



GMDSS COASTAL RADIO



WE ENSURE SAFE MARITIME COMMUNICATION WORLDWIDE

THE HISTORY OF GMDSS

The Global Maritime Distress and Safety System (GMDSS) is a globally recognised and adopted framework enhancing safety at sea and facilitating aid to distressed ships. Established in 1988 by the International Maritime Organization (IMO), GMDSS ensures standardized maritime distress and safety communications. Mandated by SOLAS, it dictates the radio communication equipment ships must carry, maintenance procedures, and usage guidelines. Governments are urged to establish shore-based facilities supporting GMDSS communications. This comprehensive system, implemented worldwide from 1992 to 1997, plays a vital role in saving lives at sea by defining protocols, equipment standards, and communication systems.



GMDSS IN BRIEF

Today, GMDSS serves a crucial role in ensuring Safety of Life at Sea by integrating several systems, each serving a pivotal function in maintaining reliability and security.

The GMDSS consist of Digital Selective Calling (DSC), VHF MF/HF, Satellite, Communication, MSI/NAVTEX, Emergency Position Indicating Radio beacon (EPIRB) and Search and Rescue Transponders (SART).

DSC is considered the automated watch on distress channels running on VHF, MF/HF radios. The satellite communication is based on satellite network that reaches up to sea area A3 (see page 7-8). Emergency Position Indicating Radio beacon's (EPIRB) and Search and Research transponders (SART) are sending out distress and locating signals under emergencies.

AREA OF GMDSS EXPERTISE

The essential part of GMDSS is the coast station located on shore. The main purpose of the coast station is to monitor and coordinate the maritime traffic and radio communication. In some cases, the coast stations are also required to send out maritime safety information (MSI) to ships, for example meteorological forecasts, navigation information and piracy warnings via NAVTEX. The tasks of the individual coast stations are regulated by the authorities in each country, but they are always based on GMDSS.

To meet these different requirements Danphone offers a complete customised solution with modular design, built around leading commercial off-the-shelf products, allowing great flexibility to make tailored designs. With our in-house software and hardware specialists, we can modify the standard-based solution to interface with existing systems for easy upgrade and transision.

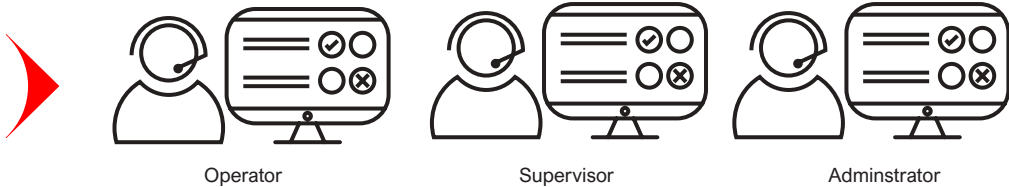
THE COMPLETE GMDSS SOLUTION

Danphone has designed, developed, manufactured and installed advanced radio communication systems and complete solutions since 1990. Danphone's GMDSS Communication platform provides all necessary hardware and software elements.

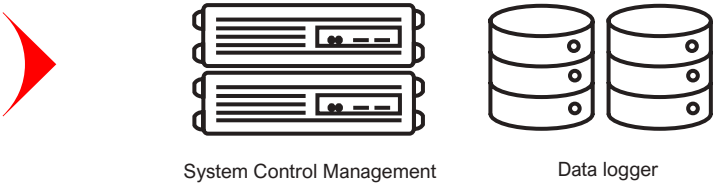
We are experts within the maritime communication technology, specializing in VHF, MF/HF, DSC, AIS/VDES and MSI/NAVTEX. We have more than 40 Solutions around the world.



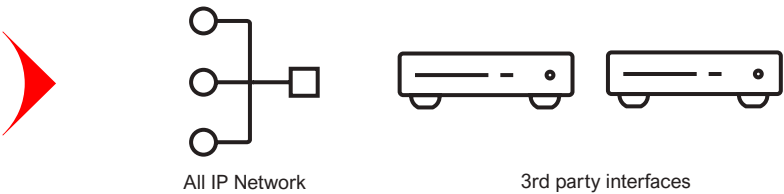
User Layer



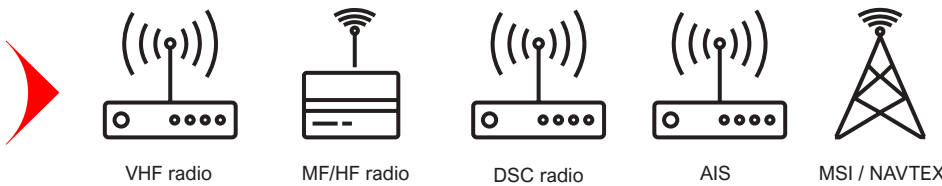
Control Layer



Network & Interface Layer



Radio & Safety Equipment Layer



THE DANPHONE GMDSS SOLUTION

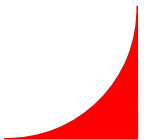
Are you facing challenges in your current Coastal Radio Communication setup? Wondering how to enhance safety, streamline operations, and improve overall efficiency? The Danphone Coastal Radio Communication Solution – the perfect modular solution that adapts to your unique requirements, addressing users, workflow, key processes, equipment, infrastructure, and technology.

Whether it is a small and straightforward setup or a complex, large-scale national solution, our Coastal Radio Communication Solution is the foundation of maritime communications. It is meticulously designed and crafted from the bottom with modularity in mind to ensure it seamlessly caters to your specific needs, making it the ideal choice for coastal communication of all sizes.



FLEXIBLE SOLUTIONS CUSTOMISED AND COMMERCIAL OFF-THE-SHELF

The Danphone Coastal Radio Communication Solution has been specifically designed with GMDSS in mind and thus complies to the relevant international requirements and recommendations including the need for reliable 24/7 operation.



SCALABILITY AND MODULARITY FOR ANY COASTLINE

Our Coastal Radio Communication Solution is adaptable, whether it's a single-radio setup or a complex national solution with multiple operator and radio sites installed at various remote locations, spanning vast coast lines. The Danphone GMDSS communication solution provides the complete solution. It's designed to handle multiple simultaneous dialogs, ensuring reliable communication. The modular design allows for easy customisation to match your coastlines unique requirements, and integration with 3rd party equipment.

Our GMDSS Modular Solution can be tailored to deliver the services you need. No matter the complexity, we're here to support you.



BUILD A GMDSS SOLUTION THAT FITS YOU!

with Danphone Moduls

MARITIME COMMUNICATION



VHF Radio

Very High Frequency is communication technology used everywhere in maritime operations.



UHF Radio

Ultra High Frequency radio for ground to air communication.



AIS

Automatic Identification System tracks vessels, enhancing safety, navigation, and situational awareness



MF/HF Radio

Critical for long-distance maritime communication, MF/HF radios ensure safety and connectivity at sea.



MSI/NAVTEX

Information broadcast to vessels to enhance maritime safety, e.g., navigational warnings and meteorological updates.

EXTERN COMMUNICATION



SATCOM

Satellite Communication relays data globally for various applications, including telecommunications, broadcasting, and defense.



Complete Communication

Enabling seamless connectivity with a wide range of networks and devices for enhanced external communication capabilities. This includes PSTN, PLMN, Tetra, 5G etc.

DATA COMMUNICATION



Data Logger

Records, stores, and archives audio conversations and event data in digital format.



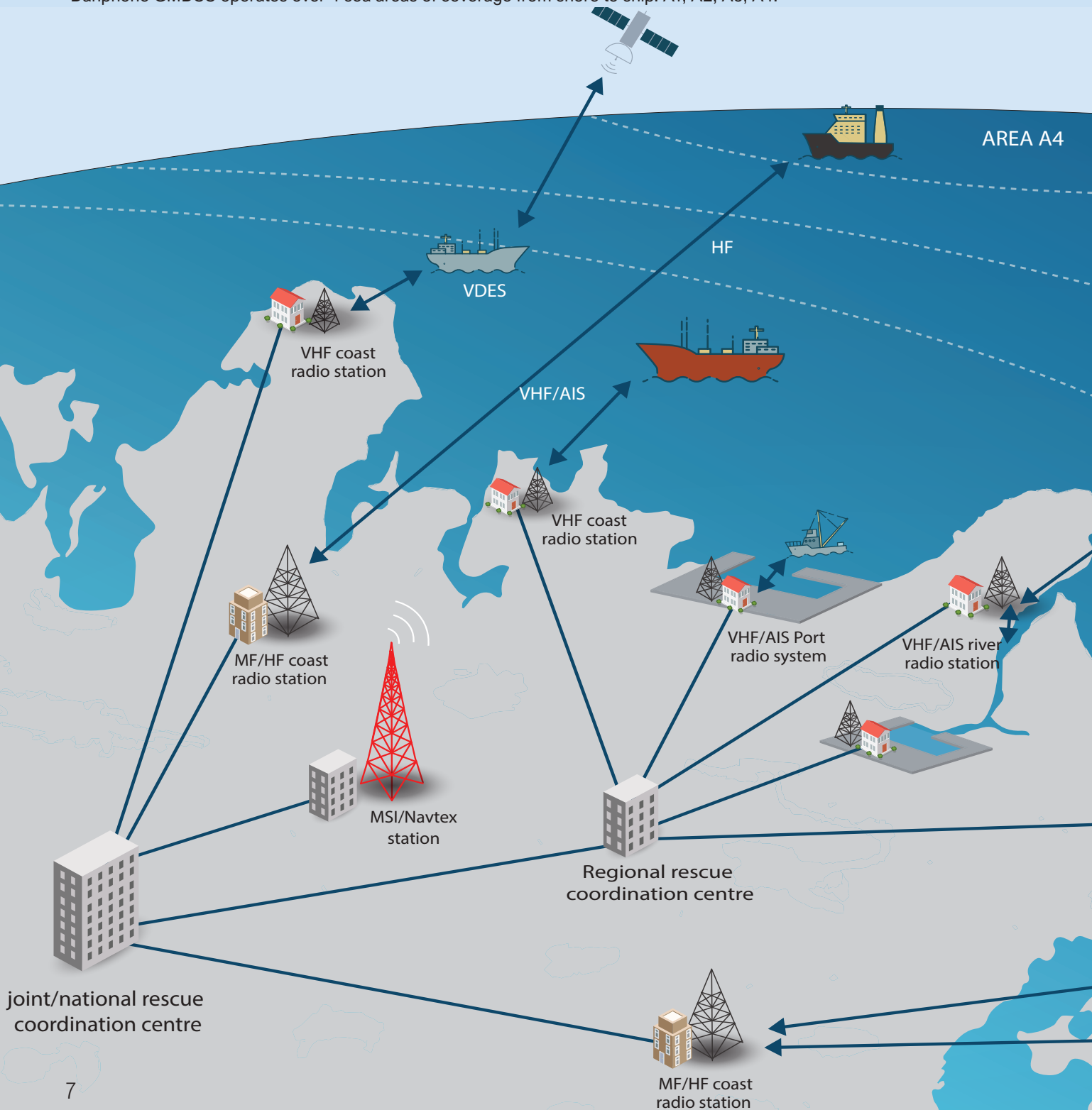
Back-up System

Backup Radios or Servers in the system are vital for reliability in the rare case of equipment failure.

GMDSS COMPONENTS & SEA AREAS

Land-based communication, management and control can be handled on several levels. Ports locally co-ordinating maritime traffic and Coast stations e.g. VHF or NAVTEX stations. Regional control centers connecting several local stations. Joint rescue co-ordination centres (JRCC) connecting regional and local centers.

Danphone GMDSS operates over 4 sea areas of coverage from shore to ship: A1, A2, A3, A4.



Sea area A1

is covered by VHF radio enabling Digital Selective Calling (DSC) and Radio Telephone (RT).
Determined range of approximately 20-30 nautical miles.

Sea area A2

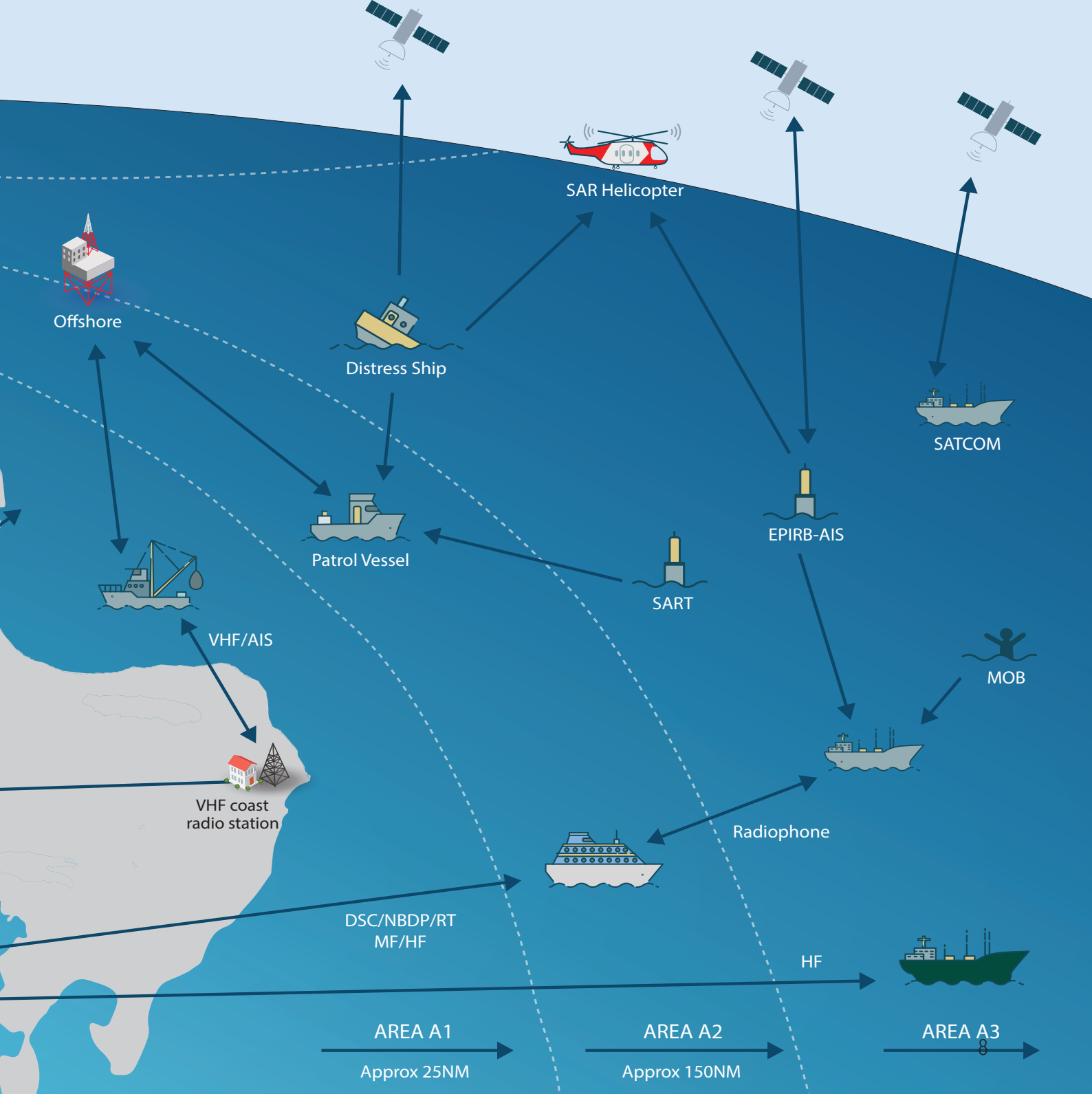
is covered by MF radio also enabling DSC and RT. Determined range of up to 150 nautical miles.

Sea area A3

is covered by HF radio and Inmarsat geostationary satellite enabling DSC and satellite communication within 70°N and 70°S.

Sea area A4

is categorized as the polar regions above 70°N and below 70°S. This area requires HF radio with DSC.
MSI/NAVTEX covers up to 400 nautical miles across seas areas.





QUALITY AND RELIABILITY IN CHALLENGING ENVIROMENT

Safety critical communication equipment is required to cover all sea areas. The Danphone Coastal Radio Communication Solution meets all industry standards for high quality and reliability. Our systems perform reliably in challenging maritime conditions, ensuring authorities have resilient connections.



SIMPLIFIED OPERATIONS FOR ENHANCED PRODUCTIVITY

The GMDSS Coastal Radio Communication Solution prioritises simplicity and efficiency. Our user-friendly interface streamlines communication tasks, minimizes downtime, and boosts productivity.



KEEPING PACE WITH INDUSTRY CHANGES

At Danphone, we're dedicated to future-proofing your Coastal Radio Communication Solution by staying up-to-date. Our digitisation efforts simplify processes for customers and optimise performance. We enable you to keep pace by providing ongoing software updates and offering midlife upgrades.



SUSTAINABILITY

We are committed to durability, extending equipment lifespan, reducing waste, and promoting returning old equipment to create a greener maritime industry. We are proud to say that over 99% of the minimal waste generated by Danphone during our production and manufacturing processes is repurposed into valuable, usable assets.

COMPLIANCY

Our research and development team is continuously ensuring our solutions are compliant with international standards and requirements. We ensure full compliance to UN/IMO and IALA standards, including for example EMC, DSC, radio regulations etc.



KEY FEATURES



Easy and intuitive touch screen operation



VHF and MF/HF for voice communications and DSC



Flexible and scalable secure communication system



IP network infrastructure and voice over IP



Multiple radio sites, control centers and operator positions



Designed for 24/7 operation



Fully GMDSS, IMO and IALA Compliant



Prepared for mGMDSS



Remote controlled and monitored via LAN



Remote controlled network management & configuration



Simple Network Management Protocol (SNMP) Interface



Well-proven reliable communication system



No single point of failure

INTUITIVE AND AUTOMATED USER INTERFACE

Customized and optimized for every day operation from national systems to simple single radio setups. The Danphone "User Layer" focuses on easy operation by seamlessly integrating DSC-AIS. Visual and audible alarms are automated and the system will automatically prioritize distress messages for fast response.



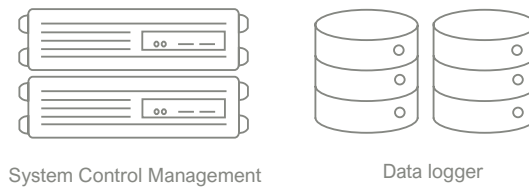
TIC



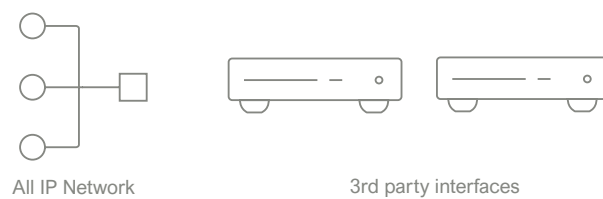
User Layer



Control Center Layer



Network & Interface Layer



Radio & Safety Equipment Layer



EASY AND INTUITIVE OPERATION

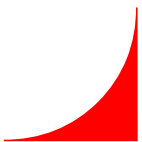
The Danphone operator software has an intuitive graphical interface designed for touch screen operation with full logging of all communication lines, both maritime and extern calls, regardless of time and place.



INTUITIVE INTEGRATION

The Danphone Coastal Radio Communication Solution is designed with user-friendliness in mind. The intuitive interface and controls make it easy for personnel to operate and manage the system effectively. From configuring transceivers to monitoring communication channels, our solution simplifies complex tasks, reducing the learning curve for users.

Optimise your operational efficiency with the perfect screen setup that caters to your specific needs. We prioritise simplicity, providing operators with easy access and a comprehensive overview of the entire system. The specialised software is designed to elevate the user interface with direct integration from the Coast Radio Communication Solution to AIS software, we excel in simplifying your experience, facilitating a smooth transition.



VOICE USER INTERFACE

Touch screen operation ensures an efficient operation, of voice communication, intercom and pre-recorded messages. It provides a complete overview of all radio sites including their current operational status and configuration.

The intuitive display shows a control panel with number keypad for channel configuration and facility keys for broadcast transmissions and scanning.



Danphone's Voice User Interface.

KEY FEAT

Customizable user interface

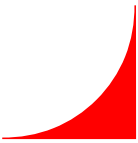
Channel scanning and automatic broadcast

Integrated VHF, UHF, MF/HF and Airband radio control

Instantaneous voice replay

Touch screen operation

Language packages



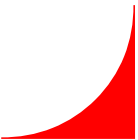
DIGITAL SELECTIVE CALLING

Digital selective calling (DSC) ensures fast and reliable response to vessels in distress. The DSC Inbox lists all unanswered DSC messages in order of priority and time. Distress messages are colored by type. Distress messages are displayed in red, safety messages in yellow and routine messages in green.

Danphone's DSC interface prioritizes all distress calls for quick response and is compliant to: ITU-R M. 493-14, ITU-R M. 541-10, ITU-R M. 821-1, ITU-R M. 1080. It ensures full logging of all received and sent messages for future references.



The Danphone Digital Selective Calling (DSC).



EXCLUSIVE AIS INTERMEDIA SOFTWARE

Our Including AIS Monitoring Software and implementing DSC integration will provide even more seamless vessel communication. With the click of a button, you can now directly contact any vessel displayed on your screen, fostering quicker and more efficient maritime conversations.

Furthermore, our intuitive interface allows you to simply enter the MMSI number to instantly pinpoint a vessel's location, ensuring precise tracking and communication. Experience the future of AIS technology with us.

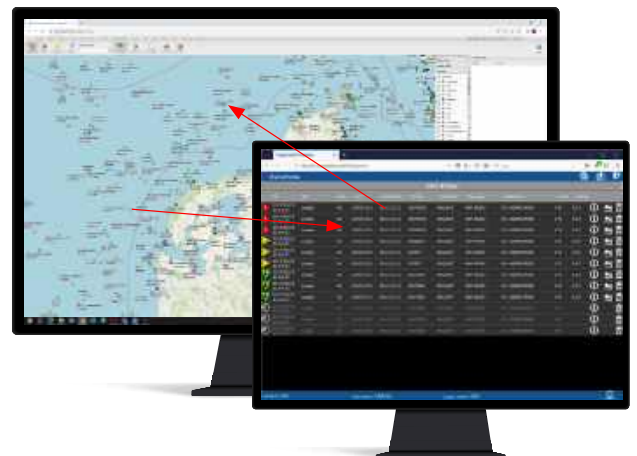


Illustration of the integration with the AIS map from The Danphone Digital Selective Calling (DSC).

FEATURES

Digital selective calling (DSC)

PSTN interface incl. GSM messaging

Intercom between operators

Received signal strength indication (RSSI)

Quality of Line indication (QoL)

VoIP

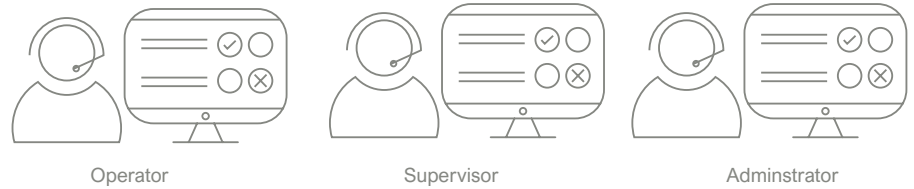
INTEGRATED SYSTEM MANAGEMENT

In the heart of every efficient Coastal Radio System lies the seamless integration of advanced technologies. Danphone's commitment to excellence extends beyond individual components; it extends to the orchestration and management of your entire GMDSS Coastal Radio System. This chapter delves into the intricate web of the Control Center Layer, the robust Control System, the datalogger's crucial role, and the underlying network infrastructure that ties it all together. Discover how these components work in harmony to empower port authorities with comprehensive control, real-time insights, and enhanced decision-making capabilities.

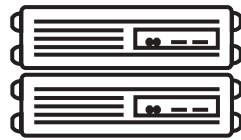
Large GMDSS systems often encompass more than 30 sites, spanning vast coastlines. The demand for monitoring and configuring each remote site imposes significant challenges in generating a comprehensive system overview.



User Layer



Control Center Layer

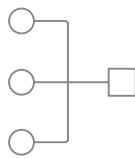


System Control Management



Data logger

Network & Interface Layer



All IP Network

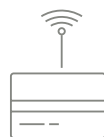


3rd party interfaces

Radio & Safety Equipment Layer



VHF radio



MF/HF radio



DSC radio



AIS



MSI / NAVTEX

SIMPLE MANAGEMENT

The Danphone Network Management System for the GMDSS Coastal Radio Solution provides users with a comprehensive graphical overview of the entire system and network. This intuitive interface empowers users to effortlessly monitor and control individual equipment remotely, making management straightforward and efficient.



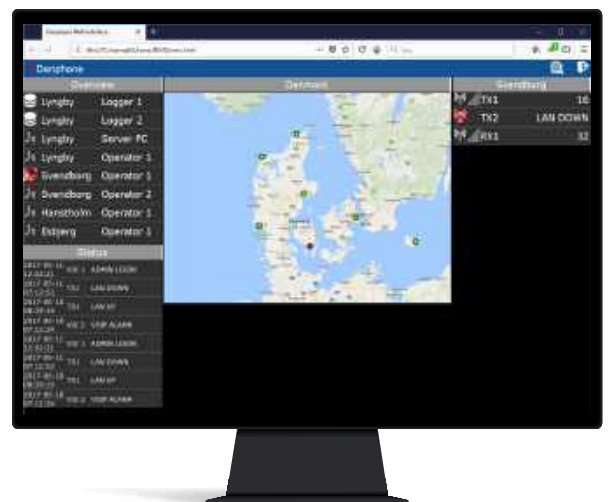
The foundation of Danphone is our Coastal GMDSS Solution. Designed to support multiple users across various locations and a wide array of devices and radios, our system's capabilities are limitless.

The Network Management System (NMS) provides users with a comprehensive network overview on their PC screens. It enables remote monitoring, system and device configuration, and even allows for transceiver shutdown in case of failure. For flexible and secure communication, users have full control over each transceiver.

Furthermore, our system automatically logs all events, such as errors, alerts, acknowledgments, and new configurations, in the system database, providing a complete incident history for your convenience.

The system features IP-network infrastructure, remote configuration and monitoring for easy operation. Each radio has its own status page showing operating temperature, transmitter power, reflected power, etc. Minimum and maximum values of these parameters can be adjusted to initiate external alarm handling. The colour on the icons shows green for OK, yellow for warning and red for error, which makes it simple to get an overview of the network. Automated visual alarms displayed on the map of all site locations, indicate warnings or failures along with a complete log of all events.

The system enables remote controlled monitoring, system and device settings and even switching off transceivers and coaxial connections, e.g. in the event of failure.



The Danphone User Interface with full overview of the network.

KEY FEATURES



Complete system overview



Complete logging of all events



Various levels of monitoring: Network, sites and radios



Multiple-level password protection



Indication of transceiver parameters



SNMP traps



Visual alarm of warnings or failures



Audible alarm upon request



Fleksible graphical user interface



Forward and reflected power



Received signal strength indicator



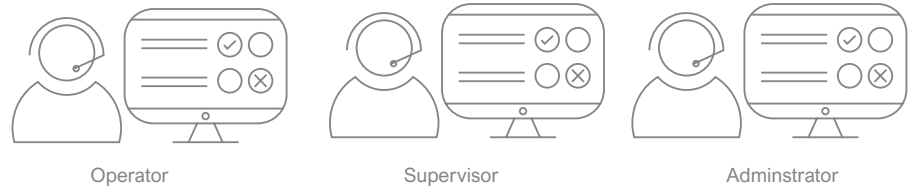
Optional features:
Antenna VSWR,
remote humidity and temperature readings,
power supply alarm etc.



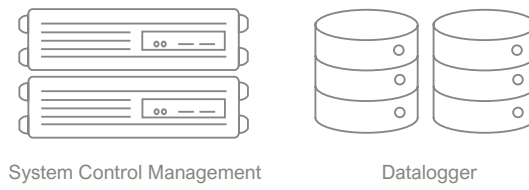
NEXT-GEN NETWORK SOLUTION

In this chapter, we'll delve into the technological backbone of The Danphone Coastal Radio Communication Solution, showcasing our cutting-edge IP network infrastructure and powerful Site Controller. Discover how our network solutions provide seamless connectivity and enable efficient management of your coastal operations. With Danphone, simplicity meets sophistication in the world of maritime communication.

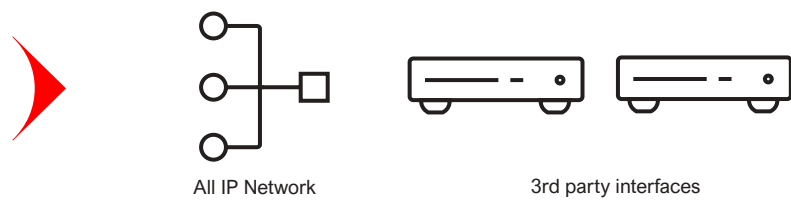
User Layer



Control Center Layer



Network & Interface Layer



Radio & Safety Equipment Layer



FULLY SECURED AND CONNECTED NETWORK

Join us on the journey of network and site control integration, where efficiency, security, and connectivity reach unprecedented heights. Stay secure with a connected network.



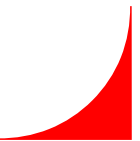
AII IP NETWORK INTEGRATION

In the heart of bustling maritime operations lies a complex ecosystem of communication networks, where every connection matters. Danphone's commitment extends beyond the realm of conventional IP networks; it extends to a unified control system that harmonizes every facet of maritime and external communication. Welcome to the realm of the All IP Network—a multifaceted infrastructure that bridges communication between coastal facilities and the world beyond.

In this layer, we explore the pivotal role of our control system, where data seamlessly converges from maritime channels, VoIP communication centers, and a multitude of platforms. Dive into the world of the site controller, a masterful conductor coordinating diverse radios and interfaces, while the datalogger methodically archives every event.

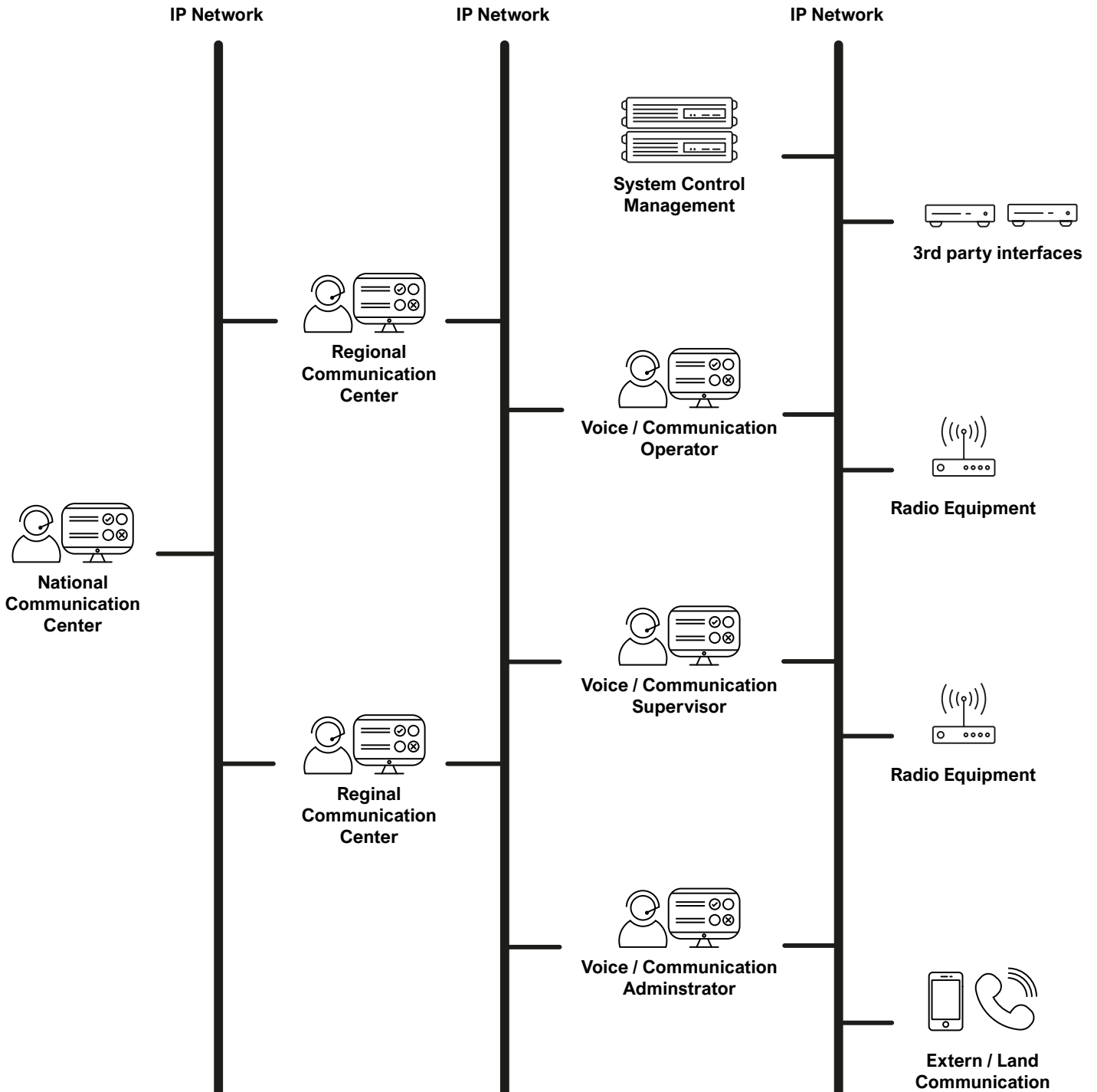


The Danphone Site Controller integrates leading radio equipment on all frequency bands.



IP NETWORK OVERLOOK

At the core of our Coast Radio Communication Solution lies a robust IP Network, serving as the foundation for your maritime connectivity. This Network branches out to various key aspects of communication both Maritime and Extern/Land. Connected to this network is a dedicated data logger to track all data in and out of the network. The 3rd Party Interface plays a vital role in coordinating radios and interfaces. The Danphone System Control Management harmonises every facet of the maritime communication infrastructure.



Example of a large multi layer Coastal Radio Solution.



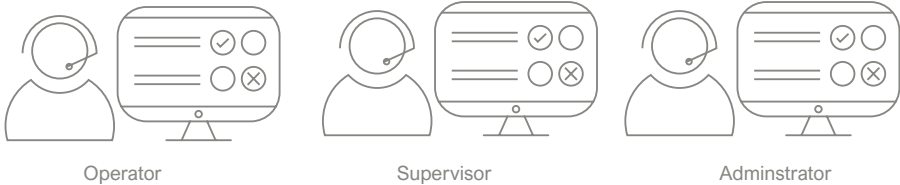
INNOVATIVE SOLUTIONS DEPENDABLE EQUIPMENT

Maritime safety has been an international focal point since 1912. Since then, the marine industry has focused on developing a uniform standard of safety equipment to avoid delay in distress situations.

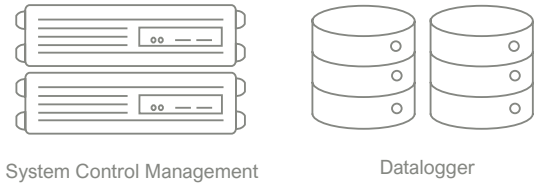
As a worldwide supplier, Danphone is a developer of innovative maritime safety systems compliant with UN/IMO and IALA standards.

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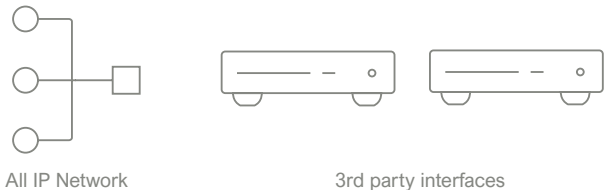
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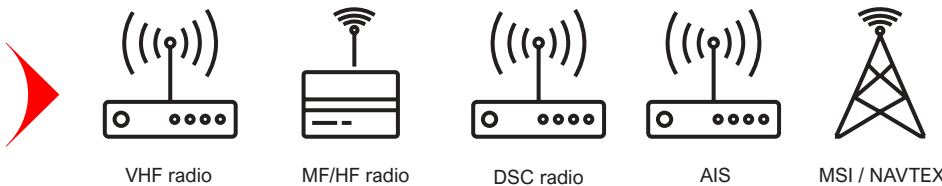
Control Center Layer



Network & Interface Layer



Radio & Safety Equipment Layer



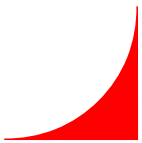
WELL-PROVEN RELIABLE COMMUNICATION

Safety critical communication equipment is required to cover all sea areas. To meet all requirements, Danphone designs and builds a solution based upon products with high performance and reliability for VHF, UHF, MF/HF radios, DSC, MSI/NAVTEX and AIS/VDES. Integration and management of own and 3rd party radio equipment are currently ensuring complete and reliable communication in more than 30 GMDSS Coastal Radio installations worldwide.



PLUG AND PLAY

With a Coastal Radio Solution from Danphone you don't have to have a complete understanding of technology, we offer you support during the installation. Plug and Play is the solution for you, eliminating unnecessary stress, everything is ready and simple to put in place from time of delivery. Simply put in the Plug and we do the rest.



COMPLETE CUSTOMISED SOLUTION

Danphone designs the complete solution meeting your needs and requirements. The solution is based upon customised and commercial off-the-shelf products. Our approach involves a combination of customised Danphone products and carefully integrated 3rd party products from industry-leading suppliers. This strategic blend of technology allows us to address the full spectrum of challenges that coastal areas may face.

Over the years, we have encountered numerous distinctive challenges where the incorporation of 3rd party products was essential. This approach empowers our customers with unprecedented control ensuring Danphone, in collaboration with the customers, can design every aspect of the system to meet their specific requirements.



Danphone's VHF Transceiver operating in the marine VHF band.



MF/HF transceiver covers sea area A2 and A3.



VHF/ UHF radio for ground to air communication.



BUILDING UPON LEGACY SYSTEMS

At Danphone, we take immense pride in our ability to enable customers to utilize their pre-existing equipment seamlessly with our advanced Coastal Radio Solution. Regardless of brand or model, our team of experienced software and hardware engineers has encountered and successfully integrated a wide array of legacy systems. Incorporating your old or existing maritime infrastructure into the new Danphone Coastal Radio Solution is a seamless and hassle-free process.

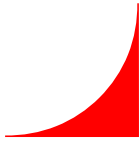


PREPARED FOR EASE OF INSTALLATION

The radio equipment will be pre-installed and configured in 19" rack enclosures. Requiring only minimum on-site installation tasks. (Mains supply, LAN cable and coaxial cables).



Example of multiple-racks for large scale solutions.

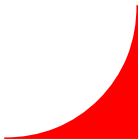


HIGH PERFORMANCE VHF & MF/HF RADIOS

Danphone incorporates state-of-the-art VHF and MF/HF radios in the Coastal Radio solution with a focus on explicit quality and functionality supporting safety-first policy.

The new VHF radios come with an option of 2 receivers and built-in DSC modem for continuous automated supervision of CH70. In addition to VoIP and remote-control over IP, the VHF radio allows for local control via optional display and handset.

The radios meet European ETSI and American FCC standards with respect to RF performance and EMC, and are manufactured with quality, cost efficiency and flexibility utmost in mind.

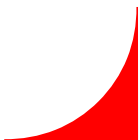


MARITIME FREQUENCY RANGE

Our system ensures seamless communication by including all international maritime channels. With our equipment, users can rely on a communication experience they are accustomed to, promoting efficiency and ease of use.



Typical small VHF System.



FULL LIFETIME SUPPORT

Our solutions are customised and so is the support we provide. The same team of Danphone engineers who developed, and in some cases also installed, your system, will provide online support and training for your staff and equipment - for the life of your communication infrastructure. Full functionality is our mission and we strive to provide and maintain the most reliable systems on the market.

COAST STATION VERIFICATION TOOL

Our brand new Futronic CSVT is a unique product, developed from our experiences of maintaining coast station solutions worldwide. A need for a valuable and reliable instrument and commissioning coast station equipment.



VERIFY YOUR COAST STATION

A GMDSS Coastal Station is a first responder to maritime distress situations. It is of vital importance that the coast station's equipment is fully operational at all times. We have developed our Futronic Coast Station Verification Tool to ensure optimal operation of a coast station, to be used under installation, for preventative maintenance and all subsequent service checks. Furthermore, the Futronic CSVT can be used to simulate DSC calls on all MF/HF DSC frequencies and CH70 on VHF.

The Futronic CSVT is a vital tool for the maritime authorities, coast guards, operatives and supervisors to ensure complete confidence in their communication systems and equipment.



KEY FEATURES

VHF Transceiver

DSC and Voice - Sensitivity, Frequency Deviation, Power and SWR
Upto 75W

MF/HF Transmitter & Receiver

DSC and Voice - Sensitivity, Frequency, Power and SWR
Upto 1000W

AIS Transponder

Frequency, AIS message, Power and SWR

Navtex Transmitter & Receiver

Receiver: Sensitivity, Message
Transmitter: Message, Frequency

DANPHONE LEGACY

Danphone is a global company within the maritime sector, specializing in Maritime Communication, MSI/NAVTEX, AIS systems, and test equipment for radio inspections. We are a part of the ecosystem for critical infrastructure for communication and safety in the maritime sector and have been for more than 25 years.

Since 1990, the engineers at Danphone have been developing, manufacturing and installing complete solutions in challenging environments including system integration and network management worldwide.

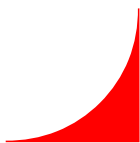
Today, Danphone is a world leader, supplying Maritime communication and safety equipment in more than 40 countries – and Futronic GMDSS testers in 85+ countries. Located in Aalborg, Denmark, where we ensure high quality and professional and reliable service.



ENSURING GLOBAL MARITIME RADIO COMMUNICATION AND SAFETY

Our mission is to develop, manufacture and deliver on time, customised radio communications equipment, systems and related services, which ensure the fulfilment of product specifications and approval requirements.

In all of our activities, customer satisfaction is of the utmost concern. Danphone operates and focuses on continuous improvements based upon our Quality Management System conforming to the international standard DS/EN ISO 9001.



CORPORATE SOCIAL RESPONSIBILITY

Danphone supports the UN's Global Compact, which is the world's largest initiative on corporate social responsibility.

With the accession to the UN Global Compact, Danphone is committed to adapting our work and strategies to the ten principles in the areas of human rights, labour rights, the environment and anti-corruption.



**United Nations
Global Compact**



IT'S ALL ABOUT MARITIME COMMUNICATION AND SAFETY

Beside GMDSS Coastal Radio Solutions our expertise is found in the three pillars of maritime communication you see below.



PORT COMMUNICATION

A comprehensive and integrated communication solution designed for efficient and secure operations within ports. It encompasses a range of technologies and protocols to facilitate seamless communication among various stakeholders, including port authorities, vessel crews, and related personnel.



MSI/NAVTEX

NAVTEX serves as a global automated safety service, broadcasting crucial meteorological warnings, navigational updates, and urgent Maritime Safety Information (MSI).



SHORE BASED AIS

Advanced AIS solutions with custom rack-mounted AIS Physical Shore Stations (PSS). These stations feature dual-channel AIS base station receivers with data storage and TCP/IP interfaces. They ensure 24/7 operation, automatically timestamped AIS data, and provide NTP synchronization for accurate time data.

COMPLIES WITH GLOBAL MARITIME STANDARD

The systems we deliver fully complies with ITU, IMO, IALA and global maritime standards. Danphone actively support organisations and companies like UN Global Compact, DNV, Aalborg Maritime & Logistics, InterForce, DigitalLead etc.



OUR GMDSS REFERENCES

Danphone has collaborated with operators in all Oceans across the world - from the Pacific to the Mexican Gulf to the Atlantic to the Mediterranean to the Indian Ocean. Selected references listed below.



2023, 2021: Sudan - Port of Sudan: Complete GMDSS and MSI NAVTEX installation.



2023, 2020, 2018, 2017, 2008: Estonia MSI NAVTEX system.



2023, 2014: India: National NAVTEX system with 14 NAVTEX transmitters located at 7 transmitter sites, along with 7 monitoring sites. Service and maintenance agreement.



2023: Argentina - Bahia Blanca Port: VHF Voice Communication System.



2022: Southeast Asian Country: Complete GMDSS coastal radio system, incl. DCS & NAVTEX RX.



2022: Brazil: On-shore/off-shore VHF Voice Communication System.



2022, 2020, 2017: Bahamas, MF/HF and VHF GMDSS system with 10 operator workstations.



2021: Guinea: AIS System.



2021, 2016: Egypt: regional MSI NAVTEX System.



2021: Poland: AIS System.



2020: Bulgaria, Emergency Standby National GMDSS Coastal Radio System.



2019: Saudi Arabia: National MSI NAVTEX System.



2018, 2016: Morocco: National GMDSS System.



2018: Bangladesh: National GMDSS and MSI NAVTEX System.



2014: Cyprus: National GMDSS system with VHF transceivers, MF/HF transmitter and receivers.



2014: Iraq: National GMDSS system with VHF transceivers, MF/HF transmitters and receivers.