress', and 'Safety' are transmitted without checking for an idle channel, and therefore may collide with other calls.



8.4.1.1 Distress priority

If the priority 'Distress' has been selected, you must now select the distress priority. If the priority 'Distress relay' is selected, it is possible to transmit a distress relay call without having received a distress call. This is typically done if the ship in distress has not had the time to transmit a distress, or does not have digital selective calling equipment. If 'Telecom' is selected, the call is an ordinary call with the priority distress.



8.4.2 Selecting first message

The first message consists of two telecommands.

8.4.2.1 First telecommand

The first telecommand is e.g. used to specify the type of following communication, or to ask the called station for information.



8.4.2.2 Second telecommand

The possible choices of second telecommand depend on the selected first telecommand. If for instance 'Data transmission' is selected as the first telecommand, you can only choose from second telecommand that tells what kind of data protocol there is used in the transmission.



Message 1 (Telecmd 2):
No information

Use  and  to change.

Press  to select.

8.4.2.3 Working channel

You can now enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephone's currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering the channel number here also changes the channel on the VHF.

NEXT is used to accept the channel number and continue the input sequence, **LAST** is used to return to the previous menu.



Work channel: 12

Use  to  to enter channel no.

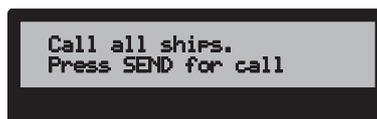
Press  to accept and continue.

Press  to discard and return.

8.4.3 Transmission

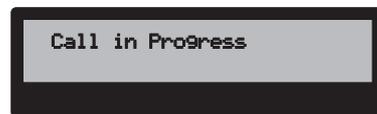
The call is now ready to be transmitted. This is done by pressing **SEND**.

The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.



Call all ships.
Press SEND for call

Press  to terminate call.



Call in Progress



Call transmitted.

9 PSTN CALL

A PSTN call is an individual automatic call to the public Packet Switched Telephone Network. The call must be addressed to a coast station, and the coast station must support automatic facilities. Your VHF DSC supports PSTN calls if a S.P. Radio VHF radiotelephone is connected.

In the individual automatic digital selective call the DSC unit fills in most of the necessary information. To make a PSTN telephone call, you only have to fill in the MID number of the coast station and the telephone number of the land subscriber.

Press **CALL** to start entering the necessary information.

The following menu is used to enter the address of the party to call. The three letters text after 'Call' should be flashing. If the text does not flash, press < a number of times, until it does.

Press 

Use  to delete old information.

9.1 The call menu

9.1.1 Entering a MID number

If the flashing text reads 'stn', use \wedge or \vee to change the flashing text to 'MID'. When the text 'MID' is flashing, the nine digit MID number of the coast station to be called, can be entered using the numerical keyboard. Note that coast stations MID numbers start with two 0's. < can be used to delete erroneously entered data.



Use  and  to toggle from 'stn' to 'MID'.

Use  to  to enter MID number.

Use  to delete.

Press  to change from MID: to Phone:.

Press  to accept.

When the MID number has been entered press **ENT** to accept, and start entering the telephone number. The cursor is now flashing on line two of the display, where it is possible to enter a telephone number with up to 16 digits.

When both the station and phone number have been correctly entered, press **NEXT** to accept.

9.1.2 Selecting a pre-programmed station

If the flashing text reads 'MID', use \wedge or \vee to change the flashing text to 'stn'. When the text 'stn' is flashing, it is possible to select a coast station stored in the station register using the numerical keyboard.



Use  to delete.

Use  and  to toggle from 'MID' to 'stn'.

Use  to  to select a letter.

9.2.2 Working channel

If 'Work chan' is selected, you can now enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephone's currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering the channel number here you also change the channel on the VHF.

NEXT is used to accept the channel number and continue in the input sequence, **LAST** is used to return to the previous menu.

NOTE: In an automatic call, the coast station will determine the work channel.



Work channel: 12

Use **0** to **9** to enter channel no.

Press **NEXT** to accept and continue.

Press **LAST** to discard and return.

9.2.3 No additional message

If you do not want an additional message, select 'Omit' and press **NEXT**. The second message will then be inserted in the call as 'no information'.

9.3 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check upon the channel.

If the channel is free, the call is immediately transmitted.

The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.

When the call has been transmitted, the VHF DSC monitors channel 70 for an acknowledgment of the call. If an acknowledgment is not received within 5 seconds, the call is retransmitted. If an acknowledgment is not received within the following 5 seconds, the call is considered to be incomplete, and you must manually initiate a new call.



Call: <002191000>
Press SEND for call

Press **SEND** to transmit call.



Call in Progress

Use **STOP** **ENT** to abort call.



Waiting for acknowledge.

Press any key to terminate retransmission cycle.

9.4 Coast station is able to comply

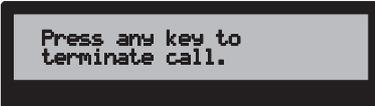
When an acknowledgment call has been received from the coast station, a possible retransmission cycle is cancelled, and the communication continues with the DSC automatically transmitting the DSC call on the work channel and at the same time holds the carrier for another 2 seconds.

This is used by the coast station to determine that the DSC has arrived at the correct channel, and at this point the coast station starts dialling the number. The connection to the PSTN is now established.

If a simplex VHF is connected or 'F3E Simplex' is used as the first telecommand, and you do not activate the handset key



Call in Progress



Press any key to terminate call.

over a period of 40 seconds, the transmitter is automatically keyed for 1 second. This is done because the coast station considers the call to be terminated if the carrier is lost for more than 45 seconds.

If a duplex VHF is connected and 'F3E Duplex' is used as the first telecommand, you must press and hold the handset key during the complete call, because the coast station will consider the call to be terminated if the carrier is lost for more than 5 seconds.

To terminate the call, section 9.6 refers.

9.5 Coast station is busy

If the coast station has no free PSTN lines or no free channels, it may respond with a call saying 'Unable to comply', 'Busy'. In this case the coast station can make a ring-back call within a period of 15 min.

9.5.1 Auto acknowledge of ring-back is on

When a 'Busy' answer is received from the coast station, and 'Auto answer' is ON, the DSC unit waits for a ring-back from the coast station.

When the DSC receives the ring-back, it checks to see if the channel is free, and transmits an acknowledgment to the coast station.

It then waits for a period of 5 seconds to receive a possible second call from the coast station.

After this 5 seconds' period, the communication continues with the DSC automatically transmitting the DSC call on the work channel and at the same time holds the carrier for another 2 seconds.

This is used by the coast station to determine that the DSC has arrived at the correct channel, and at this point the coast station starts dialling the number. The connection to the PSTN is now established.

The display will now start to flash, and the audible alarm will sound for 40 seconds, or until you press **NEXT**. If you have not pressed **NEXT** or the handset key within the 40 seconds' period, the call is considered to be incomplete and is therefore terminated.

To terminate the call, section 9.6 refers.

9.5.2 Auto acknowledge of ring-back is off

When a 'Busy' answer is received from the coast station, and 'Auto answer' is OFF, a message will appear in the display telling that a busy answer has been received and the automatic acknowledgment of ring-back calls is off. It is possible to change the ring-back answer option to 'ON' according to section 4.6.

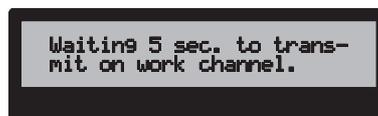
When a ring-back call is received, and auto answer is off, the display starts to flash, and the audible alarm sounds for 10 seconds.



Waiting for ring-back
from coast station.



Call in Progress



Waiting 5 sec. to transmit
on work channel.



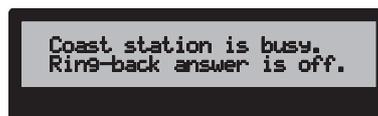
Call in Progress



Ring-back from coast stn
received. Press NEXT



Press any key to
terminate call.



Coast station is busy.
Ring-back answer is off.



Ring-back received. Auto
answer option is off.

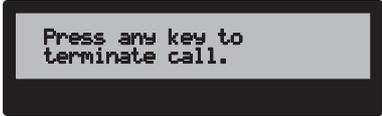
9.6 Termination of call

When the connection to the PSTN has been established, it can at any time be terminated by pressing any key. When a key is pressed for termination the DSC transmits an end of call sequence, which is used as a request for charge information from the coast station.

If an acknowledgment from the coast station has not been received within 2 seconds, the end of call sequence is retransmitted. If a call has still not been received within the following 2 seconds, the call is considered to be terminated.

If the coast station has charge information, it is transmitted to the ship station. The charge information, is the charged time in hours, minutes and seconds.

If the coast station responds but has no charge information, the read-out of this call will be 'no charge information'.



```
Press any key to
terminate call.
```

Press **NEXT**



```
Call in Progress
```



```
Waiting for charge info
from coast station.
```

Press any key to terminate retransmission cycle.



```
Call terminated.
charge time: 00:06:50
```



```
Call terminated. Coast
stn has no charge info.
```


10 CALL FROM ADDRESS BOOK

Your VHF DSC contains an address book which is able to hold up to 40 user programmed DSC calls. The address book is intended to make your every day use of the DSC easier, being able to store the most used stations/calls in the address book. The calls correspond to the standard call as described in chapter 7. Editing of the address book is described in chapter 12.

10.1 Selecting an address book call

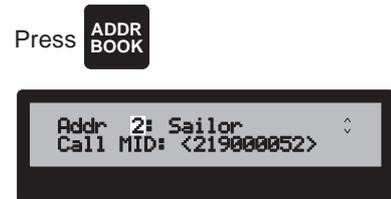
Activate the **ADDR BOOK** key. The display will show the top of the address book menu. The first line shows the name of the station, person or firm that is to be called. The second line shows the MID-number or the name of the station if the address book is programmed with a station contained in the stations register. The MID number is therefore used for calls to ships or coast stations that you have not yet programmed in the stations register.

There are two ways of searching for a station in the address book. You can either search by number or alphabetically.

When the address number is flashing, the up/down arrow keys may be used to increment or decrement the address, or the number of the address can be keyed in directly by using the numerical keyboard.

By activating the < or > key you can make the first letter of the station name flash. Press the key which is representing the first letter of the station. If the address book is empty, a message is displayed, or else a station which name starts with the selected letter appears on the first line of the display. If it is not the correct station, use v to search backwards or ^ to search forward alphabetically.

When the correct station is displayed, press **NEXT** to select.



Use **0** to **9** to enter address number.

Use **^** to increment address number

Use **v** to decrement address number

Press **<** or **>** to change to alphabetical search.



Use **^** to search forward alphabetically.

Use **v** to search backwards alphabetically.

Press **<** or **>** to change to numerical search.

Press **NEXT** to accept.

10.2 Selecting an additional message

In the 'Address book call', the category is automatically inserted as 'routine' and the first message, which consists of two telecommands, is automatically entered with the type of following communication i.e. 'F3E simplex' and 'no information'.

An additional message (the second message) can now be selected. Use < or > to change between the three options and press **NEXT** to select.



Use  or  to change.

Press  to select.

10.2.1 Position information

If 'Position' is selected and a GPS is connected, the position is automatically inserted in the call. If no GPS is connected, and the position has not previously been entered or the position is older than the user defined time, the cursor is flashing where the time is to be entered.

When an input field is filled in, press **ENT** to accept the information in the field, or press > to move to the following field without accepting the data.

When the cursor is flashing on N or E, ^ and v can be used to toggle between N/S and E/W. This is symbolized by the small up/down arrow in the lower right corner of the display. This arrow is only present when it is possible to use the ^ or v keys.

The < key is used to delete erroneously entered data.

When the position has been entered, press **NEXT** to accept and store the entered position and continue the input sequence, or press **LAST** to discard the input and return to the previous menu.



Use  to  to enter time and position.

Use  to accept data in an input field.

Use  to move to the next field.

Use  to delete data.

Use  and  to toggle between N/S and E/W.

Press  to accept all data in display.

Use  to leave position input menu.

10.2.2 Working channel

If 'Work chan' is selected, you can enter a proposed working channel, where the following communication is to continue. If a S.P. Radio VHF radiotelephone is connected, the radiotelephones currently selected channel is proposed, but you can naturally enter another channel number. The channel number is entered using the numerical keyboard.

Note: Entering another channel number here you also change the channel on the VHF.

NEXT is used to accept the channel number and continue in the input sequence, **LAST** returns you to the previous menu.



Use  to  to enter channel no.

Press  to accept and continue.

Press  to discard and return.

10.2.3 No additional message

If you do not want an additional message, select Omit and press **NEXT**. The second message will then be inserted in the call as 'no information'.

10.3 Transmission

The call is now ready to be transmitted. This is done by pressing **SEND**.

The VHF DSC modem monitors channel 70 to check upon the channel.

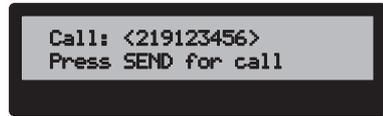
If the channel is free, the call is immediately transmitted. The call takes approximately 0.6 sec. It is possible to terminate the call by pressing **STOP**.

If the channel is occupied, the VHF DSC waits until the channel is free, before the call is transmitted. The call can be cancelled by pressing **STOP**.

When the call has been transmitted, the VHF DSC monitors channel 70 for an acknowledgment of the call. If an acknowledgment is not received within 5 min., the call is retransmitted. If an acknowledgment is not received within the following 5 min., the call is considered to be incomplete, and you must manually initiate a new call.

When an acknowledgment call has been received, a possible retransmission cycle is cancelled, the display starts to flash, and the audible alarm sounds for 10 sec. To stop the audible alarm and view the received acknowledgment call, press **NEXT**.

You are now in the **RXMSG** menu, where the information in the received call can be viewed by pressing **NEXT** a couple of times.



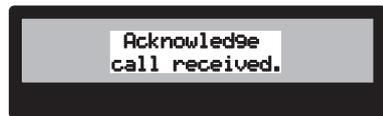
Press **SEND** to transmit call.



Use **STOP ENT** to abort call.



Press any key to terminate retransmission cycle.



Press **NEXT**



Press **NEXT NEXT, ...**

11 RECEIVED MESSAGES

The received messages are divided into distress and ordinary messages. To display a received message press **RX MSG**.

You are now in the received messages menu, where it is possible to read the 20 latest received ordinary and the 20 latest received distress calls. Use **<** and **>** to change between the distress and ordinary message buffers and select by pressing **NEXT**.

11.1 Ordinary messages

The message which appears in the display is the latest received ordinary message. If you want to read an earlier message press **v** a number of times, until the wanted message appears.

The first line shows the date and time when the call was received and the last word describe the call to be an acknowledgment call (Acknow), a call requesting acknowledge (Ack Rq) or a call without a request for acknowledge (Call).

The second line shows the format specifier and the 1. telecommand.

Press **NEXT** to get more information.

The following display shows the calling party, and if there is an additional message (work channel or position), it is displayed on line two.

Press **NEXT** to get more information.

The following display shows the category and the 2. telecommand.

Press **NEXT** if acknowledgment is requested.

11.1.1 Send manual acknowledgment

If the call specifies that an acknowledgment is requested, and the call is no more than 5 minutes old, the following menu will appear after the information. You may here select to transmit an acknowledgment call accepting the information in the received call, or change the information and transmit an acknowledgment with the changed information to the station which is originator of the transmitted the call. If the call is more than 5 minutes old it is not possible to transmit an acknowledgment, instead a new call to the station must be initiated.

11.1.1.1 Accepting the information

If you can accept all of the information in the call, select 'Accept', and press **NEXT**.

The acknowledgment is now ready to be transmitted. Press **SEND** to transmit the call.

Press **RX MSG**

```
Type of Rx message:
Ordinary·Distress
```

Use **<** and **>** to change.

Press **NEXT** to select.

```
01 Feb 92 17:59 Acknow
Individual F3E Simplex
```

```
From stn: <219000052>
No additional message
```

```
Routine
No information
```

```
Type of answer:
Accept·Change info
```

Use **<** and **>** to change.

Press **NEXT** to select.

```
Press SEND for
acknowledge.
```

Press **SEND**

```
Acknowledge in progress.
```

11.1.1.2 Changing the information

If 'Change info' is selected you may change the proposed working channel, or insert a first telecommand in the acknowledgment call, telling the station that you are unable to comply. Use < and > to change between the two possibilities and press **NEXT** to select.

If 'New working channel' is selected, it is now possible to enter a new proposed working channel using the numerical keyboard.

Note: Entering another channel number here you also change the channel on the VHF.

When the channel has been entered press **NEXT** to accept and continue.

If 'Not able to comply' is selected, you must specify the reason why you are unable to comply. Use the ^ and v keys to select the correct reason and press **NEXT** to accept and continue.

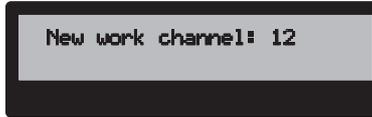
The acknowledgment call can now be transmitted by pressing **SEND**.



```
New working channel
Not able to comply
```

Use < and > to change.

Press **NEXT** to select.



```
New work channel: 12
```

Use 0 to 9 to enter channel number.

Press **NEXT** to accept.



```
Reason:
No reason given
```

Use ^ and v to change.

Press **NEXT** to select.



```
Press SEND for
acknowledge.
```

Press **SEND** to transmit acknowledgment.



```
Acknowledge in progress.
```

11.2 Distress messages

The distress message that appears on the display is the latest received distress call. If you want to read an older distress call press v a number of times, until the wanted call appears.

The first line shows the date and time when the call was received.

The second line shows the nature of distress.

Press **NEXT** to get more information.

The following menu shows the MID number of the station in distress.

Press **NEXT** to get more information.

The following menu shows the latest known position of the ship in distress, and the time the position was valid.



```
04 Feb 92 15:17 Call
Nature: Undesignated
```

Press **NEXT**



```
Stn in dist: <21900052>
```

Press **NEXT**



```
Distress pos at: 15.13
Pos N:57°01' E:011°53'
```

Press **NEXT** to continue.

If the received call is not more than 5 minutes old, you can now select to transmit a distress acknowledgment call. Use < and > to select, and press **NEXT** to accept.

11.2.1 Distress acknowledge

Before the distress acknowledgement call can be transmitted, the distress acknowledgement call must be confirmed. Press < to select Yes and **NEXT** to confirm. The unit is now ready to transmit the distress acknowledgment call. Press **SEND** to transmit the call. The distress acknowledgment call is a call addressed to all ships.

The call takes approximately 0.7 second.

The call can be terminated by pressing STOP.

Press **NEXT**

Type of answer:
Dist. Acknowledge-Relay

Press **SEND** for
distress acknowledge.

Press **SEND** to transmit.

Call in Progress

Call transmitted.

12 EDITING OF ADDRESS BOOK

Your VHF DSC contains an address book, where you can store up to 40 simple calls.

12.1 Selecting an address

To start editing the address book press **ADDRBOOK**. The Address Book Menu will appear. You can choose either making a new entry or editing an already existing entry in the address book.

Press 

12.1.1 Selecting a new entry

If you want to make a new entry be sure that 'Address number' is flashing. You can now use the numerical keyboard or the \wedge and \vee keys to find an empty entry. If 'Address number' is not flashing, press the \lt or \gt key to make the address number flash.



Use  to  to enter address number.

Use  to increment address number

Use  to decrement address number

Press  or  to change between alphabetical and numerical search.

12.1.2 Selecting an existing entry

If you want to edit an existing entry you can either use the numerical keyboard, or the \wedge and \vee keys to search for the existing entry, or you can search alphabetically for the entry by pressing either the \lt or \gt key to make the cursor flash on the initial letter of the name. When the cursor is flashing you can press the initial letter of the station you want to find and use the \vee key to search backwards or the \wedge key to search forward alphabetically.



Use  to search forward alphabetically.

Use  to search backwards alphabetically.

Press  or  to change between alphabetical and numerical search.

12.2 Editing the address name

When you have found the entry that you want to edit, press **EDIT**.

Press 

The cursor will now be in the 'Name' field. Enter the name of the station, person or firm you want to store in the address book using the numerical keyboard. When you want to use the address book to make a call, you can use the search function to find the name again.



Press e.g. **4** once to write a 'J', twice to write 'K' or three times if you want to write an 'L'. Use **>** to move to the next letter. **<** can be used to delete erroneously entered letters.

Press  

Press 

Press  

Press 

Press    

Press  

Press  

Press    

Press   

Use  to accept.

Use  to delete.



Accept with **ENT** and the cursor will move to the next line where the MID number has to be entered or a station from the station register can be selected.

12.3 Entering a call station

The station to call can either be selected from the station register, or entered as a MID number.

12.3.1 Selecting from the station register

When 'stn' is flashing, you can key in the initial letter of the name of the station you want to call. The display will show the first name with this initial and you can use the **v** key to search backwards and the **^** key to search forward alphabetically. When the correct station is displayed, press **NEXT** to accept.

Press   

Press 

12.3.2 Entering a station by MID number

If 'stn' is flashing, use the **^** or **v** keys to change the flashing text to 'MID'.

When 'MID' is flashing the nine digit MID number of the station to be called can be entered using the numerical keyboard. **<** can be used to delete erroneously entered data. When the MID number is correct, press **NEXT** to accept.

Use  or  to toggle from 'stn' to 'MID'.

Use  to  to enter MID number.

Use  to delete.

Press  to accept.

12.4 Entering a phone number

If the call is addressed to a coast station (first and second digits in the MID number are 0's), it is possible to enter a PSTN phone number.

If you want to enter a phone call, use the numerical keyboard to enter the telephone number. The telephone number may have up to 16 digits. < can be used to delete erroneously entered data. When the phone number is correct entered, press **NEXT** to accept.

If you want to make an individual call (not a phone call) to the coast station, do not enter a phone number, but just press **NEXT**.

```
Subscriber telephone:  ⏏
Phone:  █
```

Press

YZ- 9	VWX 8	ABC 1	VWX 8	0
YZ- 9	YZ- 9	YZ- 9		

```
Subscriber telephone:  ⏏
Phone:  98180999█
```

Press **NEXT** to accept.

12.5 Storing the call

The necessary information has now been entered, and the call is ready to be stored.

You can select the entry in which you want the call to be stored. The entry number can be incremented with the ^ key, decremented with v key or entered directly using the numerical keyboard.

When the entry is correct, press **NEXT** to store.

If the unit detects a problem when storing the call, you are prompted for an answer to the problem.

```
Store data at addr:  2  ⏏
```

Press **NEXT** to accept.

```
Data stored in addrbook
at addr no: 02
```

12.5.1 Overwriting existing data

If you are starting overwriting data which already exist in the address, you are prompted to accept if this is really your intention. If you want to overwrite, use < or > to select 'Overwrite', or else select 'Abort' and press **NEXT** to accept.

```
Overwrite existing data
at 02?  Overwrite·Abort
```

Press

<	or	>
---	----	---

 to select.

Press **NEXT** to accept.

12.5.2 Same station exists in another entry

The unit checks to see if a call with the same name and/or with the same MID and phone number exists at another location.

If such a call exists, you are prompted to answer if you still want to save the entry or you want to abort. If you want to save, use < or > to select 'Save', or else select 'Abort' and press **NEXT** to accept.

```
Same stn exists at:  00
Save·Abort
```

Press

<	or	>
---	----	---

 to select.

Press **NEXT** to accept.

13 EDITING OF STATION REGISTER

Your VHF DSC contains a station register which can be used to store the MID numbers for your most frequently used ship and coast stations. The station register can hold up to 100 stations.

The stations stored in the station register can be selected alphabetically in various call menus. This means that when you have programmed a station into the register, you no longer have to remember the MID number, but you can instead find the station by its name.

To start editing the station register, press **FUNC**. Press **>** twice to select 'Station', and press **NEXT** to accept.

You can choose either to make a new entry, or to edit/delete an already existing entry in the station register.

13.1 Enter a new station

The display menu will now ask for the name of the station. Enter the name of the ship or coast station (max. 13 characters) using the numerical keyboard. Press e.g. **4** once to write a 'J', twice to write 'K' or three times if you want to write an 'L'. Use **>** to move to the next letter. **<** can be used to delete erroneously entered letters.

If the name of the new station has two words press **>** twice to separate the words. The first character of the second word will be written in capitals.

Accept the name by pressing **ENT** and the cursor will move to the second line where you are prompted for the 9 digit MID number.

Key in the number using the numerical keyboard. Accept and store by pressing **NEXT**.

The unit checks if a station with the same name and/or number already exists in the station register.

Press **FUNC** **>** **>**



Press **NEXT**



Press **JKL 4** **JKL 4** **JKL 4** **>**

Press **YZ- 9** **>**

Press **MNO 5** **MNO 5** **>**

Press **GHI 3** **>**

Press **ABC 1** **ABC 1** **>**

Press **YZ- 9** **STOP ENT**



Press **0** **0** **DEF 2** **ABC 1** **YZ- 9**
ABC 1 **0** **0** **0**



Press **NEXT**



13.1.1 The station name already exists

It is not allowed to store the same station name twice, so if the name of the station already exists, you are asked if you want to overwrite or abort.



Use  and  to select.

Press  to accept.

13.1.2 The MID number already exists

If the same MID number already exists in the station register, but the name of the station is different, you can choose to overwrite the old station, to save the new station along with the old station, or not to save the new station.



Use  and  to select.

Press  to accept.

13.2 Editing an existing station

Press the initial letter of the station you want to edit and use the  key to search backwards or the  key to search forward alphabetically.



Press    



Edit as described in 13.1.

Press  to store.

When you have found the station, you may edit the name and number of the station as described in section 13.1.

When the name and number is correct, press **NEXT** to accept and store.

You are now asked to confirm that you really want to overwrite the existing station. If you want to overwrite, use  or  to select 'Overwrite', or else select 'Abort' and press **NEXT** to accept.



Use  and  to select.

Press  to accept.



13.2.1 Deleting an existing station

Press the initial letter of the station you want to delete and use the **v** key to search backwards or the **^** key to search forward alphabetically.

When you have found the station, use the **<** key to delete the information, and press **NEXT** to delete the station from the register.

You are now asked to confirm that you really want to delete the station. If you still want to delete, use **<** or **>** to select 'Yes', or else select 'No' and press **NEXT** to accept.



14 THE PRINT MENU

In the print menu, you can make a printout of everything stored in the unit. This includes the received distress and ordinary messages, the address book and station register, and the set-up of the unit.

14.1 Print distress messages

To get access to the print menu, press **FUNC**.

The option 'Display' is now flashing in the display. Press < twice to make the option 'Print' flash. The print menu can now be chosen by pressing **NEXT**.

The option 'Distress messages' is now flashing on the second line of the display. Press **NEXT** to start the printout.

Press **FUNC** < <



Press **NEXT** to select.



Press **NEXT** to print.

14.2 Print ordinary messages

To get access to the print menu, press **FUNC**.

The option 'Display' is now flashing in the display. Press < twice to make the option 'Print' flash. The print menu can now be chosen by pressing **NEXT**.

The option 'Distress messages' is now flashing on the second line of the display. Press ^ to change the option to 'Ordinary messages'. Press **NEXT** to start the printout.

Press **FUNC** < <



Press **NEXT** ^



Press **NEXT** to print.

14.3 Print the address book

To get access to the print menu, press **FUNC**.

The option 'Display' is now flashing in the display. Press < twice to make the option 'Print' flash. The print menu can now be chosen by pressing **NEXT**.

The option 'Distress messages' is now flashing on the second line of the display. Press ^ twice to change the option to 'Address book'. Press **NEXT** to start the printout.

Press **FUNC** < <



Press **NEXT** ^ ^



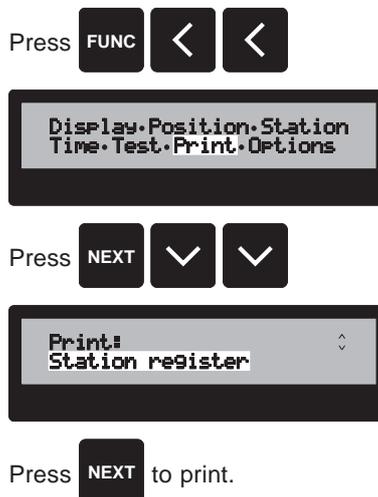
Press **NEXT** to print.

14.4 Print the station register

To get access to the print menu, press **FUNC**.

The option 'Display' is now flashing in the display. Press < twice to make the option 'Print' flash. The print menu can now be chosen by pressing **NEXT**.

The option 'Distress messages' is now flashing on the second line of the display. Press v twice to change the option to 'Station register'. Press **NEXT** to start the printout.

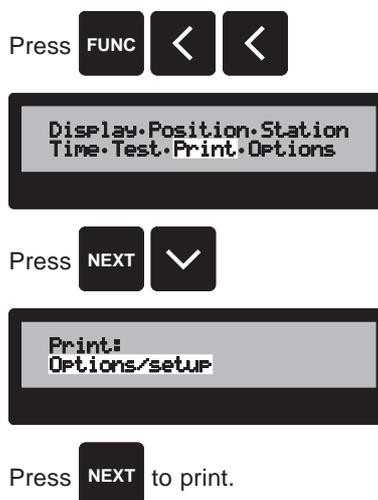


14.5 Print the options/setup

To get access to the print menu, press **FUNC**.

The option 'Display' is now flashing in the display. Press < twice to make the option 'Print' flash. The print menu can now be chosen by pressing **NEXT**.

The option 'Distress messages' is now flashing on the second line of the display. Press v to change the option to 'Options/setup'. Press **NEXT** to start the printout.



15 TEST FUNCTION

The test function is used to make an internal test of the transmitter and receiver functions on the DSC modem without actually transmitting a call on channel 70.

15.1 Internal test.

To get access to the internal test function, press **FUNC**.

The option 'Display' is now flashing in the display. Press < three times to make the option 'Test' flash. The internal test can now be started by pressing **NEXT**.

When you start an internal test, the programme will do a loop-back test. The test program transmits a call, but loops it back via the receiver module.

If the call is correctly received, the unit is working internally.

If the call is not correctly received, the unit displays an error message.

If you want to make a complete test, you can transmit a standard call to your own MID number, using the standard call menu, as described in chapter 7.

Press **FUNC**   



```
Display·Position·Station
Time·Test·Print·Options
```

Press **NEXT** to start test.



```
Loop-back test in
Progress.
```



```
Call transmitted and
received correct.
```



```
TEST FAILED !!!!!
Unit needs service.
```




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