



## LINKEJ - Shipborne C4I system node

**Linkej** system is a Shipborne Command, Control, Communication, Computers and Information system node. It enables data gathering, continuously updated presentation, tactical planning, distribution of tactical information onboard own ships and to other cooperating units. It's functionality require cooperation with ships Combat Management System.

Main Computer



User Terminal



Radio Interface



Audio Terminal



### BASIC OPERATIONAL FUNCTIONS

#### Information collecting

Target information received from ship`s Combat Management System, own ship sensors (surveillance radar, navigation radar, optronic site, sonar, ESM equipment) and from cooperating ships are processed and concentrated on terminal equipment of C4I system. The external information exchange with C4I system is carried out with data communication radio link.

#### Situation picture compilation

**Linkej** equipment serves as a filter center for picture compilation within its responsibility area. Targets reports are sent to other ships or to superior centre for compilation of the total situation picture.

The situation picture compilation is performed by next system functions:

- Target reporting
- Target numbering
- Target correlation
- Target managment

#### Situation assesment

Tracked target data are presented with symbol, speed vector and supplementary alphanumeric data which can present identity of target (own, hostile, neutral), category (surface, air) etc.

Supplementary background information can be presented:

- Sea chart with coast lines, fix points, teritorial limits, waterways and long/latt reference system.
- Additional operator generated information as a vector elements and text.

#### Tactical evaluation and planning

With this function, the present and future situation can be analyzed. Planning can be made and decisions can be taken upon extrapolated target movements and assumed behavior.

Tactical prediction function, based on own speed and course and target speed and course, is included in the system.

Alternative speeds and courses can be entered to simulate expexted tactical alternatives. Change-over from predicted to normal mode can be done instantaneously.

Calculation of own ship's time, course and speed to a intercept point with target can be done.

## Command and communication

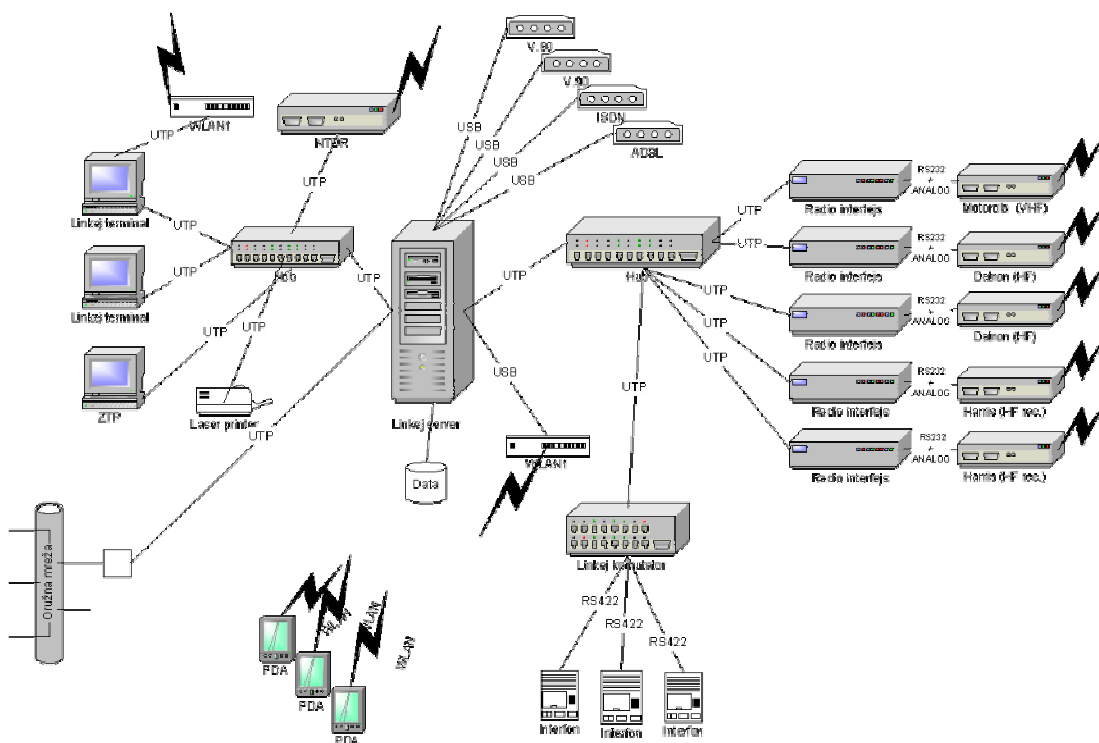
For supporting of this functionality, system use the functions for target tables reporting, target designation and handling of standard orders. This function actually represent a message handling subsystem within C4I system  
 Designation of targets to cooperating units and to the own ship weapons may be performed.  
 Tactical orders may be defined in textual format, received and transmitted using the external data links.

## SYSTEM LAYOUT

Ship`s C4I **Linkej** system consists of:

- communication computer
- tactical situation presentation subsystem
- external and internal communication equipment

System diagram :



## SYSTEM PROJECT PHASES

**LINKEJ** system can be used as a stand-alone shipborn system or as a part of C4I system.  
 In this case project activities usually include next activities:

- Installation of basic ship`s radio communication subsystem and C3I equipment.
- Installation of software to inter-ships digital radio equipment (UHF/VHF radio network software) enabling a distribution of ship`s tactical picture to coopertaing ships.
- Installation of communication equipment in a land-based command center.  
 Land-based radar information is received and presented in the command center, and with ship`s target information integrated in the global tactical picture.
- Integration to communication network of another commercial maritime systems as AIS.  
 Automatic fusion of target information is done in the operating center.

### Marine Electronic Center Ltd. (PCE d.o.o.)

Split – Croatia  
 Zrinsko-Frankopanska 209

Tel: +385 21 495-622  
 Fax: +385 21 495-679

www.pce.hr  
 E-mail: pce@pce.hr