

NAVTEX SYSTEMS

1kW, 2kW, 3kW & 5kW Transmitter complete solution.

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



WE ENSURE SAFE MARITIME COMMUNICATION WORLDWIDE

THE COMPLETE **NAVTEX SOLUTION** FOR COAST STATIONS

Danphone has developed, manufactured and installed advanced radio communication systems and complete solutions since 1990.

We are experts within the maritime communication technology, specializing in VHF, MF/HF, DSC, AIS and NAVTEX.

Danphone's NAVTEX Transmitter System provides the complete solution incorporating both hardware and software.



THE DANPHONE NAVTEX SOLUTION

Danphone's NAVTEX Transmitter System is a complete solution addressing users, workflow, key processes, equipment, infrastructure and technology.

Danphone develop and deliver NAVTEX coastal stations. Over the past 15 years, our NAVTEX system has been perfected to withstand harsh environments.

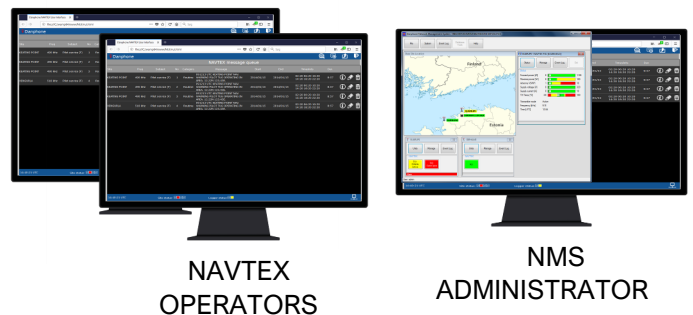
EASY AND INTUITIVE OPERATION

Operation of the NAVTEX System has been designed to encompass a very easy and intuitive operation. Daily operation is supported by full process flexibility from fast message setup, integration to transmission planning and logging.



SIMPLIFIED NETWORK MANAGEMENT AND CONFIGURATION

Danphone NMS - Network management, configuration and administration gives a graphical overview and real-time status of the complete system, and enables fast configuration or change.



SCALABLE AND RELIABLE BY DESIGN

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 integration with other GMDSS or NAVTEX 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 TRANSMITTER SYSTEM

EASY AND INTUITIVE 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.

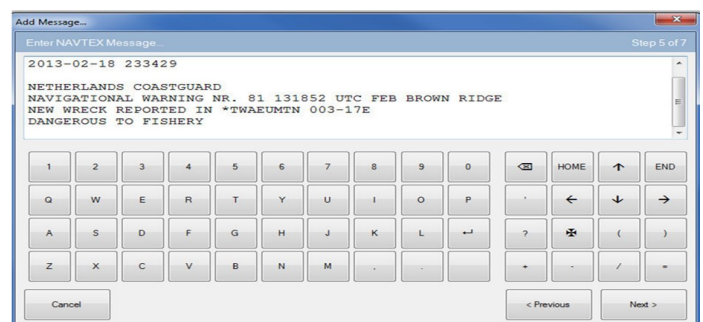
Fail-safe transmission

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.

Another 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.

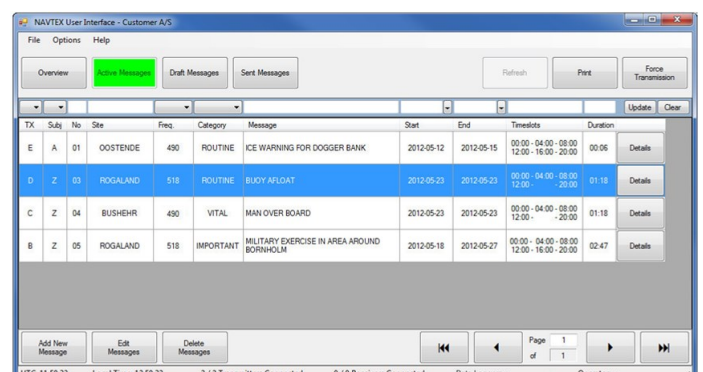
Automatic transmission

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

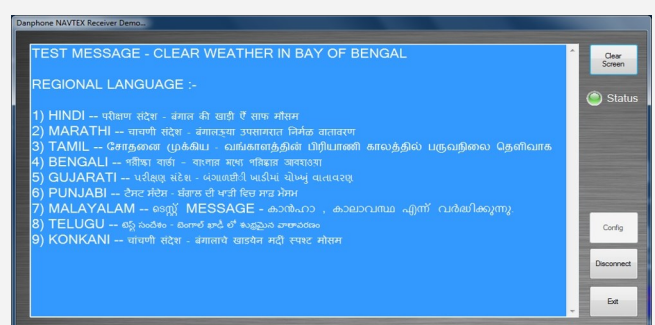
Our interface supports easy editing and quick action in urgent circumstances by listing messages according to time and date. Messages are separated by: overview of all transmissions, active messages, sent messages and draft messages.



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

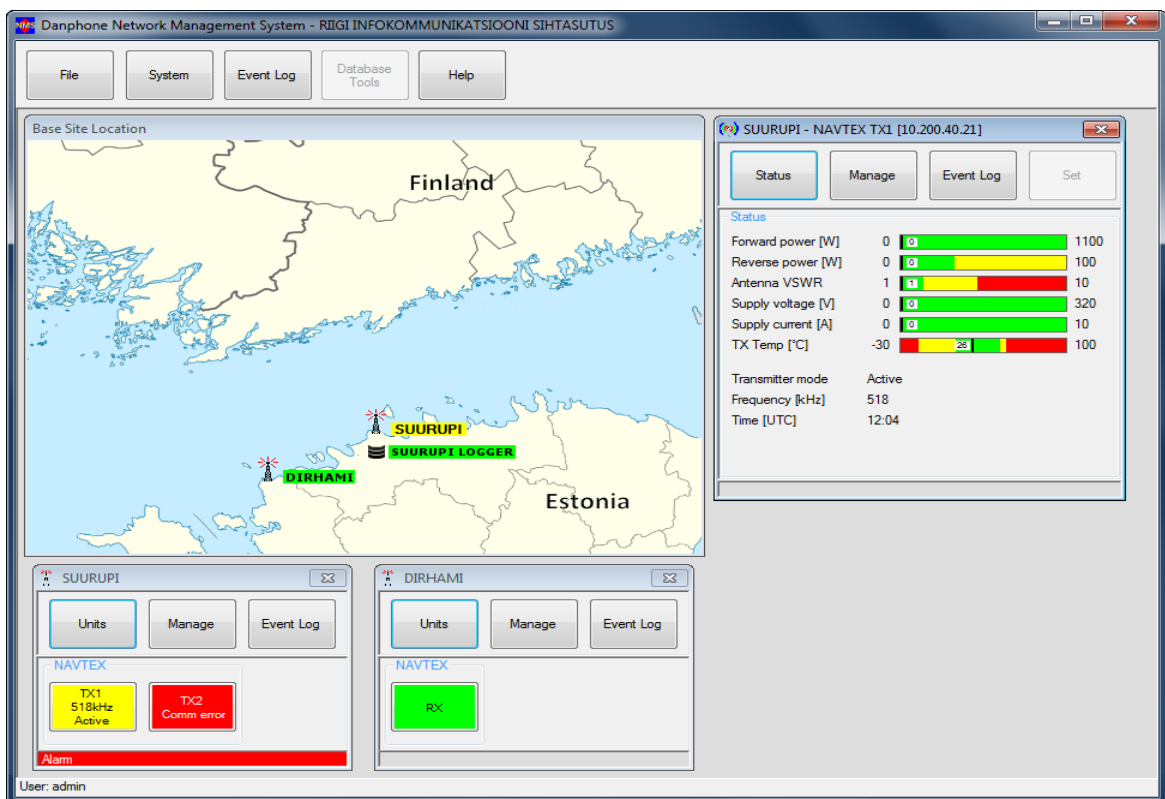
Large national systems include multiple sites for complete coverage from the coastline out into open waters. Danphone's NMS provides the ultimate overview of site locations and simple network management of the entire system.



(picture: Installation ARTE Greenland/TelePost)

SIMPLIFIED NETWORK MANAGEMENT AND CONFIGURATION

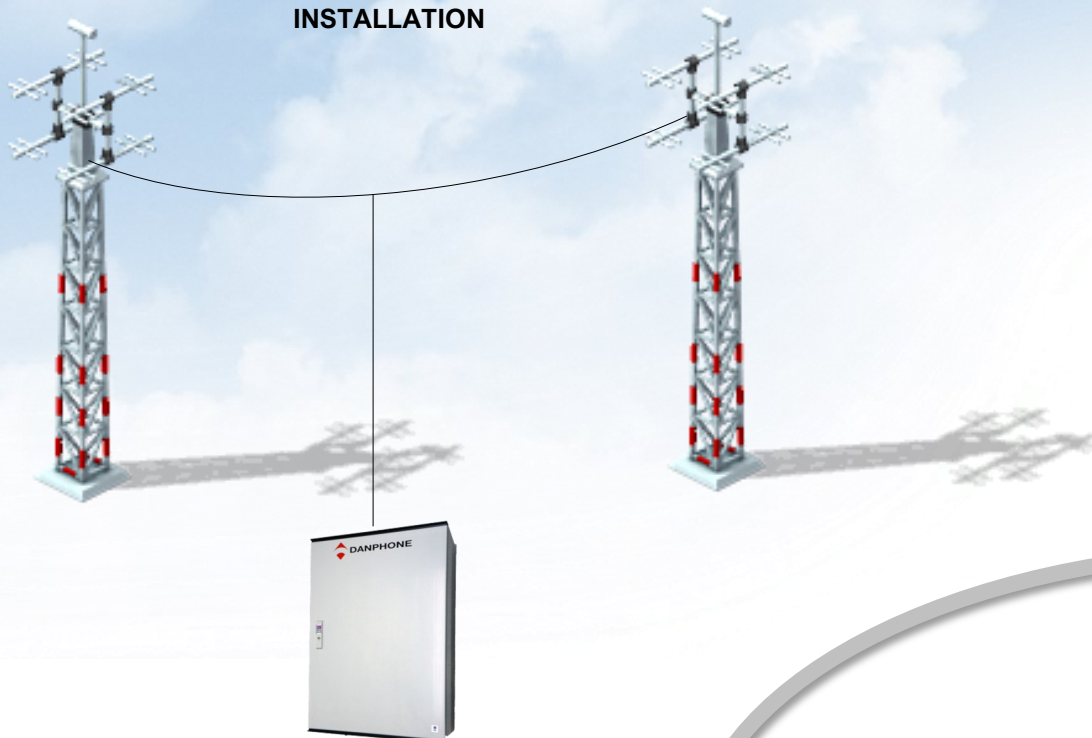
Redundant nationwide systems require simple management and site overview for surveillance of the transmitters' status. Danphone's Network Management System enables monitoring and configuration of each individual transmitter to avoid failed transmissions. The map illustrates the location of the sites and all transmitters for quick identification. For a complete overview the system provides all relevant data including 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

STANDARD NAVTEX INSTALLATION

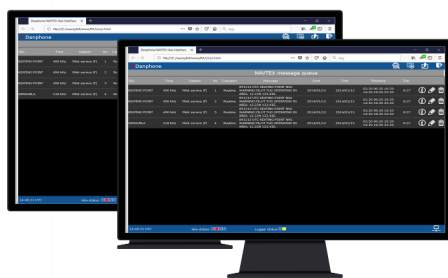


AUTOMATIC TUNING UNIT



Single NAVTEX transmitter

IP NET

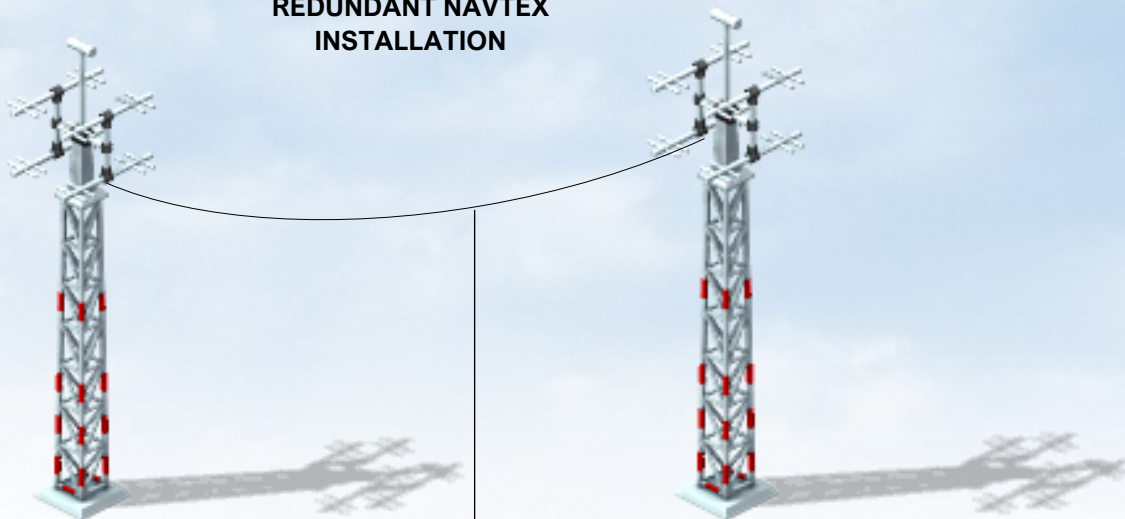


NAVTEX OPERATORS



WEB INTERFACE

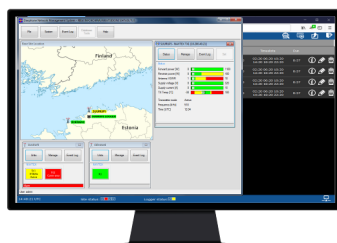
REDUNDANT NAVTEX INSTALLATION



AUTOMATIC TUNING
UNIT



NAVTEX rack with two
redundant transmitters



NMS
ADMINISTRATOR



NAVTEX
DATA LOGGER



MIRROR
NAVTEX DATA LOGGER

WORK

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.



DANPHONE NAVTEX SYSTEM IN THE SEYCHELLES

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 with single-phase power supply units. 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

CASE: KINGDOM OF SAUDI ARABIA 2019

Nationwide 2kW NAVTEX system to ensure the safe broadcast of meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI) along both the long coast lines of the Kingdom of Saudi Arabia to the Red Sea and the Persian Gulf.

The solution we delivered consists of remote-controlled, IP-based NAVTEX system including three redundant transmitter stations and two operator positions.



CASE: GREENLAND 2010

Large installation of a complete NAVTEX system to ensure the safe broadcast of meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI) along the long and remote coastline of Greenland in the Arctic Ocean.

The solution we delivered consists of a remote-controlled, IP-based NAVTEX system including three redundant transmitter stations and two operator positions.



CASE: BANGLADESH 2018

In 2018 we were chosen to deliver and install a large, nationwide GMDSS and NAVTEX system to ensure safe maritime radio communication along the coast line of Bangladesh. In the Bay of Bengal .

For this project we developed a new innovative Unicode application to the NAVTEX services enabling transmission of NAVTEX messages using any local character set in any language.

The solution we delivered includes 2 NAVTEX transmitters and NAVTEX receiver site.



CASE: ESTONIA 2017 & 2018

In 2017 and expanded in 2018 we were chosen to deliver and install a large nationwide NAVTEX system to ensure the safe broadcast of meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI) along the coast line of the Estonia.

The solution we delivered consists of NAVTEX transmitter system with two 1 kW NAVTEX transmitters being remote-controlled from 4 operator workstations



CASE: CYPRUS 2014

In 2014 we were chosen to deliver and install a GMDSS & NAVTEX system to ensure the safe broadcast of meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI) along the busy and strategic coast line around the island of Cyprus.

The solution we delivered consists of a remote-controlled, IP-based NAVTEX system including one dual-channel transmitter and three operator positions.



CASE: INDIA 2015

In 2014 we were chosen to deliver and install a very large NAVTEX system to ensure the safe broadcast of meteorological warnings, navigational status' and urgent Maritime Safety Information (MSI) along the vast coastline of Indian Ocean, the worlds third largest sea area..

The solution we delivered contains a remote-controlled, IP-based NAVTEX system including 14 dual-channel NAVTEX transmitters located at 7 transmitter/receiver stations, seven monitoring stations and database loggers.



THE HISTORY OF NAVTEX

Long ago, 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.

AREA OF NAVTEX EXPERTICE

The essential part of GMDSS and NAVTEX 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 solution with modular design, built around leading commercial off-the-shelf products, allowing great flexibility to make customized designs. With our in-house software specialists, we can modify the standard-based software to interface with existing systems for easy upgrade.



DANPHONE'S NAVTEX SYSTEM IN INDIA



DANPHONE'S NAVTEX SYSTEM IN THE SEYCHELLES

OUR REFERENCES

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



2020, Saudi Arabia, *2 kW National Navtex system (expected commissioning ultimo 2020)*



2019, Saudi Arabia, *1 kW Regional Navtex system*



2018, Estonia, *1 kW National NAVTEX system (expansion)*



2017, Estonia, *1 kW National NAVTEX system*



2016, Egypt, *1 kW Regional NAVTEX system*



2015, Cyprus, *1 kW National NAVTEX system (expansion)*



2014, Cyprus, *1 kW National NAVTEX system*



2014, Seychelles, *1 kW National NAVTEX system*



2014, India, *1 kW National NAVTEX system (multiple sites)*



2013, Portugal, *1 kW Regional NAVTEX system*



2012, Iran, *1 kW Regional NAVTEX system (multiple sites)*



2011, Turkey, *1 kW Regional NAVTEX system*



2010, Greenland, *1 kW National NAVTEX system (multiple sites)*



2008, Bermuda, *1 kW National NAVTEX system*



2008, Azerbaijan, *1 kW National NAVTEX system*



2007, Iceland, *1 kW National NAVTEX system*



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