

NEPTUN

The Integrated Communication System NEPTUN provides the possibility of the flexible reconfiguration and commutation of vessel's radio devices, the cryptographic equipment and the user terminals. The ICS provides the optimal use of the equipment in any user-defined configuration in order to implement explicit and encrypted voice communication - national and NATO. It is also a transmission platform for the KenBIT's MHS Pigeon, implementing encrypted data transmission in accordance with the ACP-127 and STANAG 5066 standards. In connection with the KenBIT's Octopus remote control subsystem, it provides the remote reconfiguration and management of the modems and the radio equipment of the various manufacturers (e.g. Rohde & Schwarz, Sailor, Motorola, Thales, Radmor etc.).



The offered system is dedicated for the installation on the vessels operating in accordance with NATO standards. It is in use on board of the Polish Navy vessels.

In the basic configuration the ICS provides the possibility of setting up the multi-channel connections for the voice and control signals between the communication devices:

- the radio transmitting and receiving devices, the user terminals (and the data transmission terminals when in use with the MHS Pigeon),
- the speech encryption devices as well as the radio modems (and the cryptographic devices both in the asynchronous and the synchronous mode when in use with the MHS Pigeon).

It provides the possibility to use simultaneously all of the vessel's HF and VHF radios in connection with various communication terminals (for the voice and data transmission), ensuring the possibility to create the communication networks and the flexible assignment of the created channels to the user terminals.

The TEMPEST technology and the use of the fiber optics as the transmission medium ensures the ICS NEPTUN to meet the recommendations of the ZOBT-500A/SDIP-29/SDIP-30 even in the vessel's harsh security conditions.

FEATURES OF THE NEPTUN SYSTEM

Automatic reconfiguration of the radio channels based on the configurations stored in the memory.

Manual reconfiguration of radio channels (both PLAIN and SECURE).

Multiple system configuration scenarios saved in the memory. Possibility of simultaneous setup of up to a dozen radio channels/networks (depending on the availability of the radio resources and the capacity of the switches used in a specific system implementation).

Possibility of sharing the transmission channels by the users (with the mechanism of collision elimination and maintaining the priority of the SECURE/PLAIN mode control to ensure the security of correspondence in the cryptated channel).

Highly ergonomic by the simplicity of the configuration visualization on the commutators' front panels and the displays of the VT-Secs. Possibility of the emergency setting up of the radio channels by manual connection of the cable line plugs.

Manufactured as the TEMPEST SDIP-27 level A/B/C.

System concept meets the SDIP-29 (and the Polish ZOBT-500A) recommendations - strict RED / BLACK separation.

Company website



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ELEMENTS OF THE NEPTUN SYSTEM

KSR Tx/Rx commutators

KSR Data commutator

KSR Audio commutator with VTS interface

VT-Sec secure terminals

Interfaces of the radios and the cryptos

Radio equipment, modems and encryption devices

NEPTUN enables integration of the following crypto devices:

- Secure voice: CM105E, CM109NB, KY-57, KY-58, KYV-5,
- Secure data: KG-84C, KWR-46, KIV-7, CM109,
- Any universal NB/WB secure voice/data cryptos, such as ELCRODAT 4-2.

Due to the dedicated hardware interfaces for the standardization and normalization of the commutated signals, the NEPTUN system may integrate all kind of the radio equipment available in the market.



VT-Sec terminal

VT-Sec terminal - the basic element of the voice communication subsystem. It terminates the end of the RED side of the signal path as the user interface of the voice encryption devices and the ship's radio equipment. Together with the VTS interface it provides the internal communication between the operators of the rest VT-Sec terminals (as the tactical intercom function). The VT-Sec may also be connected directly to the voice encryption device (as the remote unit) - to provide the transmission, reception and switching of the operating mode [PLAIN / SECURE] of devices in the secure communication channel.

VTS interface

VTS interface connects the VT-Sec special communication terminals within the star network, provides the intercom functions and a matching system functionality for coupling the VT-Sec terminals and the radio/crypto devices.

TX/RX switching matrixes

TX / RX switching matrixes enable quick reconfiguration of the signal and control lines between the radio equipment and the modems/encryption devices. Equipped with the graphic display and the LED matrix graphic field for providing to the radio crew the visualisation of the commutation matrix states. The reconfiguration can be done locally with the front buttons or remotely by the Octopus remote control subsystem. There are also the memory buttons for selecting configurations saved in the system memory.

Product website



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