

NAVTEX SYSTEMS

1kW, 2kW & 3kW Transmitters.

The Danphone NAVTEX transmitter system is specifically designed for complete reliability, scalability and easy management, in accordance with the IMO NAVTEX Manual.



WE ENSURE SAFE MARITIME COMMUNICATION WORLDWIDE

THE HISTORY OF NAVTEX

In early ages, voyagers depended on trade winds to carry the boats from one place to another and skilled sailors made weather forecasts by reading the atmosphere. Storms were a serious weather condition the sailors trained themselves to predict. Before the international maritime organisation (IMO) published the international convention for Safety of Life at Sea (SOLAS) in 1914, vessels traveling in open waters were difficult to predict or prepare for storms. Storms of any magnitude can be vital to vessels in open water when waves can rise well above normal sea level and come crushing down, causing shipwreck and possible loss of lives. To prevent vessels from sailing in exposed areas during life threatening storms the United Kingdom meteorological office introduced in 1860 a gale warning service for ships, after more than 800 people lost their lives at sea in the storm off Anglesey in 1859. It was not until Titanic sank in 1912 that weather forecasts were standardised internationally in the SOLAS convention which is, as of this day, signed by more than 160 nations.



In 1988 the amendment regulating dissemination of maritime safety information, including navigational and meteorological warnings, was incorporated into SOLAS. From 1993 NAVTEX became mandatory for all cargo ships of 300 tonnage and above. NAVTEX (short for Navigational Telex) is a component of the IMO/IHO World-Wide Navigational Warning Service (WWNWS). It was developed to provide a low-cost, simple means of receiving maritime safety information on board ships at sea and represents the internationally recognized, fully automated, medium frequency, direct printing service. It is fully dedicated to marine usage and an integral part of the Global Maritime Distress and Safety System (GMDSS).

NAVTEX IN BRIEF

NAVTEX is the international automated safety service for broadcasting meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI). NAVTEX receiving capability is required to be carried by vessels under the provisions of the International Convention for the Safety of Life at Sea (SOLAS), 1974. The MSI is broadcast by NAVTEX transmitter stations. The required range of the NAVTEX transmitter is 250-400 nautical miles. It is affected by various surrounding factors. Even though the ships are required to carry the NAVTEX receiver, not all nations have a NAVTEX station. In which case the ships rely on the nearest station or other sources of MSI broadcasts, for example satellite. NAVTEX messages are transmitted in internationally controlled time slots every four hours to increase the chance of reception.



DANPHONE'S NAVTEX SYSTEM

Danphone develop and deliver NAVTEX coastal stations. Over the past 15 years, the NAVTEX system has been perfected to withstand harsh environments. Danphone are experts in developing systems customized to fit the natural environment for optimal transmission. From a single-transmitter setup to a complex national system with multiple operators and transmitter sites installed at various remote locations, the Danphone NAVTEX System has a modular design developed and manufactured by Danphone in Denmark. The NAVTEX System is prepared for integration with Danphone's GMDSS system and optional integration with other external systems. Our NAVTEX systems are tested and proved in a great variety of harsh environments from the icy conditions in Greenland to the hot humid areas of India. The server free architecture ensures transmission of compiled messages even if the network is down.



DANPHONE'S NAVTEX SYSTEM IN INDIA



DANPHONE'S NAVTEX SYSTEM IN THE SEYCHELLES

SCALABLE WORLDWIDE INSTALLATIONS

Danphone has installed more than 40 NAVTEX systems worldwide.

From a single-transmitter setup to a complex national system with multiple operators, Danphone's NAVTEX system can be configured and customized to suit all requirements.

RELIABLE BY DESIGN

The transmitters are designed for standard 19" rack mount and can be installed in separate cabinets or stacked together in one cabinet. A standard setup comprises two redundant NAVTEX transmitters and a single-phase power supply unit. For example, a 1,800 mm / 40 HU cabinet can contain all the equipment needed for a main/standby system with duplicate transmitters and power supplies.



NAVTEX rack with two redundant transmitters



NAVTEX TRANSMITTER

The Danphone NAVTEX transmitter is developed and produced at Danphone's factory. It transmits NAVTEX messages in any local language on 490 kHz and 518 kHz. In case of reverse power fault, the transmitter continues to send messages by automatically reducing forward power to a safe level.



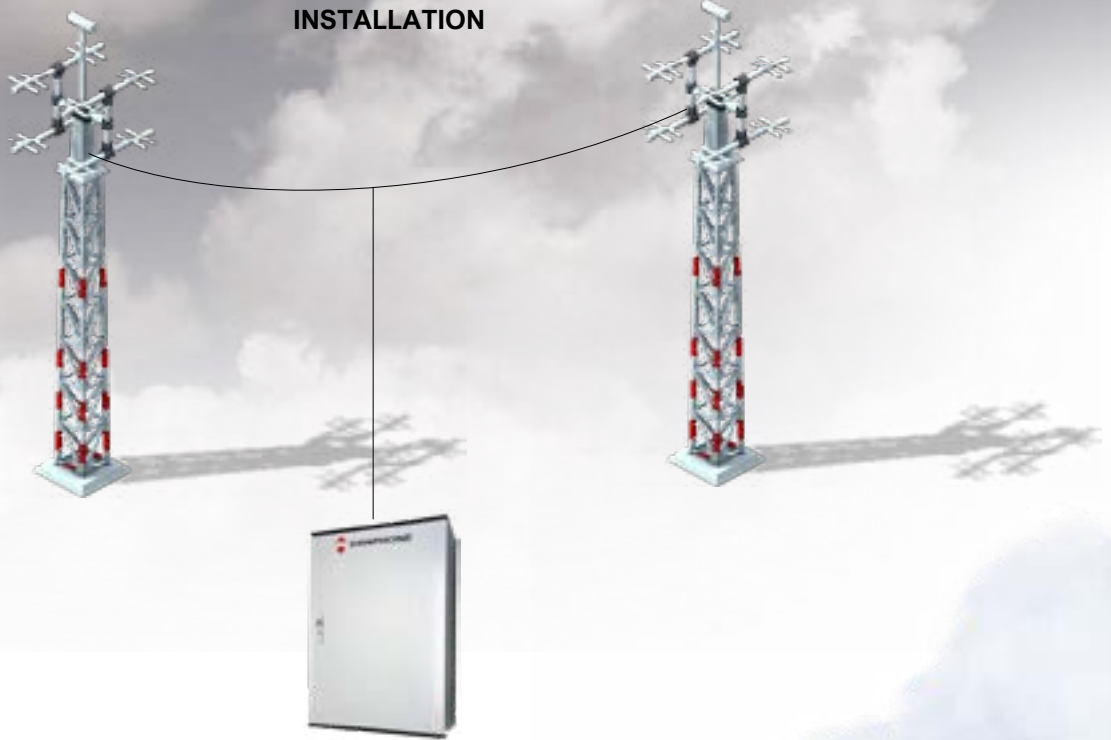
AUTOMATIC TUNING UNIT

The output from the transmitter may be connected to Danphone's automatic tuning unit in order to match the transmitters 50 Ω output impedance to the antenna's.

KEY FEATURES

- IP network infrastructure (IEEE 802.3)
- Transmission of compiled messages even if the network is down
- Supports 518 kHz and 490 kHz transmissions with any local character set in any language
- Storage of all transmitted messages
- Remote controlled monitoring and configuration
- SNMP
- Allows for redundancy of all system elements
- Integrated NAVTEX monitor receiver
- Multiple transmitter sites and operator positions
- Compact rugged construction suitable for use in harsh environmental conditions
- Prepared for integration with Danphone's GMDSS system
- Adjustable output power 50W-1kW or 100W-3kW
- Independent power settings for each time slot
- Modular design for future expansion
- Allows remote service and support by Danphone specialists

**STANDARD NAVTEX
INSTALLATION**



**AUTOMATIC TUNING
UNIT**



Single NAVTEX transmitter

IP NET



**NAVTEX
OPERATORS**

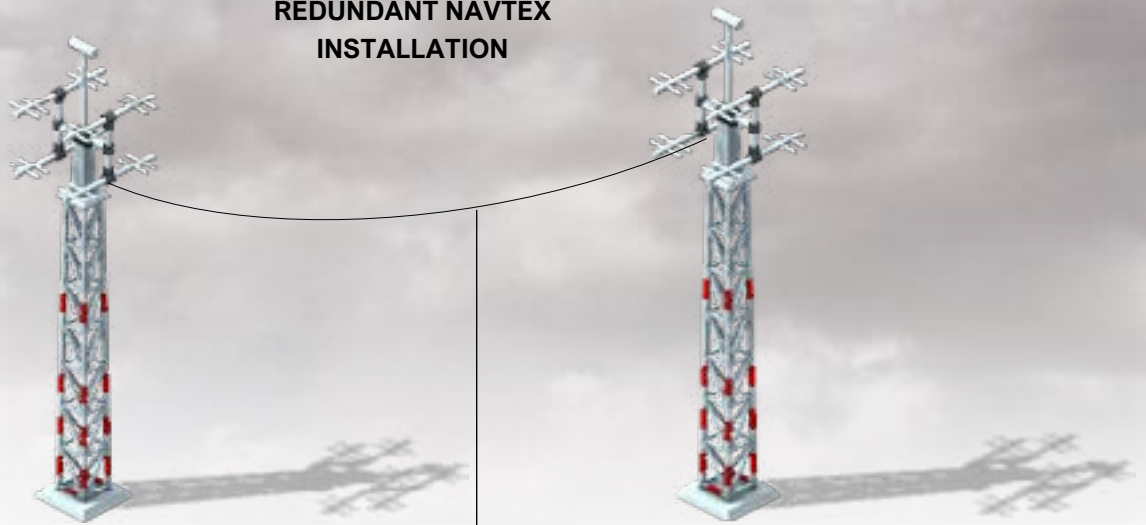


**DANPHONE REMOTE
SUPPORT**



WEB INTERFACE

**REDUNDANT NAVTEX
INSTALLATION**



**AUTOMATIC TUNING
UNIT**



**NAVTEX rack with two
redundant transmitters**

WORK



**NMS
ADMINISTRATOR**



**NAVTEX
DATA LOGGER**



**MIRROR
NAVTEX DATA LOGGER**

EASY OPERATION

Operators are responsible for the administration and transmission of the weather forecasts and navigational data to vessels at sea. Danphone's intuitive NAVTEX user interface enables preparation and scheduling of messages and automatic transmissions of these.

Fail-safe transmission

Danphone's NAVTEX transmitter works independently of network functionality. It ensures messages can be sent even if the network between the Control Centre and transmitter goes down. The fail-safe transmission is ensured by the completed compiled messages being stored on the actual transmitter.

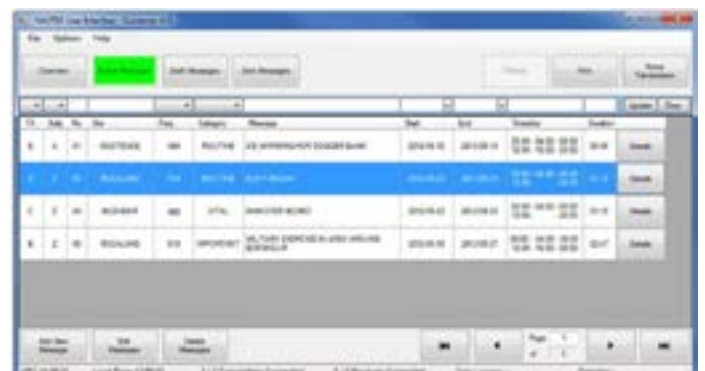
A major advantage is that the NAVTEX transmitter ensures messages can be sent even if a reverse power fault is observed. The fail-safe transmission is ensured by the transmitter, if it detects a reverse power fault, automatically reducing its output power until a safe reverse power level is reached, which does not damage the transmitter. The messages will then be transmitted.

Automatic transmission

The operator can choose to schedule messages within selected time-slots or transmit urgent information immediately. All messages are automatically transmitted and logged. The interface is operated by either touch screen or keyboard.

Complete overview

Our interface supports easy editing and quick action in urgent circumstances by listing messages according to time and date. Messages are separated by: overview of all transmissions, active messages, sent messages and draft messages.



FEATURING

TRANSMISSION IN LOCAL LANGUAGE


The Danphone NAVTEX system supports more than 200 local languages. Transmission of messages written in a local language will increase understanding of the content and enable faster response time to warnings.





RELIABILITY IN **OPERATION**

Extreme weather conditions require extremely reliable transmissions of meteorological forecasts. Navigation officers rely on the information transmitted from the base station for the safety of crew and vessel.

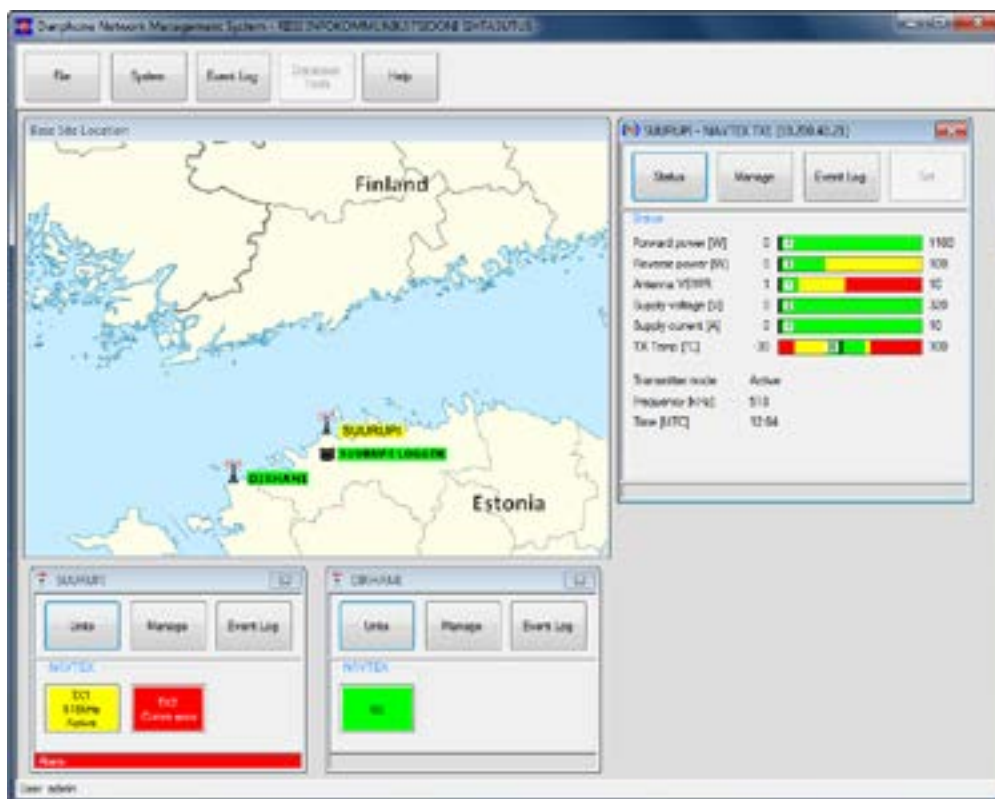


SIMPLE SYSTEM MANAGEMENT **NAVTEX NETWORK**

Large national systems include multiple sites for complete coverage from the coastline out into open waters. Danphone's NMS provides the ultimate overview of site locations and simple network management of the entire system.

SIMPLIFIED NETWORK MANAGEMENT AND CONFIGURATION

Redundant nationwide systems require simple management and site overview for surveillance of the transmitters' status. Danphone's Network Management System enables monitoring and configuration of each individual transmitter to avoid failed transmissions. The map illustrates the location of the sites and all transmitters for quick identification. For a complete overview the system provides all relevant data including message transmissions, temperature and forward and reflected power readings. In case of failure, the system offers visual and audible alarms.



KEY FEATURES

- Monitoring and configuration of transmitters
- Automatic or manual active/standby transmitter switch-over
- Complete logging of all events
- Simple network management protocol (SNMP) interface
- Visual indications of warnings and failures
- Audible alarm upon request
- Multiple-level password protection

OUR REFERENCES

Danphone has collaborated with operators all over the world - from the hot humid conditions of India to the icy environment on Greenland.



2018, Maldives, 2 MF/HF sites utilizing a single one kw MF/HF transmitter and two receivers for voice and DSC



2018, Bangladesh, National GMDSS system with 7 VHF sites, 1 MF/HF, 1 NAVTEX transmitter and 1 central control center with full remote control of all sites.



2018, Morocco, MF/HF upgrade with a single transmitter and 12 receivers.



2017, Mexico, System upgrade with DSC facility and MF/HF transceivers.



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



2016, Trinidad & Tobago, MF/HF and VHF GMDSS system with 2 sites and 8 transceivers.



2016, Denmark, National Coastal VHF radio system with 19 sites and 105 transceivers.



2016, Morocco, National GMDSS system with 9 remote-controlled coast stations incorporating a total of 27 VHF transceivers.



2015, Denmark, 23 radio sites incorporating 107 VHF transceivers, 8 MF transceivers and 11 MF receivers for the National Danish Coastal radio system.



2015, Faroe Islands, 1 kW MF/HF system for MRCC Torshavn.



2014, Iraq, National GMDSS system with 27 VHF transceivers, 2 MF/HF transmitters and 3 MF/HF receivers.



2014, Cyprus, National GMDSS system with 12 VHF transceivers, 1 MF/HF transmitter

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