Conforms with
The Manila amendments to STCW Code

“TRAINER – 1.4” GMDSS Simulator
"TRAINER – 1.4" GMDSS Simulator is developed in compliance with international requirements of ITU, IMO and INMARSAT and has the Certificate of Equipment Type Approval issued by Ministry of transport of Russian Federation №SB-3/1-2816-2014 dated 01.04.2014 (Copy in Annex 1)

The simulator is designed in accordance with the new Amendments to STCW Code (Section BI/12 "GMDSS communication simulation"), and also allows training on “The use of reporting in accordance with the General Principles for Ship Reporting Systems and VTS procedures”.

“TRAINER – 1.4” can be used as for primary education and training for General Operator Certificate (GOC) and Restricted Operator Certificate (ROC) for mariners working in Sea Areas A1-A4, as for their professional training, according to CEPT programs.

Using “TRAINER – 1.4” the students can get theoretical knowledge and practical skills on:

- the basic concepts of the GMDSS;
- the principles of the radio communication and alerting systems in GMDSS;
- the basic opportunities of Maritime Mobile and Maritime Mobile-Satellite Services;
- use of the GMDSS radio equipment and obligatory documents for realization of emergency radio communication procedures, reception of Maritime Safety Information (MSI) and general communication;
- actions in the case of the false distress alert transmission.
Using “TRAINER – 1.4” it is possible to get practical training in real radio traffic in the case of Distress or Emergency as well as for commercial communication.

“TRAINER – 1.4” software consists of:

- Instructor WorkPlace (station, used as server) and

- Desired numbers of the Students’ WorkPlaces (up to 8) combined in a Windows local network. Students’ WorkPlaces can be equipped with PC with “Touch-Screen” for radio equipment imitated in the simulator.
“TRAINER – 1.4” provides the following modes:

- Individual work on the Simulator without each other interference.
- Individual work with software response for the calls;
- Network communication with workstations

“TRAINER – 1.4” imitates the following GMDSS communication systems:

- Radiotelephony in VHF/MF/HF bands
- Digital Selective Call (DSC) in VHF/MF/HF bands
- Narrow Band Direct Printing (NBDP) in MF/HF band
- Reception of the Maritime Safety Information via NAVTEX, SafetyNET and HF-NBDP
- Satellite communication systems INMARSAT-C, FLEET-77, SARSAT

List of GMDSS radio equipment, simulated in «TRAINER – 1.4»
- Power supply unit
- VHF radio station with DSC controller
- MF/HF transceiver with DSC controller
- NAVTEX receiver
- Radio TELEX modem
- SES INMARSAT-C
- SES Fleet-77
- SART
- AIS-SART
- EPIRB COSPAS-SARSAT
- Portable VHF
- Portable VHF for communication with flying objects
- Alarm panel

**Functions of the simulated equipment**

**VHF radio station:**

- Switching ON/OFF, volume control, Squelch control;
- International and US channels setting;
- Double watch on two channels
- Change the power of the transmitter;
- Dimmer function.

**DSC Controller with the 70 channel receiver**

- Use of the special button for Distress Alert transmission;
- Sound alarm;
- List of stations and address book with an opportunity of their editing;
- RX-log for Distress alerts and other calls;
- Manual and automatic input of the ship's position and time
- Viewing of own MMSI number;
- Printing the send/received DSC calls;
- Controller Self-Test.

**MF/HF transceiver**

- Switching ON/OFF, volume control, Squelch control;
- Receiver and transmitter frequency tuning;
- Use of ITU radio telephone channels, programming of own working channels;
- Select an operating mode (class of radiation);
- Transmitter output power selection;
• Operation in a mode of a telephony, and also together with DSC controller or the NBDP modem.

**MF/HF DSC controller and the scanning receiver:**

• Use of the special button for Distress Alert transmission;

• Sound alarm;

• List of stations and adressbook with an opportunity of their editing;

• RX-log for Distress alerts and other calls;

• Manual and automatic input of the ship's position and time;

• Viewing of own MMSI number;

• Printing the send/received DSC calls;

• Controller Self-Test and external test to the Coast station;

• Scanning the Distress and Safety frequencies as well one of the calling frequencies, if necessary;

• Sending and reception DSC calls, required for DSC class-A equipment MF/HF (according to ITU M.493-13 Recommendation).
NBDP modem SCANCOM RTM-986

- Switching ON/OFF;
- Sending and reception of messages in FEC-Collective and FEC-Selective modes;
- Operation in ARQ-mode between the stations;
- Call and communication with the coast radio station (with use of free-channel signal), in automatic mode, according to ITU_R.541 Recommendation;
- Scanning the telex frequencies (MSI or coast station);
- Reception of MSI messages on HF MSI frequencies;
- Internal text editor for the messages preparation;
- Printing the messages;

NAVTEX Receiver NX700

- Switching ON/OFF;
- Coast stations and types of the messages programming;
- Self-TEST;
- Reception the messages;
• Sound alarm on receiving the priority messages.

**SES Fleet-77**

• Switching ON/OFF;

• Searching the satellite and registration in the ocean region network;

• Indication of Satellite signal level;

• Adressbook;

• Sending the distress message by means of the allocated keys;

• Imitation of the call to Rescue Coordinating Center;

• Imitation of the call to Medical assistance and Medical advice services;

• Imitation of the call to the land subscriber;

• Sending E-mail messages;

• Browsing through meteorological sites

**Inmarsat-C SES TT3020C with EGC receiver**

• Switching ON/OFF

• Manual and automatic input of the ship's position and time;
• Searching the satellite and registration in the ocean region network (Log-IN);
• Exit from the ocean region network (Log-OUT);
• indication of Satellite signal level ;
• Internal text editor;
• Adreesbook;
• Sending the distress message by means of the allocated keys;
• Sending extended distress message with inclusion the nature of distress and a choice of LES
• Reception of acknowledgement of the passed distress message;
• Reception of relaying the distress message;
• Message transmission with use of two-digital services;
• Messages transmission/reception between the stations (WP) and coast-vessel (registered in a simulator
• Message transmission to the coastal subscribers with use of Telex-, Fax-, and Electronic mail services;
• sending the “Position report” message;
• PV-Test;
• Viewing of own selective number(ID);
• Reception of MSI messages via SafetyNET
• Printing of messages;
• Reception the confirmations on the sent messages;
• Sound alarm on receiving the priority messages.

*n*EPIRB 406 MHz

• EPIRB Switching ON/OFF;
• EPIRB Self-Test;
• Visual indication of EPIRB transmission.
**SART**

- SART Switching ON/OFF;
- SART Self-Test;
- Visual indication of SART transmission on the RADAR screens.

**AIS-SART**

- Switching ON/OFF;
- Self-Test;
- Visual indication of AIS-SART transmission on the RADAR screens/

**Alarm Panel**

- Distress alert transmission via VHF DSC, MF/HF DSC and Inmarsat-C systems;
- Visual indication and sound alarm at distress alert reception/

**Portable VHF radio station**

- Switching ON/OFF, Volume control, SQUELCH;
- Channel selection;
- Change of the transmitter power;
- Quick channels 16 setting;
- Blocking of the keyboard;
- Communication on the selected channel.
The Power Supply Control panel

- Indication of a battery voltage;
- Indication of a battery current (charge/discharge);
- Sound alarm and light indication at malfunctions.