



SURVEILLANCE AND SECURITY

Coastal | VTS | Off-Shore

OCEANGARD

SOLID-STATE RADARS

The OCEANGARD is a **highly reliable, high-performance X-band solid-state** radar family, ideally suited for VTS and Coastal surveillance applications, in full compliance with the latest **IALA and ETSI EN technical handouts**. Moreover, it is a complete radar system, with proven small target detection capability, to assist authorities in a timely and efficient manner, enhancing the safety of maritime traffic, monitoring illegal activities, such as smuggling, illegal immigrants, piracy and illegal fishing.

The OCEANGARD radar system are based on **fully coherent pulse-compression** solid-state technology which, using advanced Signal Processing and Digital Techniques, provide operators with a **clear radar picture** of the surrounding scenario in any sea-weather conditions. OCEANGARD radar family includes a Built-In-test feature, together with a SNMP digital interface, that allow operators and system engineers to continuously monitor, on-site or remotely, the system performance and **real-time diagnostics**.

KEY STRENGTHS

Thanks to the implementation of advanced algorithms, pulse shaping technics, and improved design. OCEANGARD is the right choice when looking for high-definition detection without compromises. Among the other characteristics, key strengths to be highlighted are:

- Zero attenuation concept
- Advanced digital signal processing
- Time and frequency diversity techniques
- Power Management
- Reduced and compact footprint
- Native SNMP
- Extreme ease of installation
- Availability > 99.99%
- Unbeatable reliability and reduced maintenance routine
- Designed as a readily replaceable unit to streamline and expedite repairs effortlessly
- Full self-diagnosis (BITE)
- High-end radar arrays
- Full ASTERIX interface

MAIN FEATURES

Zero attenuation concept

The innovative concept of “Zero Attenuation” involves the **transceivers embedded** into the turning unit, which means **no waveguide path** required. This is crucial as it leads to a drastic **reduction in installation time** and costs, as well as an improvement in short range radar visibility and **stronger radar echoes**.



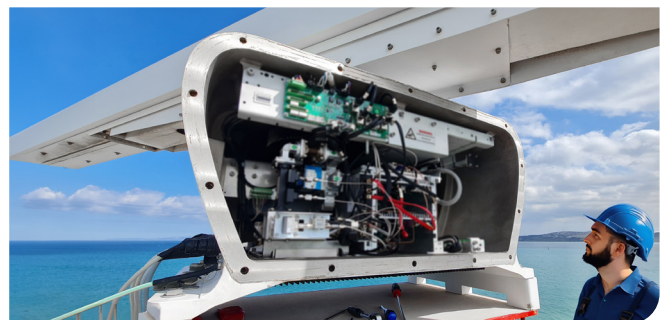
Plug & Play concept

OCEANGARD radar series is designed according to the concept of “Plug&Play”, which guarantees an extreme **effortless system installation** and allow customers to save time on site. **No more wiring activities** are required to be carried out on-site, minimizing the risk of human **error to zero** without involving any special tools.



Easy maintenance concept

We prioritize preventive maintenance over corrective measures, emphasizing **proactive strategies**. Additionally, our commitment to delivering quality extends to ensuring **reliability through technical measures** aimed at reducing the necessity for preventive maintenance tasks and **minimizing the total life-cycle cost** of the product.



SPECIFICATION

Operating Frequency	9300 ÷ 9500 MHz
RF Peak power	100W; 200W; 400W; 450W; 800W
Instrument range	96 nmi
Sector blanking	16 individual sectors
Power sector mode	16 individual sectors, where the transmitted power can be adjusted
Standard temperature range	-25°C ÷ +55°C
Extended temperature range	-50°C ÷ +55°C
Cell size	Down to 3 m
Dynamic range	≥140dB (According to the MODE of OPERATION in use)

Minimum Detectable Signal	down to -130dBm
Pulse compression gain	≥32dB
Target separation in distance	12m @12nmi 24m @48nmi 36m @96nmi
Frequency sub-bands	up to 12
Encoder redundancy	Single or dual head hollow shaft magnetic encoder
External interfaces	Asterix CAT-253; Asterix CAT-48; Asterix CAT-240
Extractor-tracker module	Optional

RECOMMENDED CONFIGURATIONS

	NO IALA COMPLIANCE			EXCEEDING IALA BASIC	EXCEEDING IALA STANDARD	Exceeding IALA ADVANCED
TURNING UNIT						
TURNING UNIT SIZE AND WEIGHT	555x490x493 mm ~ 70kg			866x584x750 mm ~ 270kg		
ANTENNA SIZE AND WEIGHT	6ft 15kg	9ft 20kg	12ft 29kg	12ft 65kg	18ft 92kg	21ft 183kg
ANTENNA POLARIZATION	Horizontal G: 29 ± 1 dBi	Horizontal G: 31 ± 1 dBi	Horizontal G: 33 ± 1 dBi	Horizontal G: ≥ 34.5 dBi or Circular G: ≥ 34 dBi	Horizontal G: ≥ 36 dBi or Circular G: ≥ 35.5 dBi	Horizontal G: ≥ 38 dBi or Circular G: ≥ 37 dBi
SETUP	SINGLE UP-MAST (Turning unit embedded) SINGLE / DUAL DOWN-MAST (Indoor cabinet) DUAL UP-MAST (Outdoor cabinet)			SINGLE UP-MAST (Turning unit embedded) SINGLE / DUAL DOWN-MAST (Indoor cabinet) DUAL UP-MAST (Outdoor cabinet)		

APPLICATIONS



Coastal Surveillance



VTS/VTMIS



Mobile surveillance Vehicles



Oil and gas terminals



Offshore platforms



Critical Infrastructure Protection



Oil Spill Detection



Wind Farms Surveillance



Port Traffic control



River traffic control



Smuggling and piracy control



EEZ Security

INTEGRATED LOGISTIC SUPPORT



Longevity, Reliability, Remote Support

To **enhance efficiency** and **reduce costs**, our systems offer **full remote access** for **direct transmission of diagnostic logs**, minimizing onsite visits, reducing **operational expenses**, and improving turnaround times. Our Service Level Agreement (**SLA**) ensures this **efficient support**. Each Line Replaceable Unit (**LRU**) has a **QR code for quick information access**, improving communication and service responsiveness.



Client-Centric Support

We prioritize client support throughout the entire process. Our technical team conducts **on-site system commissioning**, including **standalone** and **live tests** in various environmental conditions alongside cooperating vessels. Comprehensive **technical documentation**, structured with DataModules following the **S1000D standard**, accompanies our systems.



After-Sales Services & SLA Options

We offer **after-sales services** such as **installation and maintenance courses**, along with an advanced **ticketing platform** for streamlined communication. Our maintenance services, including preventive, corrective, and **SLA options**, are tailored to meet the specific operational needs of our customers. We have **service centers** strategically located across the globe.



Via California 32, 63066, Grottammare, AP, ITALY

Tel. +39 0735 61621

Fax +39 0735 616284

sales@icstechnologies.it

www.icstechnologies.it

