



CARRIER CAVOUR



A.DORIA



## NETTUNO-4100

FAMILY OF NAVAL ECM SYSTEMS

The NETTUNO-4100 ECM System can provide naval platforms with an Active Electronic Defence using selected ECM tactics. These tactics can be equally effective against both terminal missile attacks and long range designation radar systems.

The NETTUNO-4100 can exploit a wide range of ECM techniques against surface search and tracking radars in support of anti-surface engagements.

### SYSTEM PERFORMANCE

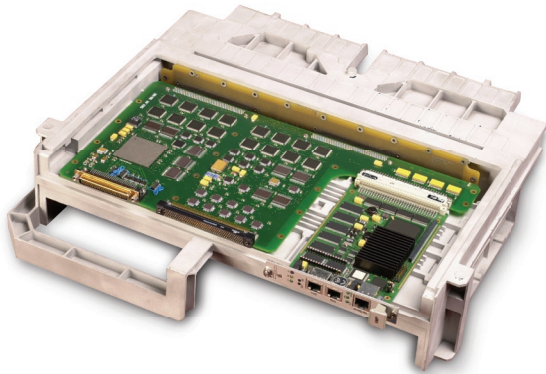
- Frequency Range: H to J bands
- Spatial Coverage: 360° Az, 50° El
- ERP: adequate to protect large ships
- Sensitivity: adequate for side-lobe jamming
- ECM Response: multithreat jamming capability
- ECM Programs: complete set of jamming programs, effective also against coded emitters.

### SYSTEM CHARACTERISTICS

- Very high performance, smart ECM modes, both noise and deception, exploiting DRFM-generated jamming signals
- Multi-threat jamming capability
- Electronic beam steering (electronically stabilized against ship movements)
- High level of readiness (no warm-up)
- Full solid-state design ensuring high ERP and graceful degradation in case of failure
- High reliability and maintainability
- BITE down to module/card level
- Easy on-board integration and installation (no wave guides).

### EXAMPLE OF SYSTEM COMPOSITION

A modular design approach permits configuration adaptation to individual ship classes. The Nettuno 4100 systems can be composed of one or two JASS (Jamming Antenna Sub System) depending also on operational requirements.



RX/TX ASSEMBLY (BRICK)



JAMMING ANTENNA SUBSYSTEM (JASS)

Nettuno 4100 is a state-of-the-art radar ECM having a scalable architecture which can be configured for different needs by:

- assessing the needed Effective Radiated Power (ERP) in relation to the ship Radar Cross Section (RCS) and role
- dimensioning the antenna array and the transmitted power to the ERP required for the defence purposes.

## SYSTEM FEATURES

The installation can be configured depending on the on-board space limitation (Split or Monomast configuration). The “*Split*” configuration is composed of two Jamming Antenna & Source Subsystems (JASS) featuring:

- Antenna Front-End (AFE)
- Jammer Antenna Unit (JAU)
- Jammer Source Unit (JSU) RF & Control
- Transformer Rectifier Unit (TRU)
- Cooling System.

The “*Monomast*” configuration features the same functional blocks of the “*Split*” configuration, but the active antennas are fitted to both sides of the ship and an equipment cabinet located inside a central mast contains both the JAU and the JSU. Scalable architecture allows both the “*Split*” and the “*Monomast*” configurations to be tailored to different sizes of ships. In any case the Nettuno 4100 systems can co-operate with other onboard EW sensors.

## PRODUCT SUPPORT

The Nettuno 4100 family is fully supported by a complete set of product support equipment that includes:

- Field test equipment
- Ground support equipment
- Automatic test equipment
- Library programming
- Library loading/unloading.

## SYSTEM INSTALLATION

Some examples of this family have been selected for the Horizon frigates and the Italian Carrier Cavour.