



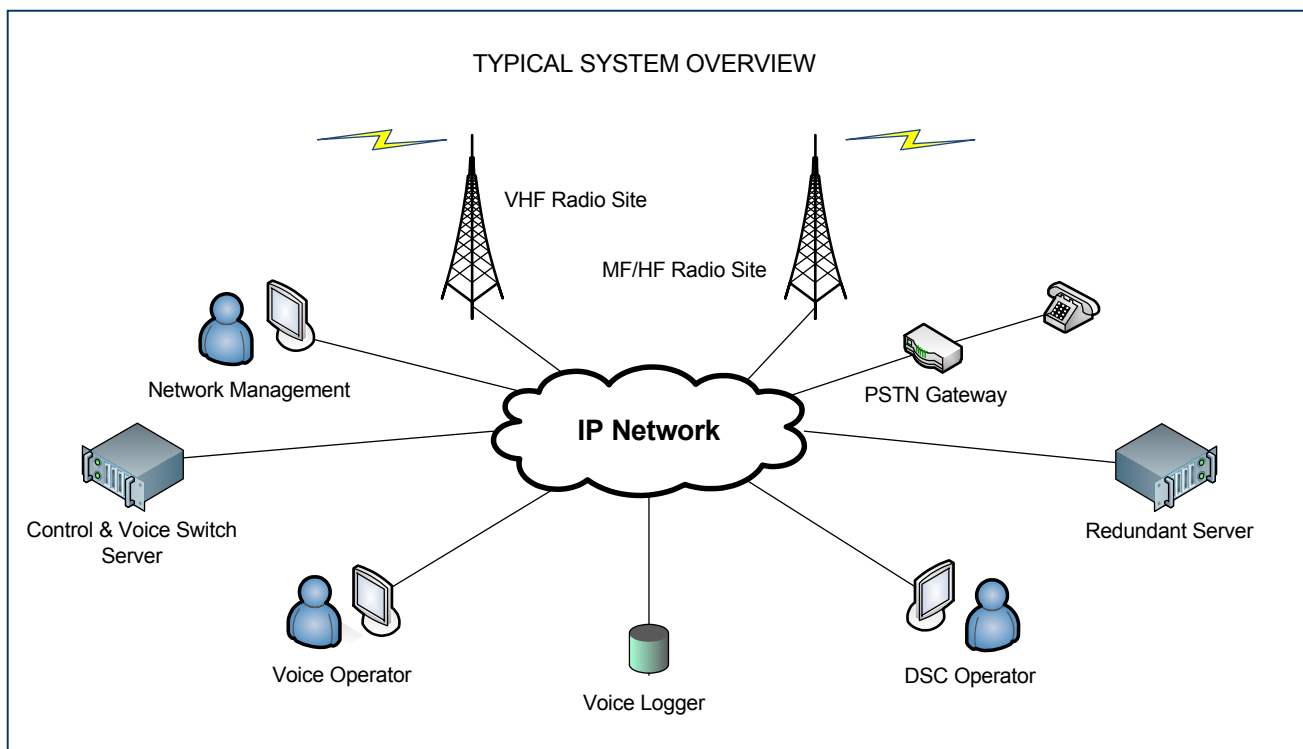
DANPHONE COMMUNICATION SYSTEM

Flexible IP-based radio communication system for coast stations, ports and off-shore installations

From a simple single-radio setup to a complex national system with multiple radio sites and operators, the Danphone communication system provides the perfect solution.

Incorporating VHF base station radios with adjustable transmission power up to 75 Watt, MF/HF radios up to 1 kW, remote-control via touch screen computers and Danphone's renowned

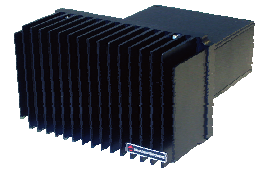
Network Management System, the Danphone communications system can be configured and customised to suit all requirements.



System Features

- ITU and IMO compliant
- GMDSS compliant offering Digital Selective Calling (DSC)
- Specifically designed and manufactured for 24/7 operation
- Multi-channel radios, VHF and MF/HF
- Interfaces to PABX/PSTN and Voice Logging
- Full remote control via touch screen operation
- Main/standby solutions for system critical devices
- Modular architecture simplifies the addition of more sites, radios and operators
- Network Management System offering remote system configuration and fault diagnosis
- Proven and tested design for harsh environments
- Allows remote technical service and support by Danphone specialists via VPN
- System life time support
- Comprehensive service and maintenance agreements

Remote controlled radios with LAN interface



Danphone's rack mount VHF radios for Sea Area A1 coverage can be employed in small as well as large radio systems.

With up to 75 Watt continuous output power each radio can be set up to any international marine channel in either full duplex, semi duplex or simplex operating mode.

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.

Sea Area A2 and A3 radio coverage is made available via high performance MF/HF radios operating in the marine bands from 1.6 to 30 MHz.

The MF/HF radio system can be delivered as combined RX/TX transceivers mounted in the same cabinet, or in split mount configuration with transmitters and receivers installed at separate locations.

The Danphone communication system guarantees clear and reliable voice communication as well as continuous DSC watch on the distress channels.

A 19" 3HU Sub Rack can contain two VHF transceivers side by side.

In addition to VoIP and remote-control over IP, the VHF transceiver allows for local control and operation. The transceiver also allows for the connection of external devices, such as display, handset and equipment for monitoring.

As standard, the transceiver comes with built in DSC modem and single receiver. Optionally, the transceiver can be delivered with dual receivers, e.g. one for voice communications and the other for DSC.

Radio Features

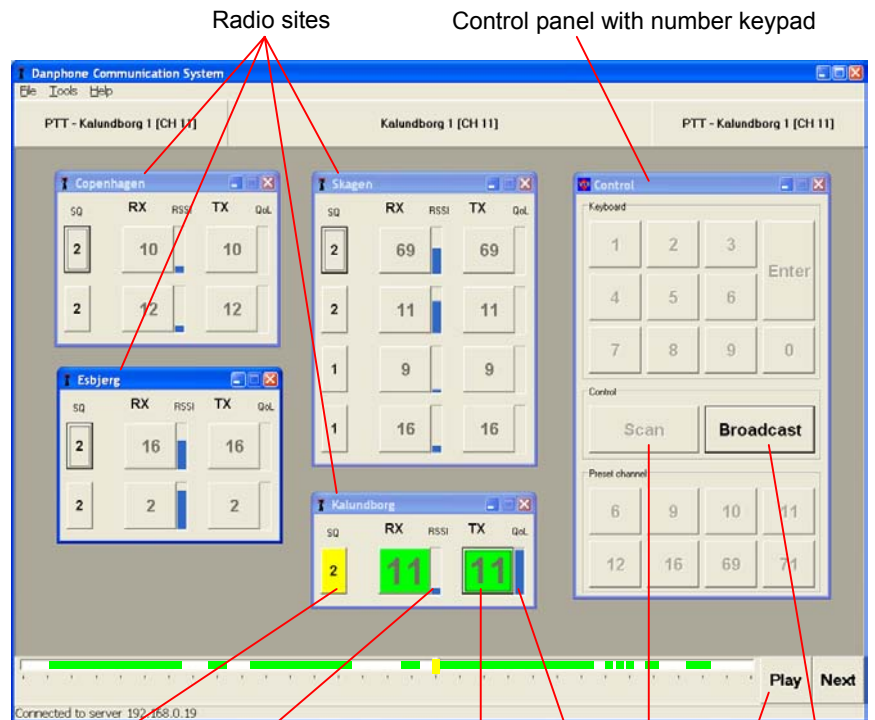
- VHF Radios with adjustable output power between 2 – 75 Watt
- VHF frequency range: 156 – 163 MHz (up to 174 MHz upon request)
- Repeater configurable
- MTBF > 50,000 hours
- MF/HF Radios 125 / 250 / 500 / 1,000 Watt
- MF/HF Frequency range: 1.6 – 30 MHz
- For voice communications and DSC
- Operating modes: Duplex / Semi Duplex / Simplex
- LAN Interface
- Voice over IP
- Built in DSC modem
- Full remote control and configuration
- Allows for local control and operation
- Supplied in 19" rack cabinets

Operator software with intuitive graphical user interface

The Operator Workstations are touch monitor PC terminals configured as clients logged onto the system server via LAN. The Control and Voice Switch Software is installed on the server. User applications are installed on each individual operator terminal.

Voice User Interface (right)

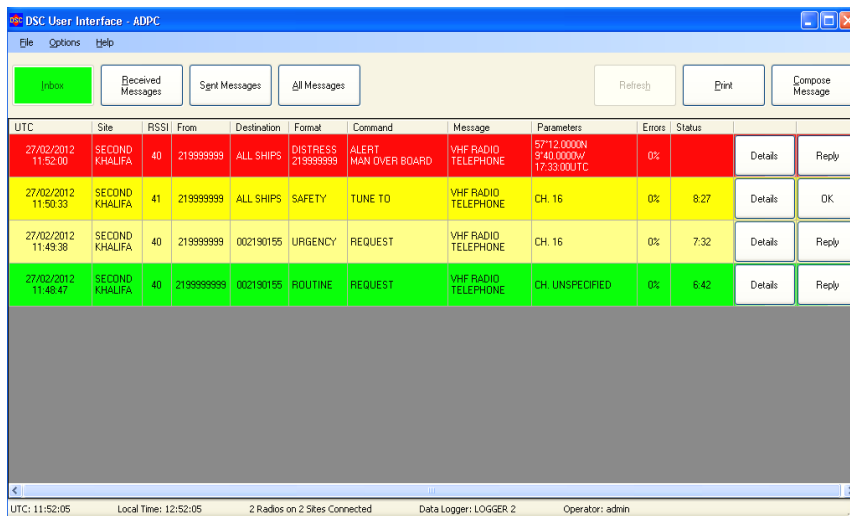
In this example, the operator has four radio sites on his display, along with a control panel with number keypad for channel configuration and facility keys for broadcast transmissions and scanning.



Radio sites Control panel with number keypad

Squelch level selector Received signal strength indicator Green = Radio channel selected Scanning facility key Broadcast facility key

Quality of line indicator Instantaneous voice replay



| UTC | Site | RSSI | From | Destination | Format | Command | Message | Parameters | Errors | Status | | |
|---------------------|----------------|------|-----------|-------------|----------|----------------------|---------------------|----------------------------------|--------|--------|---------|-------|
| 27/02/2012 11:52:00 | SECOND KHALIFA | 40 | 219999999 | ALL SHIPS | DISTRESS | ALERT MAN OVER BOARD | VHF RADIO TELEPHONE | 5712.0000N 940.0000W 17:33.00UTC | 0% | | Details | Reply |
| 27/02/2012 11:50:33 | SECOND KHALIFA | 41 | 219999999 | ALL SHIPS | SAFETY | TUNE TO | VHF RADIO TELEPHONE | CH 16 | 0% | 8.27 | Details | OK |
| 27/02/2012 11:49:38 | SECOND KHALIFA | 40 | 219999999 | 002190155 | URGENCY | REQUEST | VHF RADIO TELEPHONE | CH 16 | 0% | 7.32 | Details | Reply |
| 27/02/2012 11:48:47 | SECOND KHALIFA | 40 | 219999999 | 002190155 | ROUTINE | REQUEST | VHF RADIO TELEPHONE | CH UNSPECIFIED | 0% | 6.42 | Details | Reply |

DSC User Interface (left)

The DSC Inbox lists all unanswered DSC messages in order of priority and time. Distress messages are displayed in red, Safety messages in yellow, Routine messages in green, etc.

Other lists showing Received Messages, Sent Messages and All Messages can be selected accordingly.

Graphical User Interface Features

- Integrated VHF and MF/HF radio control
- Designed for touch screen operation
- Facilitates Channel Scanning and Broadcast transmissions
- Instantaneous voice replay
- Received Signal Strength Indication (RSSI)
- Quality of Line indication (QoL)
- Customisable user interface
- Language packages

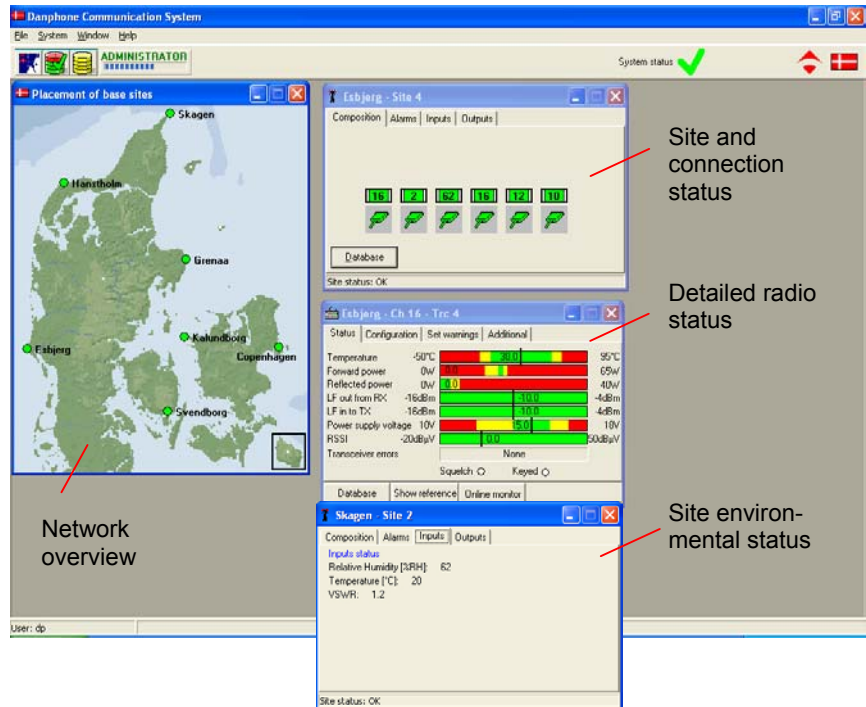
Remote controlled network management and configuration

Danphone's Network Management System gives the user a complete overview of the entire network as well as the ability to monitor and control each individual radio.

Detailed information of a radio site is displayed simply by clicking on the actual icon on the map.

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.

All kinds of events, such as alerts, new system and device configurations etc. are automatically logged in the system database.



The screenshot displays the Danphone Communication System interface. It features a main window titled 'Danphone Communication System' with a menu bar (File, System, Window, Help) and a toolbar. The interface is divided into several panes:

- Placement of base sites:** A map of Denmark showing the locations of several base sites: Skagen, Hønefald, Grenaa, Esbjerg, Kalundborg, Copenhagen, and Svendborg. A red arrow points to the map with the label 'Network overview'.
- Esbjerg - Site 4:** A detailed status page for a specific radio site. It includes tabs for 'Composition', 'Alarms', 'Inputs', and 'Outputs'. The 'Status' tab is active, showing various parameters: Temperature (-50°C), Forward power (0W), Reflected power (0W), LP out from RX (-16dBm), LP in to TX (-16dBm), Power supply voltage (10V), RSSI (-20dBuV), and Transceiver errors (None). A red arrow points to this pane with the label 'Detailed radio status'.
- Skagen Site 7:** A detailed status page for another radio site. It includes tabs for 'Composition', 'Alarms', 'Inputs', and 'Outputs'. The 'Inputs status' tab is active, showing: Relative Humidity [RH]: 62, Temperature [C]: 20, and VSWR: 1.2. A red arrow points to this pane with the label 'Site environmental status'.
- Site and connection status:** A pane showing the status of the site and its connection, with a red arrow pointing to it and the label 'Site and connection status'.

The system status is indicated as 'OK' in the top right corner. The user is identified as 'dp' in the bottom left corner.

Network Management System Features

- Flexible graphical user interface
- Multiple-level password protection
- Visual alarm of warnings or failures
- Audible alarm upon request
- Remote configuration and monitoring
- Events Database
- Various levels of monitoring: Network, sites and radios
- Options: Antenna VSWR, Remote humidity readings, Remote temperature readings, Power supply alarms, etc.

For further information regarding our products and references, please refer to our homepage www.danphone.com or contact our sales and technical staff at info@danphone.com

Danphone conforms to the international quality system standard DS/EN ISO 9001:2008.

