

www.voxmaris.com.ar

User Manual

SART



VOXMARIS
Simulador GMDSS



Vox Maris

GMDSS Simulator

Vox Maris is a technical training tool. It is a PC-based simulator to train sea-faring people in the use of GMDSS communications equipment, within a controlled and safe environment.

Vox Maris simulates the functionality of marine radio and satellite communications equipment according to the operational norms determined by The International Telecommunication Union. It also emulates real conditions of the marine radio communications such as noises, attenuation by distance in terrestrial and ionospheric propagation, and different types of sound effects from communication.



Index

Ch. I	Introduction	2
Ch. II	SART in Vox Maris	4
1	SART controls	5

Chapter **I**



Introduction

1 Introduction

Shipboard Global Maritime Distress Safety System (GMDSS) installations include one or more search and rescue locating devices. These devices may be either a radar-SART (Search and Rescue Transponder), or (from 1.january 2010) an AIS-SART [1] (AIS Search and Rescue Transmitter). The radar-SART is used to locate a survival craft or distressed vessel by creating a series of dots on a rescuing ship's radar display. A SART will only respond to a 9 GHz X-band (3 cm wavelength) radar. It will not be seen on S-band (10 cm) or other radar.

The radar-SART may be triggered by any X-band radar within a range of approximately 8 nautical miles (15 kilometers). Each radar pulse received causes it to transmit a response which is swept repetitively across the complete radar frequency band. When interrogated, it first sweeps rapidly (0.4 microsecond) through the band before beginning a relatively slow sweep (7.5 microseconds) through the band back to the starting frequency. This process is repeated for a total of twelve complete cycles. At some point in each sweep, the radar-SART frequency will match that of the interrogating radar and be within the pass band of the radar receiver. If the radar-SART is within range, the frequency match during each of the 12 slow sweeps will produce a response on the radar display, thus a line of 12 dots equally spaced by about 0.64 nautical mile (1.2 km) will be shown. When the range to the radar-SART is reduced to about 1 nautical mile (2 km), the radar display may show also the 12 responses generated during the fast sweeps. These additional dot responses, which also are equally spaced by 0.64 nautical mile (1.2 km), will be interspersed with the original line of 12 dots. They will appear slightly weaker and smaller than the original dots. SARTs are typically cylindrical, about the size of a person's forearm, and brightly colored.

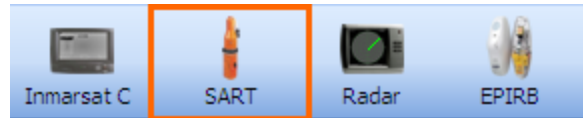
Chapter **II**



SART in Vox Maris

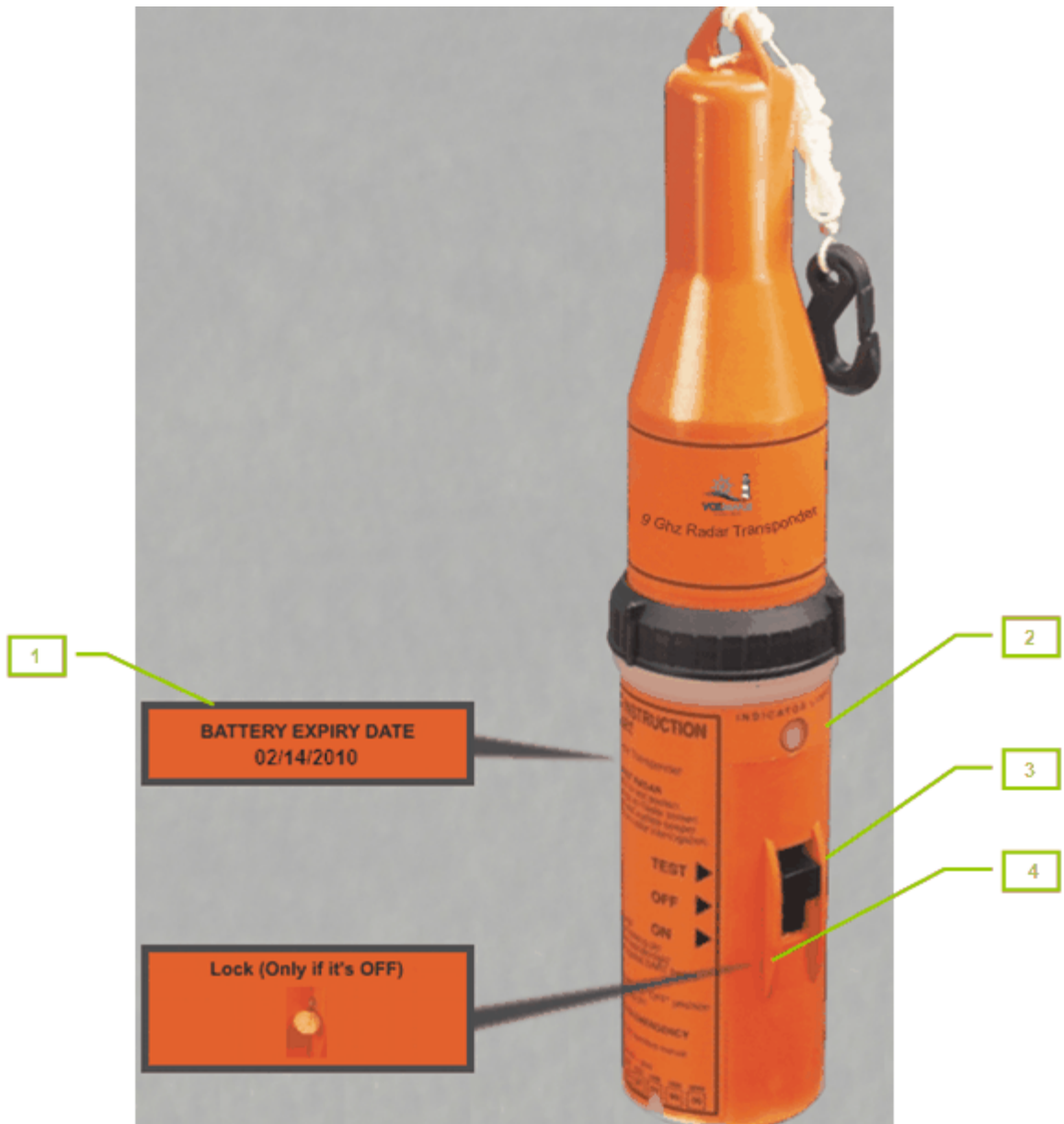
2 SART in Vox Maris

The SART device in Vox Maris is available only to Students stations. To access to SART device you should use the upper button bar and press SART button.



The SART device has two operational mode, first it has the normal operation when in emergency, emitting the distress signal in order it can be registered by the Radar device of another student station. On the other hand, this device has the test function to verify that the device is working properly. To verify Test you should use the own radar device of the student station, in the radar you will see the test signal of your own SART.

2.1 SART controls



1 Battery Expiry date

It indicates the expiry date of the battery of the equipment.

2 Signal indicator

With a red light indicates that the equipment is transmitting. During the broadcast a

distress signal, the SART will begin to flash this light until the SART is detected by a radar from another station. When the SART is detected by a Radar, the light will be turned on while the radar of another station continues detecting equipment SART. In addition, the SART will beep every time it receives a radar signal.



Depending on the distance between the boats, the one with the SART and the one with the radar, the SART will be displayed on the radar in various ways. For more details of its operation please consult the manual of radar device.

3 Power button

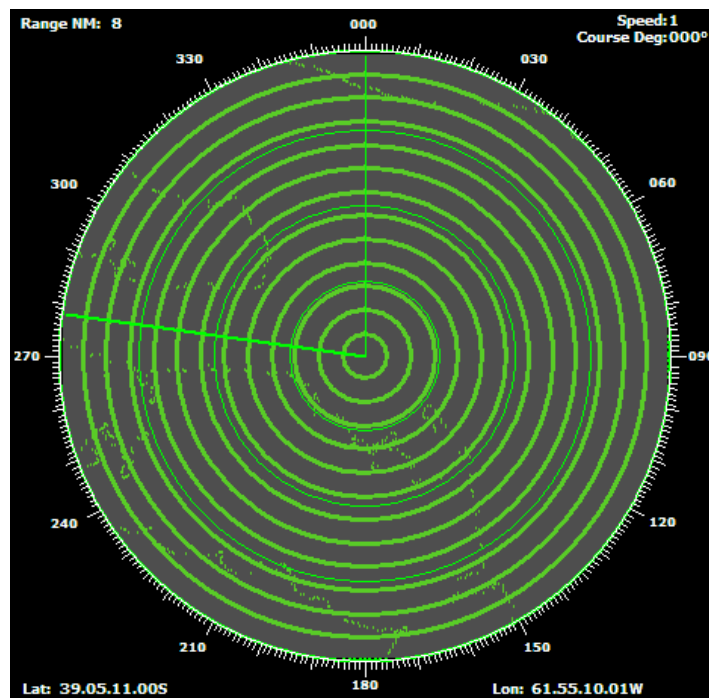
This button allows to power on the device, power off and test the device. If the button is pushed down, the device will begin to send the distress signal.



If the button is pushed up, the device will be in test mode. The signal of the device can be visualized in the own radar device.



When the device is in test mode, the signal can be viewed at the radar showing the signal as the image below.



To power off the SART device, you should move the button to the center as it can be seen in the image below.



4 Knob blockade

You may lock the device SART, which allows not operate the power button.

