

# SKANTI TRP 1150

MF/HF DSC  
Radiotelephone

# Operator's Manual



SKANTI

## Distress Call

Transmission of DSC distress alert on MF (2187.5 kHz)



1. If off: press ON/OFF.



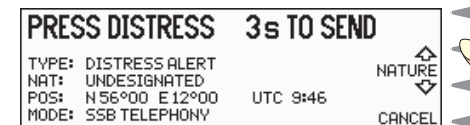
2. Open DISTRESS lid.



3. Press DISTRESS button.

TX and Alarm indicators flashes and an intermittent sound starts.

If time permits, release the distress button and select the NATURE of distress.

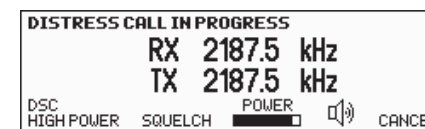


4. Press DISTRESS for 3 seconds.

TX and Alarm indicators becomes steady lit and the intermittent sound ceases.

Then the distress alert call will be sent on the DSC distress frequency 2187,5 kHz.

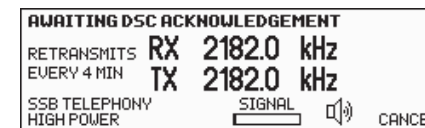
Wait for answer.



The distress alert call is transmitted five times in succession.

After 35 seconds the radio is set to the telephony distress frequency 2182 kHz.

The watch receiver is waiting for DSC acknowledgement.



The call attempt is automatically repeated approx. every 4 minutes if no DSC acknowledgement is received.

## Acknowledgement

5. Press CONNECT or lift handset.

The radio is set to the telephony distress frequency.



6. Press the handset key and say:



“MAYDAY”

“This is”

- the 9-digit identity and the call sign or other identification of the ship,
  - The ship's position,
  - The nature of distress and assistance wanted,
  - any other information which might facilitate the rescue.
- “OVER.”

Release the handset key and listen for answer.

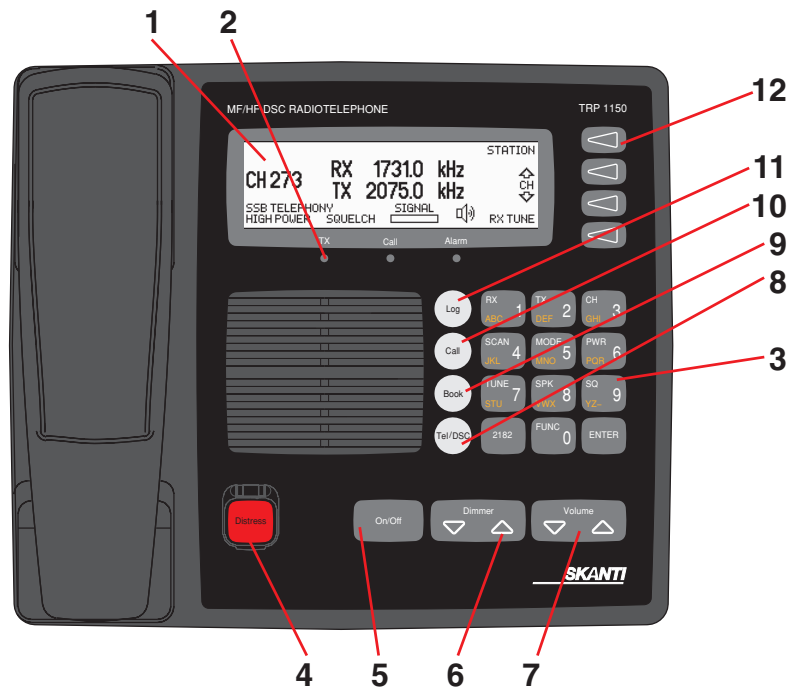
Release



ii

Be aware not to cover the micro phone while pressing the handset

# What is what?



1. Display.
2. Indicator lamps.  
TX, steady light: Transmitting.  
TX, flashing: Distress button pressed (ALARM flashes in antiphase).  
CALL, flashing: DSC call received.  
ALARM, steady light: An alarm condition exists.  
ALARM, flashing: Distress or urgency call received.
3. Keyboard.
4. DISTRESS button. Protected by shield. To use, lift the shield and press for 3 seconds.
5. ON/OFF push button. To switch off, press for 2 seconds.
6. Dimmer control.
7. Volume control.
8. TEL/DSC function switch.
9. Opens the DSC Address Book.
10. Press to start creating a DSC call.
11. Opens the Log over received and sent DSC calls.
12. Soft keys. The function of each key is described in its respective line at the right edge of the display.

# Introduction

The SKANTI TRP 1150 is a new generation of highly integrated MF/HF radiocommunication systems for GMDSS. These systems comply with the latest requirements within maritime MF/HF communication.

The TRP 1150 is a general purpose 150 W transceiver designed for maritime applications covering the frequency range 1.6 – 30 MHz. The equipment offers simplex and semi duplex radiotelephone communication with the built-in DSC fulfilling the GMDSS requirements for MF equipment including the recommendations and specifications of the IMO and ETSI as well as relevant national specifications.

The equipment consists of three main units:

- The compact Transceiver Control Unit (TCU 1150) with integrated DSC operation.
- The 150 W Transceiver Unit (TU 1150) with integrated DSC modem and DSC watch receiver.
- The ruggedized weatherproof automatic Antenna Tuning Unit (ATU 1150)

Easy operation is one of the key features of the TRP 1150. This has been achieved by making the operation similar to that of the associated SKANTI VHF 1000 DSC. Operation of the TRP 1150 is very easy with guided DSC operation.

# About this Manual

This manual is for the daily user of the system. Additionally, it includes a section on the installation procedures, and - on page 3 - the standard distress procedures. **We highly recommend you to read the manual before you start using the equipment.**

Notice: There may be some minor differences in the graphic layout of the manual compared to the physical device.

## Please note

Any responsibility or liability for loss or damage in connection with the use of this product and the accompanying documentation is disclaimed. The information in this manual is furnished for informational use only, is subject to change without notice, may contain errors or inaccuracies, and represents no commitment whatsoever. This agreement is governed by the laws of Denmark.

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# Abbreviations Used in this Manual

|      |                                  |
|------|----------------------------------|
| AM   | Amplitude Modulation             |
| CU   | Control Unit                     |
| DSC  | Digital Selective Calling        |
| GPS  | Global Positioning System        |
| HF   | High Frequency                   |
| MF   | Medium Frequency                 |
| MMSI | Maritime Mobile Service Identity |
| PTT  | Push-To-Talk                     |
| RX   | Receive                          |
| SSB  | Single Side Band                 |
| TEL  | Telephony                        |
| TX   | Transmit                         |
| UTC  | Co-ordinated Universal Time      |

# MF/HF Fundamental info

## Propagation of MF and HF Radio Waves

MF/HF radiocommunications provide a medium and long range service. The 1.6-4 MHz marine band is intended primarily for coastal operation beyond normal VHF communication range. A reliable range of more than 150 nautical miles can be expected in most areas in the daytime, more in the nighttime. Propagation of the radio waves in this band is mainly by ground waves i.e. the waves from the transmitter aerial follow the earth's curvature to the receiver aerial. The high frequency range 4 - 30 MHz can provide communication for hundreds or even thousands of nautical miles. The long range is achieved by sky waves reflected from the ionosphere. Propagation of the radio waves depends on a number of factors such as frequency, time of day, time of year, and solar activity. The channels allocated to the maritime mobile service in the HF range are divided into a number of bands: 4, 6, 8, 12, 16, 18, 22, 25 MHz to allow a suitable frequency band to be selected for communication dependent on distance and time of day.

## Radiotelephony

The mode of emission used for telephony transmissions in the marine bands is SSB (single-sideband, J3E). AM mode is used when receiving broadcast transmissions. The international distress frequency for radiotelephony in the MF band is 2182 kHz. The frequencies for radiotelephone distress and safety traffic in the HF bands are 4125 kHz, 6215 kHz, 8291 kHz, 12290 kHz, and 16420 kHz. Working frequencies for public correspondence with coast stations are arranged in pairs for duplex/semi-duplex operation. For the HF bands these channels are allocated numbers by ITU on an international basis. For the MF band ITU numbers are allocated for Region I only. In addition a number of simplex frequencies are available in each band for ship-to-ship communication.

## DSC

DSC (Digital Selective Calling) is an automatic calling system which allows a specific station to be contacted and made aware that a station wishes to communicate with it. In addition to calls to specific stations the system can also be used to call 'all ships' and groups of ships and this is of significance for its use for DSC distress alerting. DSC is an alerting signal only and the communication which follows is made on an appropriate working frequency using radiotelephony. The frequencies for DSC distress and safety calling are 2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, and 16804.5 kHz. Calling frequencies for public correspondence with coast stations are arranged in pairs, both international and national frequencies are assigned. In addition the frequency 2177 kHz may be used for ship-to-ship calling.

# Basic Functions

## Switch Supply On/Off



Switches equipment on when pressed. Switches equipment off when pressed for 2 seconds.  
Start-up display is 'Telephony' with last used settings.

Note: The equipment should always be switched on while at sea in order to maintain continuous DSC watch on 2187.5 kHz.

## Switch Speaker On/Off



Switches loudspeaker on/off.

## Switch to Telephony/DSC



Switches between Telephony display and DSC display.

# Telephony Functions

## Select 2182 kHz



Sets TX and RX frequency to the radiotelephone distress frequency 2182 kHz, selects SSB Telephony mode, sets Power level High, Squelch Off, Speaker On and increases Volume if lower than a preset level.

## Change Mode



Changes between 'SSB TELEPHONY', 'AM BROADCAST', and 'DSC':  
Optionally 'LSB' and 'SSB REMOTE', if enabled.  
In AM BROADCAST mode TX frequency is shown dimmed and transceiver cannot be keyed.

## Change Output Power



Changes between 'HIGH POWER' and 'LOW POWER'.  
DSC calls are automatically sent in 'HIGH POWER'.  
'LOW POWER' cannot be selected on the six telephony distress frequencies.

## Re-tune the ATU



Starts a TX tuning sequence.  
TX tuning is done automatically the first time the transmitter is keyed on a new frequency and before any DSC transmission.

# Switch Squelch On/Off



Changes between squelch on, indicated in the Telephony Display by 'SQUELCH' and squelch off (no indication). When squelch is on the receiver is muted in speech pauses.

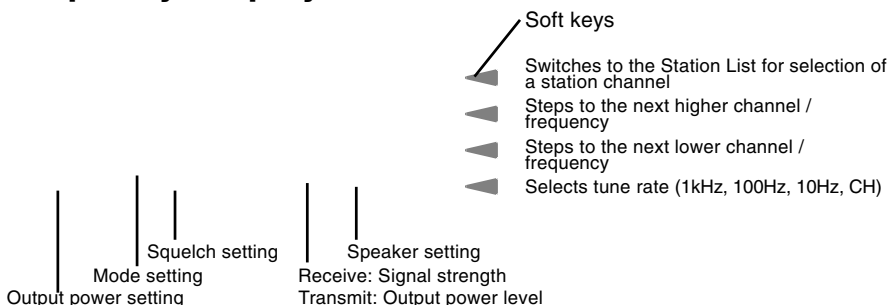
Squelch is automatically set to off by a change of RX frequency except during scanning.

Squelch is automatically set to on when scanning is activated and to off when scanning is deactivated.

May be switched on and off during scanning.

Always off in AM and SSB Remote mode. In SSB Remote mode control of the transceiver via the TU SYS connector is enabled.

## Telephony Display Functions:



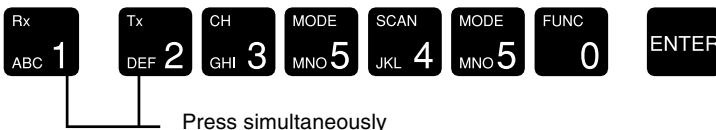
Select RX frequency, e.g. 2656.0 kHz:



Select TX frequency, e.g. 3210.0 kHz:



Select RX + TX frequency, e.g. 3545.0 kHz, simplex:



Select channel, e.g. 1208:



Pressing the ENTER softkey is equal to pressing Enter.

Pressing the TX softkey copies TX frequency to RX.

Pressing the RX softkey copies RX frequency to TX.

Pressing the SWAP softkey interchanges RX and TX frequencies.

Pressing the softkey deletes last entry.

Pressing the CANCEL softkey resets the display.



































# Installation

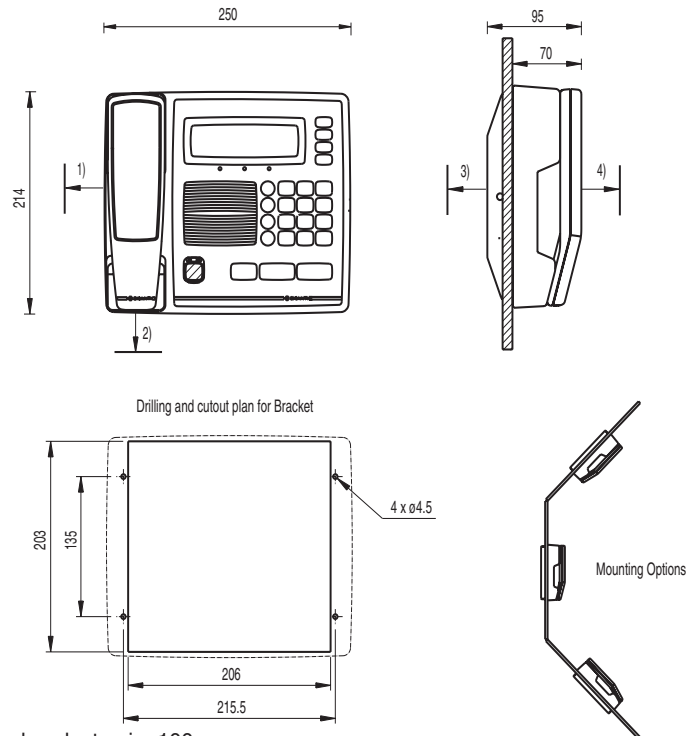
## Compass safe distance

Compass safe distance in accordance with ISO/R 694 are given below in metres.

| Unit         | Standard | Steering |
|--------------|----------|----------|
| Control Unit | 5.4°/H   | 18°/H    |
| Handset      | 1.7      | 1.2      |
| Handset      | 0.3      | 0.2      |

## Dimensions and weights

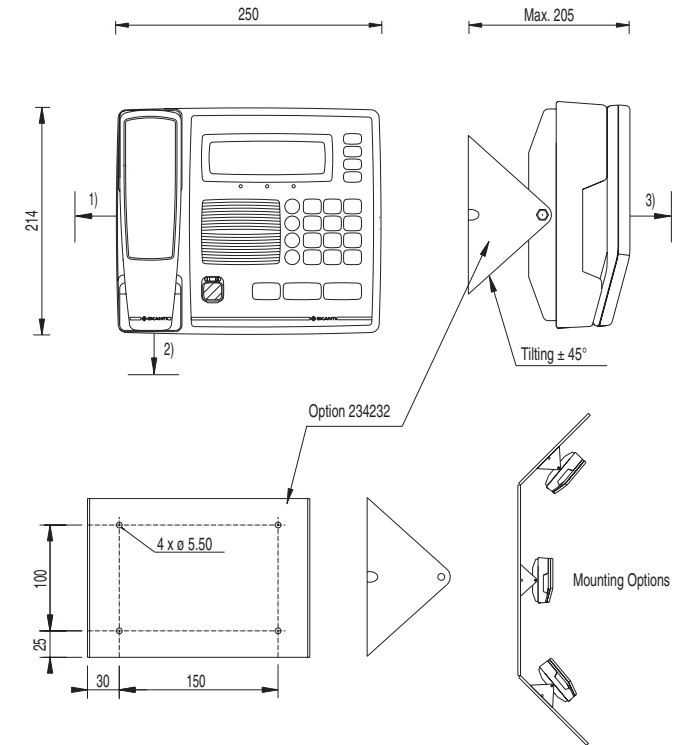
The Control unit may be tabletop or bulkhead mounted. Figures shows different possibilities to obtain the best possible viewing and operation position and includes the use of the optional bracket. Overall dimensions and a drilling plan for the necessary holes is also shown. If the mounting surface is not sufficiently plane apply washers between the Control Unit and the surface.



4-0-34455B

- 1) Space for handset: min. 100 mm.
- 2) Space for cable entry and handset cable: min 150 mm.
- 3) Space for cable entry: min 50 mm.
- 4) Space for service access: min 500 mm.

## Control Unit with Mounting Bracket



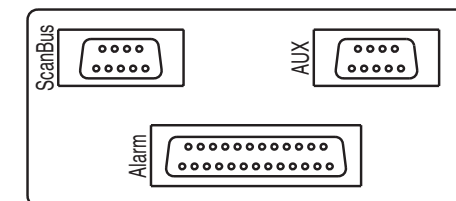
4-0-34622B

- 1) Space for handset: min. 100 mm
  - 2) Space for cable entry and handset cable: min 150 mm.
  - 3) Space for service access: min 500 mm.
- Tolerance: +/- 1mm.

### Weight:

|                           |        |
|---------------------------|--------|
| Control Unit              | 1.5 kg |
| Control Unit with bracket | 2.2 kg |

### Control Unit connector panel



38082

**Spare parts list:**

| <b>NAME</b>                               | <b>PART NO.</b> |
|---|-----------------|
| TCU 1150 MH/HF Transceiver Control Unit   | 82450190        |
| ATU 1150 Antenna Tuning Unit              | 80461593        |
| PA and Filters with SMPS Module           | 738097          |
| Synthesizer and DSC WR Module             | 636511          |
| RX/EX Signal Path Module                  | 636515          |
| SMPS Module                               | 636530          |
| Control / Intercon. Module                | 636510          |
| <b>Accessory list:</b>                    |                 |
| P2420 AC Power Supply                     | 80465591        |
| CH2410 AC Battery Charger                 | 80465691        |
| CB4616 SUBD-9 to Terminal Block Converter | 80461691        |

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