Simrad
VHF Radiotelephones

Shipmate
RS8400
RS8300

183.2047.005 Rev.I English

Warning!
The SOS function may only be used in case of emergency and with the correct
DSC number coded into the system. The number can be checked by pressing
E ↑ 98E for the first five digits and E ↑97 E for the last five digits.
Do not disconnect the handset while the unit is switched ON.

1832047005

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Contents for

RS8400, RS8300, RS8300 SD, and RS8300 SOS

Manual DISTRESS CALL

INT
16

16

Select the Distress Channel by pressing the 16 key.

Hold down the PTT lever on the handset.

MAYDAY - MAYDAY - MAYDAY

THIS IS: *State vessel's name three times*

MAYDAY THIS IS: *Repeat vessel's name*

AT POSITION: *State position of vessel*
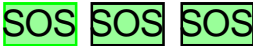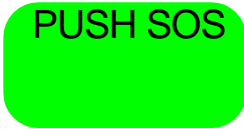
STATE NATURE OF DISTRESS

Release PTT lever.

Wait for an answer.

If not answered after a short interval, repeat message until answered.

Automatic DISTRESS CALL (DSC)

Caution! The SOS message will alert and activate a rescue operation.
To call off a rescue operation, contact your nearest coastal station.

PUSH SOS

The SOS function is blocked until a DSC number is entered - see overleaf for programming of DSC and ATIS.
Refer to page 12 and 13 for details on Position input and DSC.

SOS SOS SOS

Activate automatic transmission of digital DISTRESS CALL by pressing the SOS key three times at intervals of 1 second.

AUTO SOS
70 TX

The distress message will be transmitted and repeated automatically at random intervals on Channel 70.

Channel 16 will be available for communication after each transmission.

AUTO SOS
16

If not answered after a short interval, try to send your message manually, - see previous page.

Important! After the AUTO SOS has been activated, it must be terminated again (by pressing any key), as it otherwise will continue to send out messages.

Programming of DSC identity number. The DSC number issued by the authorities can be programmed directly from the handset. If a mistake is made, the number can be altered for as long as the unit is still ON, but once the power has been switched OFF, the numbers will be fixed in the memory and can only be reprogrammed by an authorized dealer.

Important! Connected navigator must be disconnected during programming.
Example of how to program a DSC number e.g. 1 2 3 4 5 6 7 8 9 (+0).
Add 0 to a 9 digit DSC number.

| E | ↑ | 9 | 2 | E | Call 1st address: "L" |

| 6 | 7 | 8 | 9 | 0 | E | Key in the 5 least significant digits. |

| E | ↑ | 9 | 3 | E | Call 2nd address: "M" |

| 1 | 2 | 3 | 4 | 5 | E | Key in the 5 most significant digits. |

Before switching the unit OFF, check that the numbers are entered correctly:

| E | ↑ | 9 | 7 | E | DSC - least significant digits. |

| E | ↑ | 9 | 8 | E | - most significant digits. |

Programming of ATIS identity number. The ATIS number is issued by the authorities for river traffic in regional areas. Example of how to program an ATIS number e.g. 9 1 2 3 4 5 6 7 8 9 (the first digit will normally be a 9):

| E | ↑ | 8 | 2 | E | Call 1st address: "L" |

| 5 | 6 | 7 | 8 | 9 | E | Key in the 5 least significant digits. |

| E | ↑ | 8 | 3 | E | Call 2nd address: "M" |

| 9 | 1 | 2 | 3 | 4 | E | Key in the 5 most significant digits. |

Before switching the unit OFF, check that the numbers are entered correctly:

| E | ↑ | 8 | 7 | E | ATIS - least significant digits. |

| E | ↑ | 8 | 8 | E | - most significant digits. |

Introduction for

RS8400, RS8300, RS8300 SD, and RS8300 SOS

The VHF system is designed for remote installation of the main unit. Operation is carried out through the waterproof handset, which can be installed up to 20 m (65 ft) from the main unit.

Information regarding channel selection, operating mode and output power is always given on the handset display. Volume and Squelch levels are displayed momentarily when settings are changed. Selection of an unauthorised channel is indicated by the legend ERROR.

The keypad has numerical keys for channel selection and function keys for controlling volume, squelch and scan modes. Key **P** (WX) allows access to private, authorised channels. In addition, key **E** allows access to secondary functions. The legend SHIFT will be shown in the handset display whenever this key is pressed. All key entries are acknowledged by short tone in the loudspeaker.

The Press To Transmit lever, located on the left side of the handset, can only be operated when the handset is out of its cradle.
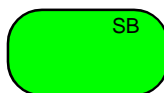
Additional features for the RS8300 SOS version:
The red SOS key ensures a quick and easy way of making a digital distress call, containing the vessel's identity (DSC no.), present position and time. The VHF system will automatically have this information if a GPS navigator is connected, or it can be entered manually via the keypad before activating the distress call.

The handset is supplied with a watertight connector and 5 m extension cable. By adding a second handset and speaker, the system will offer full dual station operation, hailer function and intercom.
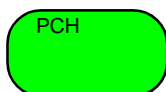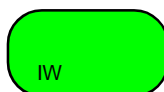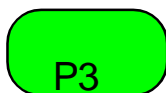
Handset Status Displays (International)
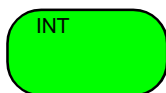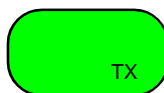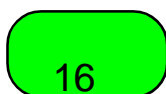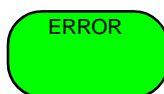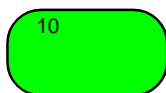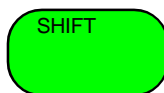
Display	Description
INT	**International channels set**
PCH	**Private channel operative**
P3	**Private channel operative**
16	**Channel operative**
10	**CH 10 Pre-selected channel**
SCAN ALL	**Scan All operative**
67 16 10	**Channels selected for Scan Programme**
SCAN PRG - -	**Scan Programme operative**
DW 16	**Dual Watch operative**
SB	**Function in standby**
IW	**Output reduced**
TX	**Set is transmitting**
ERROR	**Incorrect selection**
SHIFT	**Key E, access to secondary functions**
3	**Squelch or volume setting**
OCC	**Other handset in use**
INTERCOM	**Intercom selected**
AUTO SOS	**Automatic Distress Call (RS8300 SOS)**
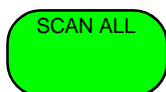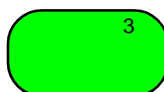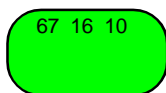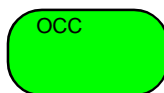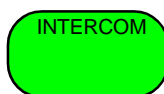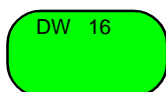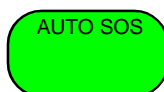
Handset Status Displays (US)
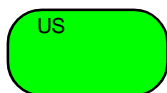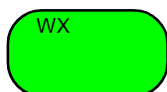
US	**US** **channels set**
WX	**US** **weather channels**
TX OFF	**Transmission** **is stopped by time-out**
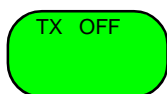
Handset Keys

Earpiece

PTT
Press To Transmit

INT 16

INT ·)) DW
1 2 3

◁ 𝓂 RESET
4 5 6

7 8 9

Automatic Distress Call

✳ 0 #

POS
16 SOS E

SQUELCH
← → P

VOLUME 1W
↑ ↓ ON

SHIPMATE RS8300

Microphone
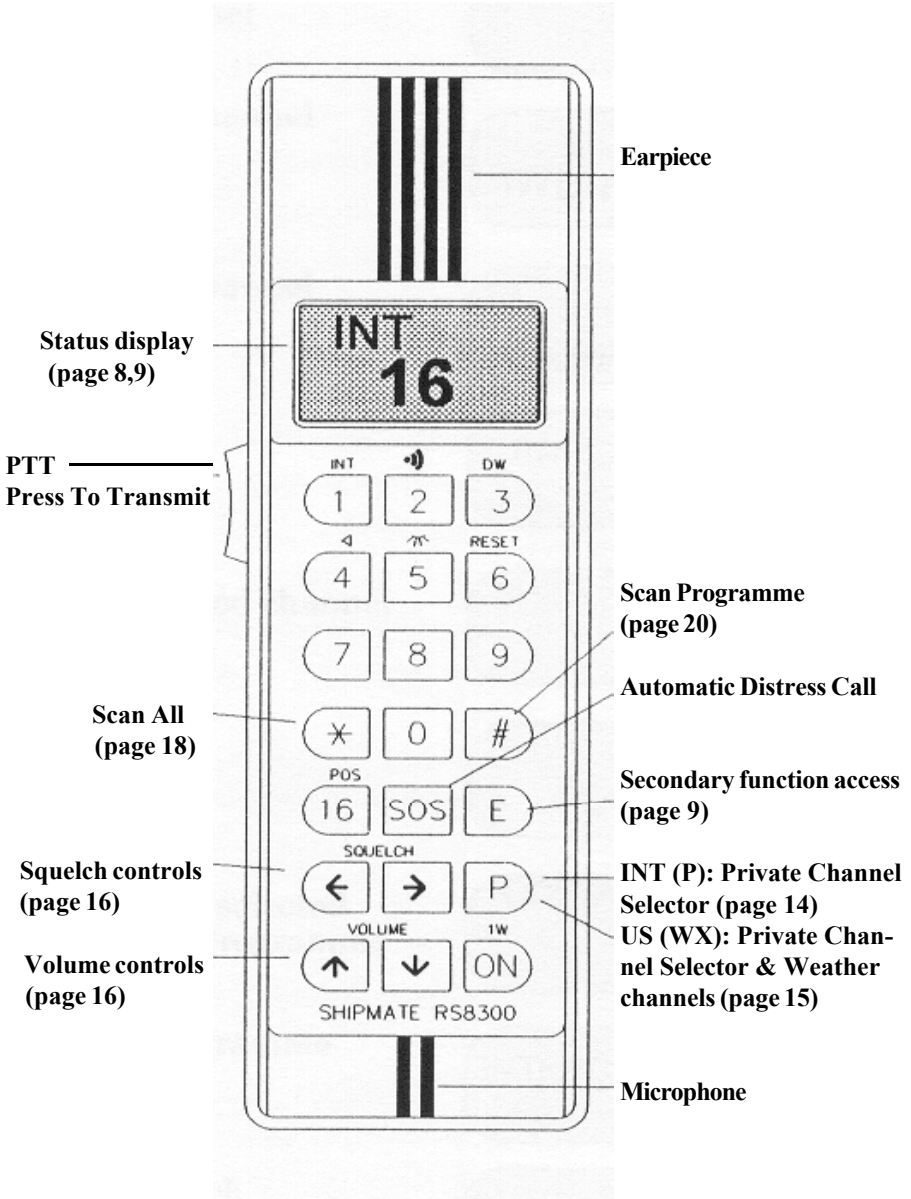
The **ON/OFF switch** is fitted at the base of the main unit and a stand-by facility on the handset allows power consumption to be reduced, so that the set can be left on almost indefinitely.
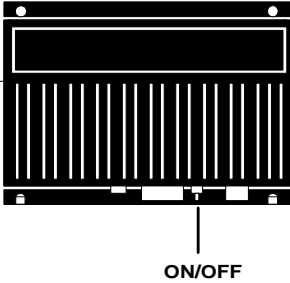
ON/OFF

Set the ON/OFF switch of the main unit to the ON position. The system will automatically return to the same status as when it was switched OFF.

INT
16
ON
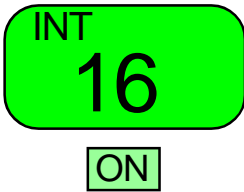
If the display remains blank, the unit is in stand-by mode. Press the ON key of the handset once. The channel will be displayed and the unit will be fully operational.

ON
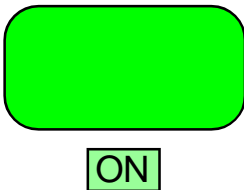
On closing down, press the ON key of the handset and hold it down until the display turns off. The unit is now in stand-by mode.

If the vessel is to be left unattended for any length of time, the ON/OFF switch of the main unit should be set to the OFF position.

Position Input (RS8300 SOS only) is automatically updated if you have a GPS navigator connected to the VHF. Without a navigator, the information can be entered manually from the keypad via the Position menu.

LA XXXXX
16
E   16
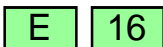
In the Position menu, the display will show the latitude of the last transferred position from a GPS navigator.
Note! The display is not updated while the menu is active.
If no position is displayed, the data can be entered manually.
☞ Press the **E** key to exit the Position menu, or...

LA 12N34
16
1   2   ←
3   4
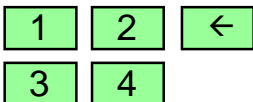
Enter latitude e.g. 12N34

Toggle between N/S with ← / →

Go to longitude with ↓
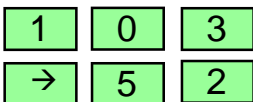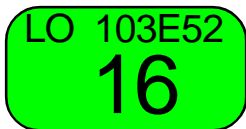
LO 103E52
16
1   0   3
→   5   2

Enter longitude e.g. 103E52

Toggle between E/W with ← / →

Go to UTC time with ↓

UTC 14 39
16

1 4 →
3 9
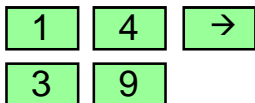
To enter UTC time in hours and minutes
e.g. 14:39 hours.

INT
16

E

To acknowledge the position and time input,
press the **E** key.

DSC or Digital Selective Calling is a part of the
Global Maritime Distress and Safety System -
GMDSS.
This safety system ensures that all coastal stations
and commercial vessels automatically will moni-
tor channel 70 for digital distress calls.
GMDSS is being implemented gradually and will
be fully deployed before 1999.

Channel Selection allows access to all legally permissible channels. It also permits direct, single key operation for the distress and general calling frequency, Channel 16.

```
  INT
    16
```
`16`
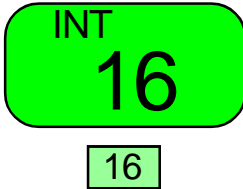
Select the International Distress Channel and General Calling Frequency.

```
  77
    16
```
`7` `7`
`E`
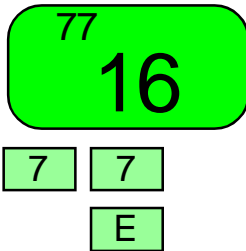
Select any public channel, for example, Ship to Ship Channel 77.

The display will change automatically after 3.5 seconds, or immediately if the **E** key is pressed.

```
  INT
    16
```
`P` `3`
`E`
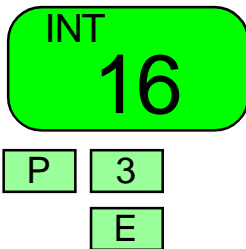
Select a private authorized channel, say Private Channel 3.

This will be displayed 3.5 seconds after selection, or immediately after the **E** key is pressed.

International and US channels may be used with this unit, permitting operation in all waters.
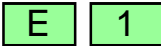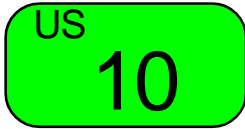
To toggle between US system and International channels, press the **E** key and **1** key. If the legend ERROR is displayed, it indicates that US channels are not available.

US channels 13 & 67 are preset to 1W output. This is shown by a flashing 1W on the display. For 25W output, press and hold the PTT key and then press the ON key. When using these channels the handset OFF function will be inoperative.
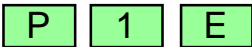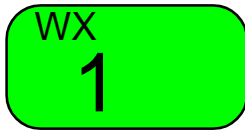
US FUNCTION:

To select the Weather Channels.
In the International version, key **WX** is exchanged with key **P**.
Refer to page 14 for details on the Private Channels.
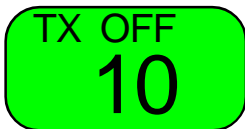
US FUNCTION:

Transmitting continuously for more than 5 minutes, will cause the transmission to turn off.
To resume transmission, release the **PTT** key and then press it again.

Output Power can be set to either 1W or to 25W.

Squelch is adjustable in three steps from 1 to 3.

Volume is adjustable in eight steps from 1 to 8.

INT
1W **16**

E   ON

To reduce output power to 1W for short range transmission. The unit will be set at maximum output when switched ON.

Toggle between 1W and 25W.

INT   3
16

←   →
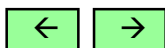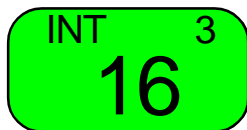
When the set is switched on, the squelch setting will be at 3. In step 1 the receiver is always open.

Adjust squelch with ← / →

INT   3
16

↑   ↓
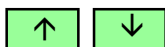
When the set is switched on, the volume setting will automatically be at 3. The speaker volume can be increased in steps up to setting 8.

Adjust volume with ↑ / ↓

16

Dual Watch will automatically monitor Channel 16 as well as one other channel pre-selected by the operator. It will function only if both handsets are in their cradles.

```
DW      16
   10
```
E   3
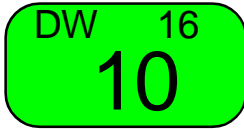
Activate/terminate Dual Watch.

```
DW      SB
   10
```

Monitoring of Channel 16 stops when a handset is lifted from its cradle. The pre-selected channel immediately becomes available for communication, and the receiver changes to Stand-by ready to resume Dual Watch when the handset is back in its cradle.

```
DW      16
   16
```
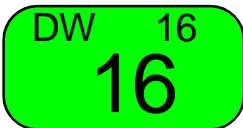
When a signal is detected on Channel 16, the receiver stops monitoring the pre-selected channel, and the legend 16 will be in both channel positions.

It will be locked to Channel 16 until the signals stop or a handset is lifted for use on the pre-selected channel.

Scan All mode monitors all channels for transmissions. *
Squelch must be set above level 1 before this mode can be selected. The Scan
function will go in Stand-by mode if the handset is out of its cradle.

* In Europe Channel 16 is always monitored.

SCAN ALL
- -

*
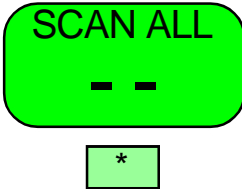
Activate/terminate Scan All.

While scanning is in progress, channel numbers
will not be displayed.

SCAN ALL
10

When a transmission is detected, the set will lock
on for four seconds and display the number of the
channel.

INT   SB
10
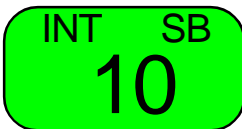
When a handset is lifted, the scanning stops and
goes in stand-by mode. The display will show the
last received channel.

Exclusions from Scan All can be made for up to six channels. *
This will prevent continuously transmitting stations, such as V.H.F. Direction
Beacons, from intruding.

* In Europe it is not possible to exclude Channel 16.
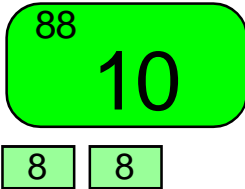
Set in the number of the channel to be excluded
from Scan All programme, e.g. Channel 88.
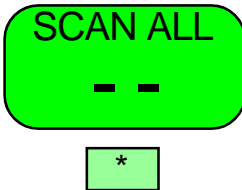
Press the * key immediately, otherwise channel
selected for exclusion will instead be "standard
channel selection".

If excluding more than the maximum six allowed
channels, the first exclusion will be overwritten
by the last entry. Excluded channels will be mem-
orized by the unit.
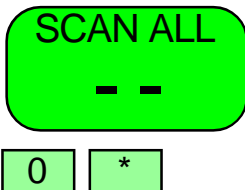
This programme will reinstate all excluded chan-
nels in a single operation.

Scan Programme mode allows a limited number of channels to be monitored. *
A minimum of two and a maximum of ten channels can be pre-selected by the
operator.
*In Europe Channel 16 is always monitored together with the user-selected
channels.*

```
SCAN PGM
  - -
```
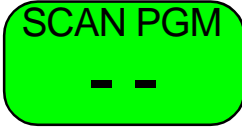
The set will lock on to any detected signal for
four seconds, and scanning will automatically
continue unless a handset is lifted for communica-
tion. Squelch must be set to 2 or 3.

| # |

To activate/terminate Scan Programme.

While scanning takes place, channel numbers will
not be displayed.

```
SCAN PGM
   10
```

When a transmission is detected, the set will lock
on for four seconds and display the number of the
channel.

```
INT    SB
   10
```

When a handset is lifted, the scanning stops and
goes in stand-by mode. The display will show the
last received channel.

Edit of Scan Programme memory. Channels selected for Scan programme will be retained in the memory of the set, even if power is switched off. When the memory is full (ten channels), the first one entered is overwritten by the last one entered.
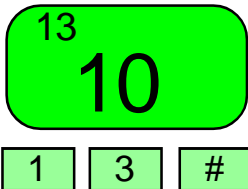
To insert new channels in the Scan Programme memory, e.g. Channel 13.
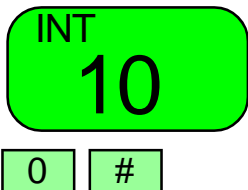
To delete all channels stored in Scan Programme memory.
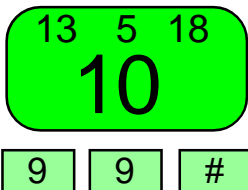
Display the channels stored in Scan Programme memory.

The Intercom (not available in RS8300 standard) facility allows private conversation between the two handsets, or messages over separate loudspeakers, provided there is no radio traffic on the channel selected.

INTERCOM
10

E   2
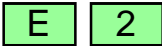
Pick up the handset and press the **E** key and the **2** key to activate Intercom.
A beep sequence will sound through the loudspeakers.

Press the PTT key to give a message over the loudspeakers, or to communicate with the second handset when it is out of the cradle.

INT   SB
10

Intercom will automatically go to stand-by when a radio signal is received. Intercom is cancelled when both handsets are returned to their cradles.

Muting completely silences the loudspeakers.

Illumination is set to the low level when the handset is switched on.

```
INT
  10
E    4
```
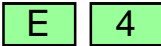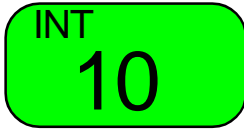
Press the **E** key and the **4** key to mute the loud-speakers.
This setting is automatically cancelled when a handset is replaced in its cradle.

```
INT
  10
E    5
```
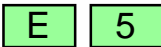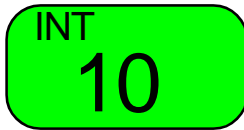
Press the **E** key and the **5** key to adjust the level of illumination.
This function will toggle between three levels of illumination: low, high and off.

INSTALLATION

POSITION & TIME

Interface setup
NMEA 0183 GLL, GGA

(Green) DATA IN
(Red) RETURN

ANT

Fuse 6.3A slow blow

6.3A

Power cable: 1.5m,
2x1.5mm²
Extendable to max.:
5m, 2x1.5mm²
10m, 2x2.5mm²

#1

5m

- 12 V +

Speaker cable: 1.5m,
2x0.4mm²
Extendable to max:
20m, 2x0.4mm²
>20m, 2x0.75mm²

DUAL SYSTEM (NOT RS8300 STANDARD)

#2

20m

Note! Do not connect 4 ohms
speakers (RS8310 speakers)
in parallel.
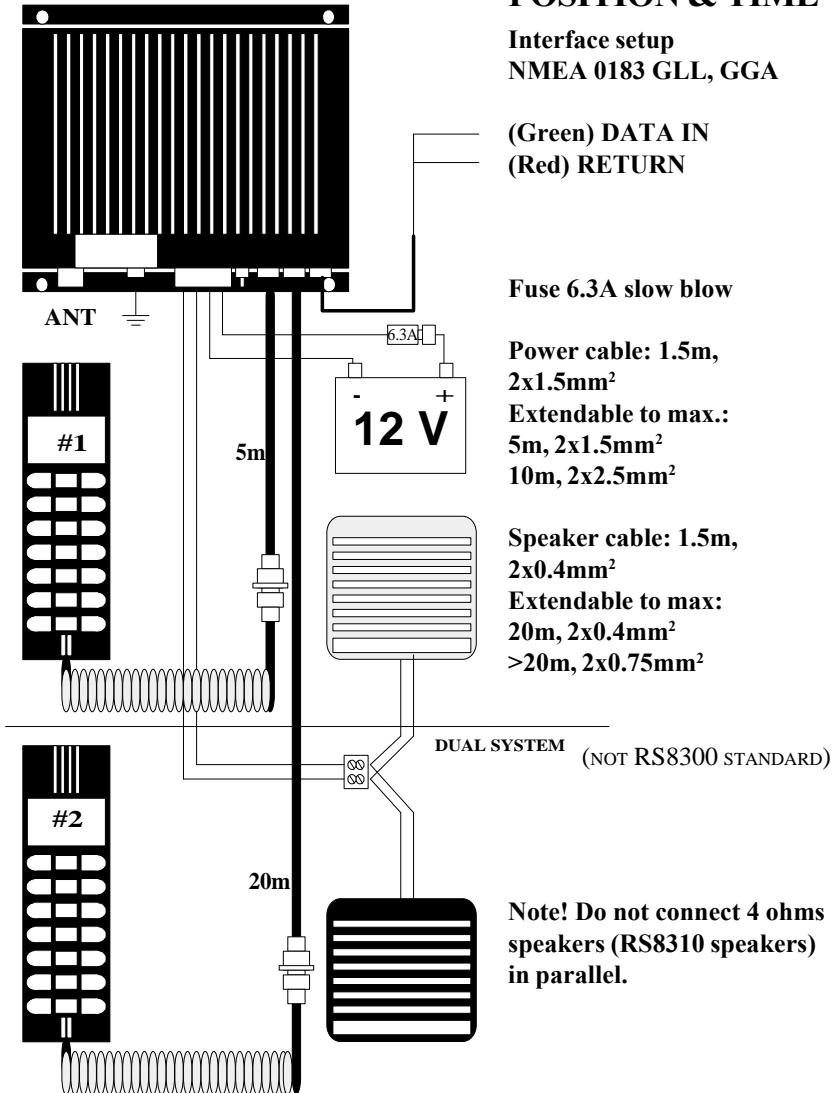
INSTALLATION
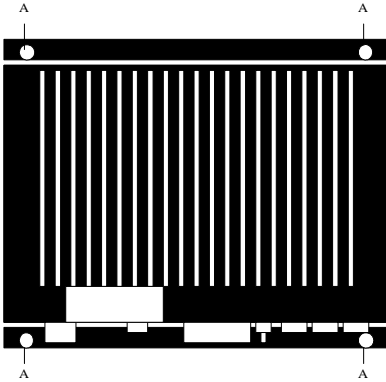
Installation of transceiver unit, hand-set cradle and watertight socket. (Optional).

The transceiver unit is not waterproof, so it will have to be installed in a dry place.

1. Fasten the transceiver unit with the 4 screws (included) in the holes marked A.
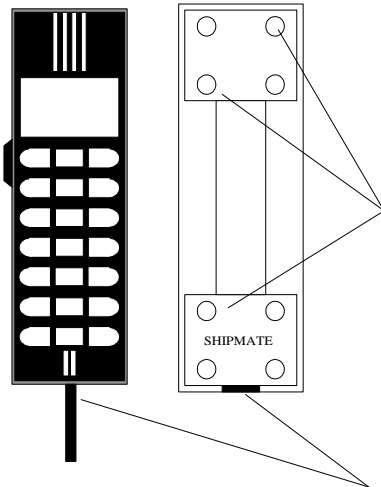
2. Fasten the handset cradle with mini-mum 4 screws (included).

Take care that the cradle is not mount-ed upside-down, as the plastic spring has a cutout for the cable.
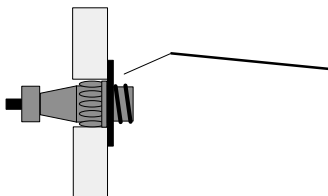
3. Drill a Ø22mm hole for the water-tight socket.

4. Place the socket in the hole and drill four Ø2mm holes for the included 4 screws.

INSTALLATION

Installation of speaker
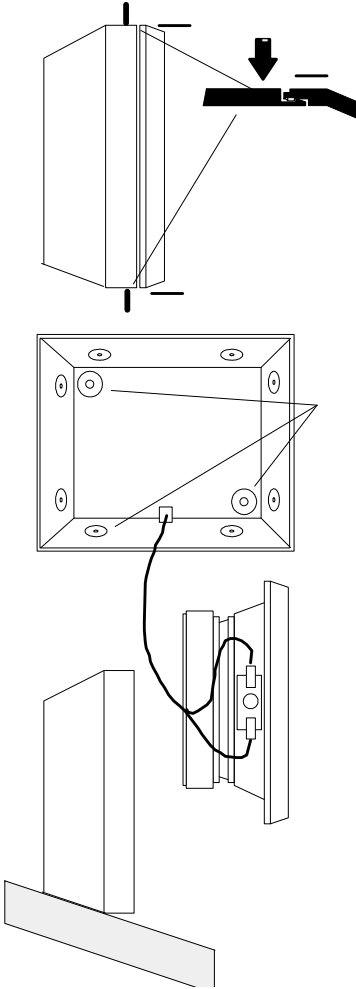
1. Open the speaker by pressing firmly on the top and bottom of the back part, and at the same time pull the front part forward.

2. Drill out the appropriate holes for installation with a Ø4mm drill.

3. Lead the speaker cable through the hole of the rear part.

4. Fasten the rear part with the included screws.

5. Connect the speaker cables to the connection terminals.

6. Take the front part of the speaker and press it back together with the rear part.

Note! Speakers for the dual version are supplied with fixed cables and switch.
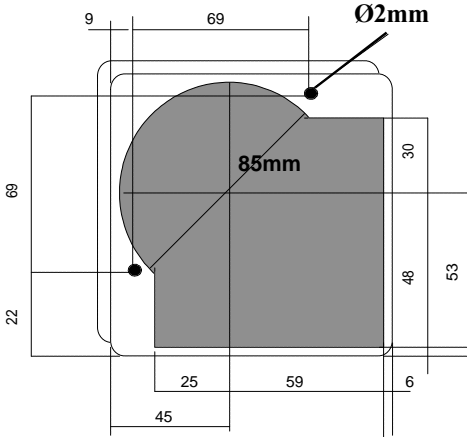
How to flush mount a speaker

1. Locate the exact position for the speaker.

2. Cut out the hole as indicated (shaded area).

3. Drill two Ø2mm holes.

4. Fasten with two 3x14mm selftapping screws (not included).

5. Insert the speaker into the cutout and slide it into its correct position. The two screws will lock into two keyhole-shaped holes.
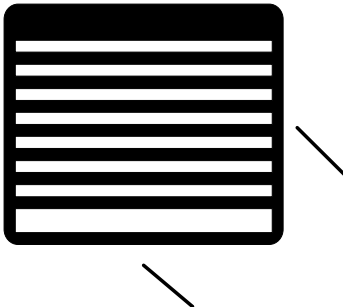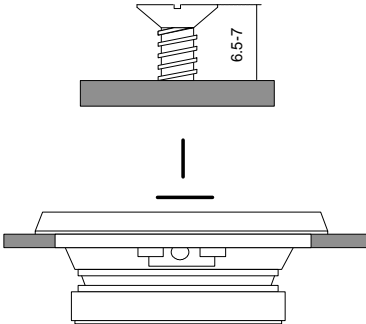
INSTALLATION

Multiple handset connections

- up to three handsets can be connected simultaneously.

#1

Intercom

#2 **#3**
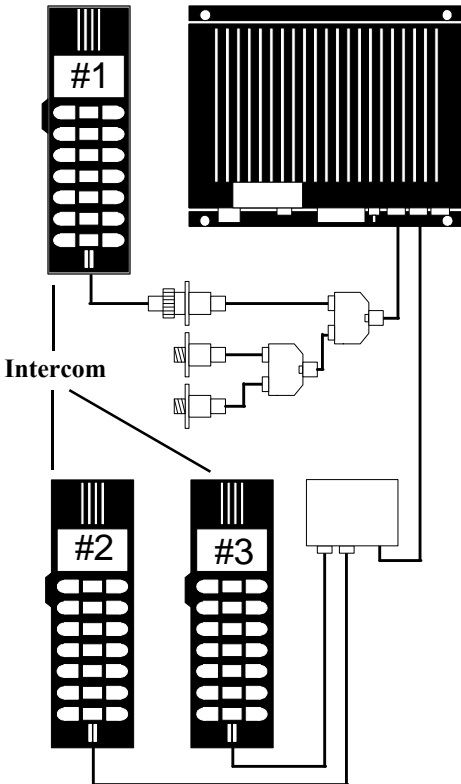
Dual outlet for two or more handset sockets.
Part no. 157.2014.001

Note! Only one handset should be connected at a time, as the sockets are in parallel.

Dual connection box for two handsets.
Part no. RS8321

Handset #2 and #3 will have equal second priority, and both can intercom with #1.

OPTIONAL PA-HAILER

(not available in RS8300 standard)
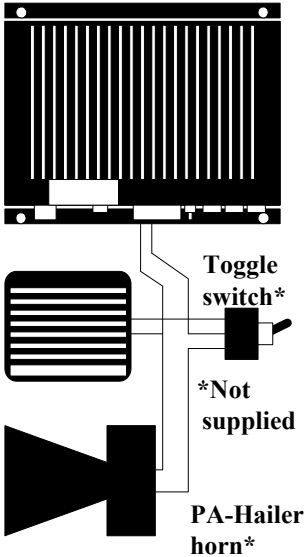
Installation and operation of

PA-HAILER

Toggle switch*

***Not supplied**

PA-Hailer horn*

Pick up one handset.

Place the toggle switch in HAIL position.

INTERCOM
10

E   2

Select Intercom

Press PTT to HAIL

Terminate the function by resetting the toggle switch to RS8300 speaker, and place the handset back in its cradle.

TECHNICAL DATA

General

Power supply:	13.2V dc (12V nominal) isolated earth. Reverse polarity protection.
Operating voltage:	10.8 to 15.6V dc
Power drain:	
- receive:	1.8W / 150mA
- transmit (25W):	60W / 5A
- transmit (1W):	10W / 0.8A
- stand-by:	60mW / 5mA
Mode:	Simplex / Semi Duplex
Channels:	54 International / US, 16 Private
Facilities:	Scanning, Dual Watch, Priority Key, DSC - class C (automatic distress call)
Frequency range:	153.9 - 163.1 MHz
Antenna impedance:	50 ohms
Connector:	PL 259
Navigator input:	NMEA 0183 - GLL and GGA string.

Transmitter

Power output:	
- high:	23 - 25W
- low:	1W
AF distortion:	<3%
Microphone sensitivity:	22mv / 600 ohms

Loudspeaker:	8 ohms, 8W
Dimensions:	110x100x47 (4.4x4x1.9")
Weight:	0.4 kg

TECHNICAL DATA

Receiver

Sensitivity:	0.3 µv / 12 dB SINAD
Squelch sensitivity:	Threshold 10dB quieting max. 2 µv
AF output power:	4W / 8 ohms
Headphone output:	0.775v / 600 ohms

Construction

Main unit:	Moisture resistant. Must be located inside, away from possible exposure to water.
Dimensions:	184x155x42mm (7.2x6x1.6")
Weight:	1 kg
Handset:	Water resistant. Handset may be placed in an open cockpit and on the flybridge.
Compass safe distance:	1m
Dimensions:	192x60x27mm (7.5x2.3x1")
Weight:	0.25 kg
Environmental:	-10° to +55°C / 95% rel.

INTERNATIONAL MARINE VHF CHANNELS

C= Channel   D= Duplex   □= Only DK, N, S, SF
P= Public   H= Harbour   ■= Only N, SF
S= Ship to Ship   X= Receive only   ◆= Only UK
●= 25 Watt   ⊙= 1 Watt

C	D	P	H	S	Remarks	C	D	P	H	S	Remarks
1	●	●	●			60	●	●	●		
2	●	●	●			61	●	●	●		
3	●	●	●			62	●	●	●		
4	●	●	●			63	●	●	●		
5	●	●	●			64	●	●	●		
6				●		65	●	●	●		
7	●	●	●			66	●	●	●		
8				●		67			●		
9		●	●			68			●		
10		●	●			69			●	●	
11		●				70		DIGITAL SELCALL				
12		●				71			●		
13		●	●			72				●	
14		●				73			●	●	
15		●	●			74			●		
16	SAFETY & CALLING CHANNEL					77				●	
17		●	●			78	●		●		
18	●		●			79	●		●		
19	●		●			80	●		●		
20	●		●			81	●		●		
21	●		●			82	●	●	●		
22	●		●			83	●	●			
23	●	●				84	●	●	●		
24	●	●				85	●	●			
25	●	●				86	●	●			
26	●	●				87	●	●			
27	●	●				88	●	●			
28	●	●									
P1				◆	157.850 MHz	P1 = L1				□	155.500 MHz
P2				◆	161.425 MHz	P2 = L2				□	155.525 MHz
P3						P3 = L3				■	155.650 MHz
P4						P4					

US & CANADIAN MARINE VHF CHANNELS

C= Channel   D= Duplex   •= 25 Watt
P= Public   H= Harbour   ⊙= 1 Watt
S= Ship to Ship   ★= Receive only   ◆= USCG only

C	D	P	H	S	Remarks	C	D	P	H	S	Remarks
1			•	•		60	•	•	•		
2			•	•		61	•	•	•		
3			•	•		62	•	•	•		
4			•	•		63			•	•	
5			•	•		64	•	•	•		
6				•	Safety	65			•	•	
7			•	•		66			•	•	
8				•		67				⊙	
9			•	•		68			•	•	
10			•	•		69			•	•	
11			•	•		70	DIGITAL SELCALL				
12			•	•		71			•	•	
13			⊙	⊙		72				•	
14			•	•		73			•	•	
15				★		74			•	•	
16	SAFETY & CALLING CHANNEL					77				•	
17			⊙		State controlled	78			•		
18			•	•		79			•		
19			•	•		80			•		
20	•		•			81			◆	◆	
21			◆	◆		82			◆	◆	
22			◆	◆		83			◆		
23			◆			84	•	•	•		
24	•	•			Marine operator	85	•	•			
25	•	•			Marine operator	86	•	•			
26	•	•			Marine operator	87	•	•			
27	•	•			Marine operator	88				•	
28	•	•			Marine operator						

WX1 WEATHER 162.550 MHz ★	WX6 WEATHER 162.500 MHz ★
WX2 WEATHER 162.400 MHz ★	WX7 WEATHER 162.525 MHz ★
WX3 WEATHER 162.475 MHz ★	WX8 WEATHER 161.650 MHz ★
WX4 WEATHER 162.425 MHz ★	WX9 WEATHER 161.775 MHz ★
WX5 WEATHER 162.450 MHz ★	WX10 WEATHER 163.275 MHz ★

SIMRAD warrants that every product shall be free of defects in material and workmanship as specified below:

CATEGORY "A": *Autopilots *Radars *Instruments *Navigators *Radiotelephones *Plotters *Gyro compasses *Sonars *Echo sounders *Trawl Instrumentation.
These products are warranted for a period of 24 months on parts and 12 months on labour from date of purchase, except for category B items. Consumable parts such as lamps, fuses, batteries, bearings etc. are not covered by this warranty.

CATEGORY "B": *Antennas *Transducers *Trawl sensors *Monitors (CRT) *Gyro sensitive elements *Radar magnetrons *Disk drives.
These items are warranted for a period of 12 months on parts and labour from date of purchase.

WARRANTY SERVICE is available through authorised service dealers or national distributors worldwide. Products returned will, at the sole discretion of Simrad, either be repaired or replaced free of charge within normal working hours. Freight charges, insurance, duties or any other costs are the responsibility of the customer.
Maximum liability shall not, in any case, exceed the contract price of the products claimed to be defective.

ON BOARD SERVICE can be arranged by authorised local service dealers or national distributors upon request. Labour costs for the repair/replacement of the defective modules/parts will be free of charge provided a valid warranty is confirmed. Overtime, travel, lodging, per diem, insurance, duties or any other costs are the responsibility of the customer. Additional expenses connected with replacement of transducers such as dry docking, diving and precautionary measures are not covered by this warranty.

VALIDITY: This warranty is effective only when warranty certificate or proof of purchase and equipment serial number is presented. Furthermore, the installation and operation has to be carried out in accordance with the product manual. Warranty liability does not apply to any equipment which has become inoperative due to misuse, accident, neglect, sea water damage or unauthorised repair. Simrad will not be liable for any loss, incidental or consequential damages whether based This text is intentionally left blank!upon warranty, contract or negligence, or arising in connection with the sale, installation, use or repair of the product. Consequential damages include, but are not limited to, any loss of profit, property damage or personal injury.
The terms of warranty as described does not affect your statutory rights.