COBHAM

SAILOR 6390 Navtex Receiver
User manual

SAILOR 6390 Navtex Receiver

User manual

Disclaimer

Any responsibility or liability for loss or damage in connection with the use of this product and the accompanying documentation is disclaimed by Thrane & Thrane A/S. The information in this manual is provided for information purposes only, is subject to change without notice and may contain errors or inaccuracies. Manuals issued by Thrane & Thrane A/S are periodically revised and updated. Anyone relying on this information should acquire the most current version e.g. from www.cobham.com/satcom, **Service and support**, or from the distributor. Thrane & Thrane A/S is not responsible for the content or accuracy of any translations or reproductions, in whole or in part, of this manual from any other source. In the event of any discrepancies, the English version shall be the governing text.

Thrane & Thrane A/S is trading as Cobham SATCOM.

Trademark Acknowledgements

- SAILOR is a registered trademark of Thrane & Thrane A/S in the European Union and the Unites States of America and other countries.

- Other product and company names mentioned in this manual may be trademarks or trade names of their respective owners.

- This product contains Android™ software. Android is a trademark of Google Inc.

GPL notification

The software included in this product contains copyrighted software that is licensed under the GPL/LGPL. The verbatim licenses can be found online at:
http://www.gnu.org/licenses/old-licenses/gpl-2.0.html
http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html
You may obtain the complete corresponding source code from us for a period of three years after our last shipment of this product, which will be no earlier than 2021, by sending a money order or check for DKK 50 to:
SW Technology/GPL Compliance,
Thrane & Thrane A/S,
Lundtoftegaardsvej 93D
2800 Lyngby
DENMARK
Please write "source for product SAILOR 6390 Navtex Receiver" in the memo line of your payment. This offer is valid to anyone in receipt of this information.

Safety summary

Observe the following general safety precautions during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture and intended use of the equipment. Thrane & Thrane A/S assumes no liability for the customer's failure to comply with these requirements.

Ground the equipment

To minimise shock hazard, connect the SAILOR 6390 Navtex Receiver to an electrical ground and follow the cable instructions.

Warranty limitation

The SAILOR 6390 Navtex Receiver is not a user maintainable unit, and under no circumstances should the unit be opened beyond the outer plastic cover, except by authorized personnel. Unauthorized opening of the unit will invalidate the warranty.

Installation and service

Installation and general service must be done by skilled service personnel. The SAILOR 6390 Navtex Receiver is intended for use in a protected environment (-15° to +55°C) according to IEC-60945.

Compass safe distance

Compass safe distance: 20 cm (Standard magnetic compass), 20 cm (Emergency magnetic compass) from the SAILOR 6390 Navtex Receiver.

Preface

Approvals and standard compliance

SAILOR 6390 Navtex Receiver is approved to MED 2012/32/EU and fulfills the requirements in the following standards:

IEC-60945 (2002), IEC-60945 Corrigendum 1 (2008), IEC-61097-6 (2005-12), IEC-61162-1 (2010-11) (aligned with NMEA 0183 version 4.00), ITU-T X.27/V.11 (1996)

The SAILOR 6390 Navtex Receiver is approved to SOLAS Regulations IV/7, IV/14: ITU-R M.540-2 (06/90) and ITU-R M.625-3 (10/95).

The SAILOR 6390 Navtex Receiver is approved to FCC Equipment class: RNV, Part 80 NAVTEX Receiver 80.1101(c)(1).

The approvals of the SAILOR 6390 Navtex Receiver are constantly monitored. New national approvals will be applied for and granted and new test standards may come into force. Therefore the above list may not be complete. Contact your authorized dealer for more information.

About the manual

Intended readers

This manual is a user manual for the SAILOR 6390 Navtex Receiver system. This manual is intended for anyone who is using or intends to use this system. No specific skills are required to operate the SAILOR 6390 Navtex Receiver. However, it is important that you observe all safety requirements listed in the beginning of this manual, and operate the system according to the guidelines in this manual.

Note that this manual does not cover installation of the system. For information on installation refer to the installation manual. Part numbers for related manuals are listed in the next section.

Related documents

The following table shows the documents related to this manual and to the SAILOR 6390 Navtex Receiver.

Title and description	Document number
SAILOR 6390 Navtex Receiver, Installation manual	98-139768
SAILOR 6004 Control Panel, Installation manual	98-136644
SAILOR 6390 Navtex Receiver, Installation guide	98-137263

Typography

In this manual, typography is used as indicated below:

Bold is used for the following purposes:

- To emphasize words.
  Example: "Do **not** touch the antenna".

- To indicate what the user should select in the user interface.
  Example: "Select **Settings**".

Italic is used to emphasize the paragraph title in cross-references.

Example: "For further information, see *Connecting Cables* on page…".

Table of contents

App. A   **Specifications**

Glossary

Index

Introduction

SAILOR 6390 Navtex Receiver

The SAILOR 6390 Navtex Receiver receives Navtex messages on the international Navtex frequencies 490 kHz, 518 kHz and 4,209.5 kHz. It can hold 2000 messages per frequency. Messages are not affected by a power cycle. Untagged messages are cleared from the message log after 66[1] hours, you can tag messages for later viewing. You can customise which stations to receive messages from and which message types you want to receive. The unit has an alarm relay which is only activated if a message of category D is received (i.e. SAR, Mayday relay, Pirate attack etc.). The SAILOR 6390 Navtex Receiver is always on when powered. With its LAN interface the transponder and the display can be separated, giving access to the Navtex information available where it is needed.

The SAILOR 6390 Navtex Receiver is delivered as a black box receiver which can either be connected to the SAILOR 6004 Control Panel, a 7" touch screen, or used as a standalone unit for integration with an INS, supporting NMEA0183. A printer can be connected to the receiver.

The SAILOR 6390 Navtex Receiver is approved according to GMDSS (EU Marine Equipment Directive).

---

1. Default value.

1

Features

- 2000 messages per frequency, giving a total of 6000 messages
- Printing via SAILOR 6004 Control Panel and 3rd party line printer over LAN
- Integrated Navtex app for SAILOR 6004 Control Panel
- Low and high impedance antenna switch
- Dual LAN connector
- TMA (ThraneLINK Management Application) for software upgrade
- Storage of Navtex messages on a USB storage device
- Prepared for 500 kHz NAVDAT (Software update)

Connector overview

Alarm relay   NMEA/INS   NMEA/GPS   LAN   Fuse   12-24 VDC
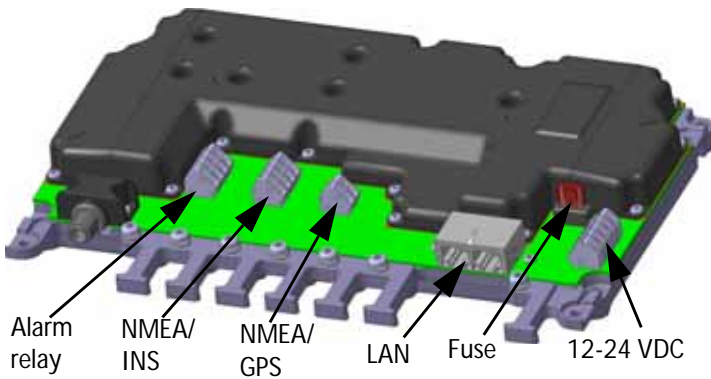
Navtex message (example)

The following message shows an example of a Navtex message.

```
ZCZC XZ28
REYKJAVIK VIA GRINDAVIK
120350 UTC SEPT 2013

NO MESSAGE ON HAND
NNNN
```

Message item	Explanation
ZCZC	Start of message (not displayed)
X	Coast Station ID in the Navigational Area
Z	Message type (See *The SAILOR 6390 Navtex Receiver can filter selected message types. The following list shows the Navtex message types available.* on page 12 for a list of all message types.)
28	Serial number of message 01-99: (normal), 00: Priority
Message text	REYKJAVIK VIA GRINDAVIK 120350 UTC SEPT 2013 NO MESSAGE ON HAND
NNNN	End of message (not displayed)

Table 1: Navtex message, example

Use scenarios

The SAILOR 6390 Navtex Receiver can be used in the following contexts:

- *Use with the SAILOR 6004 Control panel*
- *Use as a stand-alone unit with an INS*

An optional printer can be connected in both use scenarios.

Use with the SAILOR 6004 Control panel

The SAILOR 6004 Control panel is the user interface for the SAILOR 6390 Navtex Receiver. The user interface is in English. All settings that are relevant for the user are accessed through the touch panel. Alerts and notifications are shown in the display and via NMEA. The SAILOR 6004 Control panel has a buzzer for alert tones and the display supports night mode. The SAILOR 6390 Navtex Receiver has a Navtex application which is loaded into the SAILOR 6004 Control Panel during installation.

Use as a stand-alone unit with an INS

The SAILOR 6390 Navtex Receiver also works as a stand-alone unit, integrated in the vessel's INS. It supports the Navtex specific NMEA sentences according to the standard IEC 61097–6 and IEC 61162-1. For further details see the documentation of the INS.

Operation

This chapter has the following sections:

- *Operation – SAILOR 6004 Control Panel*
- *Operation with INS equipment*

Operation – SAILOR 6004 Control Panel

As soon as DC power is provided the SAILOR 6390 Navtex Receiver is on.

To switch on the SAILOR 6004 Control Panel push the power button. Operate the SAILOR 6004 Control Panel by tapping the touch screen. To switch off the SAILOR 6004 Control Panel push and hold the power button for 2 seconds and follow the instructions on the screen.

Operation

| Note | When the remote switch in the SAILOR 6004 Control Panel is wired and it is switched on, you can only use the Power button to reboot the SAILOR 6004 Control Panel, you cannot switch it off. |

Tap the **Navtex** icon.
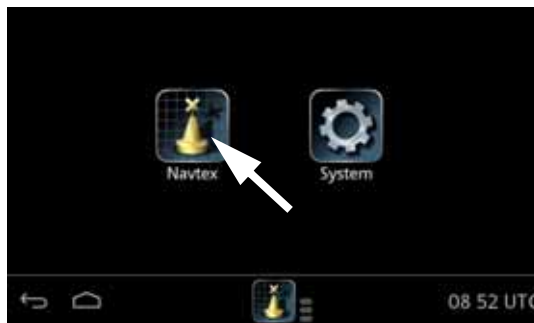
The icon **System** holds the application manager and settings for the SAILOR 6004 Control panel.

Dim and night mode

Turn the dim knob of the SAILOR 6004 Control Panel to
increase or decrease the display brightness. The display goes
into **night mode** either when turning the dim knob
counterclockwise or when the internal light sensor detects the
light level for changing to night mode[1].

To dim to level zero push the power button once. If an alarm appears while
the display is in level zero, the display returns to the latest dim value and the
alarm is displayed.

Navtex screen

The Navtex app has the following idle screen:

1. Top bar

- • Current app, in this case Navtex
- • Tabs for unread, tagged and all messages
- • Menu icon for accessing the further function.

1. If dimming is set to AUTO.

2. Navtex app-specific area.

Each row represents a Navtex message.

*   Closed envelope: The message has not been read and is newer than 24 hours.
*   Open envelope: The message has been read or is older than 24 hours.
*   Yellow square: Nav or Met warning
*   Yellow circle: SAR message

Note Only messages filtered for **Display** are shown. For more details see *Filters for stations and message types* on page 10.

3. Bottom bar

*   Icon for back function or for collapsing the on-screen keyboard.
*   Icon for going to the start screen.
*   Icon for the installed app[1], including status information[2].
*   Icons for new messages (closed envelope). After 24 hours messages are automatically set to not new.
    – Yellow square: Nav or Met warning.
    – Yellow circle: Unread SAR message.
*   3 indicators, from the top: 4209.5 kHz (local), 518 kHz (international, mandatory), 490 kHz (local). Green while receiving a message.
*   Icons for alerts and for software update:
    – Flashing yellow circle: Unacknowledged alert(s)
    – Notification icon: New Navtex software is available
*   Time, e.g. UTC time received from the Navtex receiver via GPS input.

---

1. Not visible in some cases, if configured not to be shown or if this is the third app on this SAILOR 6004 Control Panel.
2. The letter A is shown if the filter for Display is set to Automatic Mode.

Sorting the list of Navtex messages

To sort the list of Navtex messages tap the heading of the column. Tap it again to toggle the sorting order, ascending or descending. The default sorting is for Time, newest on top.
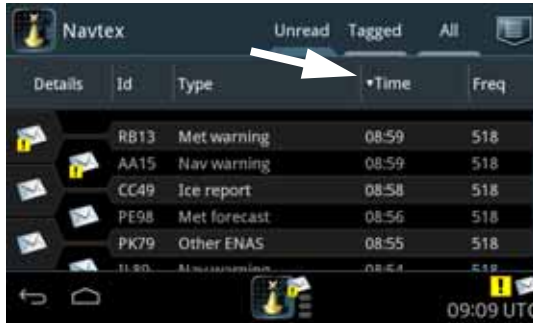
Tabs for Unread, Tagged and All

You can select which Navtex messages should be displayed: Unread, Tagged and All messages. To tag a message see *Navtex message in detail* on page 9.

Tagged messages are marked with a star.

Navtex message in detail

To view the full Navtex message, do as follows:

1. Tap the message. The first part of the message is the Navtex message, the second part of the message starting with **Station** gives some status information.

Previous   *Frequency*   *Next*   *Menu*

Message content

Status information

Swipe up or down for more info

2. To return to the list view press the arrow icon in the lower left corner.

To tag or print a Navtex message

You can tag or print an open Navtex message.

Action	How to
Tag	Tap the menu icon and **Tag message**. The envelope icon for this message is marked with a star and the message is not automatically deleted after 66 hours[a].
Untag	Tap the menu icon and then **Untag message**. If the message is older than 24 hours it is automatically deleted.
Print	Tap the menu icon and **Print**.

Table 2: To tag or print a Navtex message

a. Default value.

SAR messages

When a SAR message (message type D, see page 11) is received, the
SAILOR 6390 Navtex Receiver emits an audible signal and the message is
displayed in the SAILOR 6004 Control Panel's display. An unread SAR
message is marked with a yellowish orange circle in the bottom bar.

Tap the message to acknowledge it.

Filters for stations and message types

You can customise the SAILOR 6390 Navtex Receiver to receive Navtex
messages of certain types and from selected coast stations. You can filter
separately for printer output, SAILOR 6004 Control Panel (Display) and INS
installations. You can set up a filter for each of the 3 receiver frequencies.
The filters are not affected by a power cycle. Filter settings can be copied
from one tab to the others, e.g. from **Display** to **Printer** or **INS**.

Three tabs for filtering
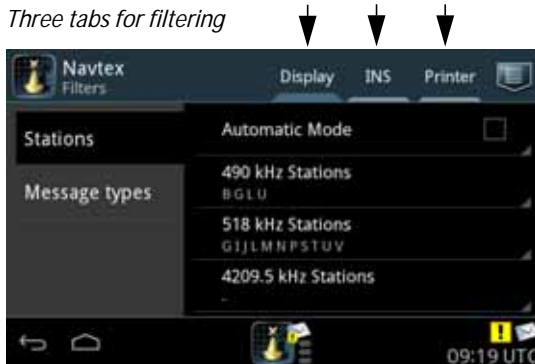
Filters for stations

The SAILOR 6390 Navtex Receiver can automatically filter messages from coast stations within a certain range of own position, measured in NM. It can also filter coast stations manually (default). For a list of stations see the Admiralty List of Radio Signals and ITU List of Coast stations and Special Service Stations (List IV) (http://www.itu.int).

To set up filters for stations do as follows:

1. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon and then **Filters**.

2. Tap **Printer**, **Display** or **INS** to select the output for this filter.

3. For automatic filtering select **Automatic Mode**.
   The coast stations within the currently set range are displayed.[1]

4. For manual selection deselect **Automatic Mode** and tap the frequency you want to set up a filter for, e.g. **490 kHz Stations**. Swipe and select the stations you want to receive on this frequency.

5. Tap **Apply**. The selected stations are displayed directly below the frequency.

Note | Make sure that the stations for **Printer** are also included in the stations for **Display**. If not, SAR, Nav or Met warnings sent only to the Printer cannot be displayed and read.

---

1. For Automatic Mode the SAILOR 6390 Navtex Receiver must have a valid GPS input. Without a valid GPS input it can only filter manually.

To change the **Range** and select Stations in **Automatic Mode**, do as follows:

1. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon, and then **Settings**. The tab **Automatic Mode** is accessible.

2. Tap the field **Range**.

3. Swipe until the desired range (radius) in Nautical Miles and tap **Apply**.

4. To include specific stations in Nav Areas, swipe and tap the respective Nav Area.

5. Swipe and select or de-select the stations to be included in Automatic Mode.

Filters for message types

The SAILOR 6390 Navtex Receiver can filter selected message types. The following list shows the Navtex message types available.

> **Note** | Message types A, B, D and L cannot be filtered out.

- **A – Navigational warnings**
- **B – Meteorological warnings**
- C – Ice reports
- **D – Search and rescue information (SAR), acts of piracy warnings, tsunamis and other natural phenomena**
- E – Meteorological forecasts
- F – Pilot and VTS service messages
- G – AIS service messages (non navigational aid)
- H – LORAN messages (LOngRAngeNavigation)
- I – Reserved
- J – GNSS messages
- K – Other electronic navigational aid system messages
- **L – Other Navigational warnings**
- M,N,O,P,Q,R,S,T,U – Reserved
- V,W,X,Y – Special
- Z – No Message

To filter message types do as follows:

1. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon and then **Filters**.
2. Tap **Printer**, **Display** or **INS** to select for which output you want to set up a filter.
3. Tap **Message types**.
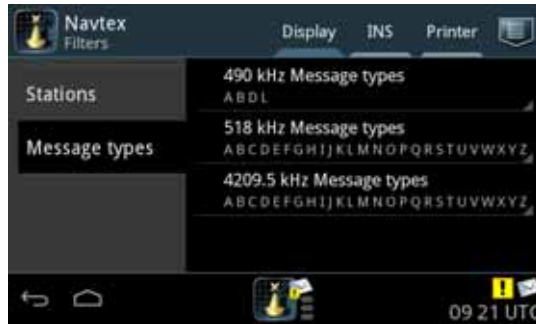
4. Tap the frequency you want to set up a filter for, e.g. **490 kHz Message types**.
5. Swipe and select the message types you want to receive on this frequency. A, B, D and L are mandatory.
6. Tap **Apply**. The selected message types are displayed directly below the frequency.

To copy filter settings

You can copy the filter settings from one output mode to another, e.g. from Display to INS and Printer

To copy filter settings do as follows:

1. While in the **Filter** mode tap the menu icon.
2. Tap **Copy to...**
3. Tap the filter you want to copy to, e.g. from **Printer** to **Display** or **INS**.

Note> You cannot copy if the destination filter is set to **Automatic Mode**.

To print messages from the SAILOR 6004 Control Panel

A printer can be connected to one of the USB connectors of the SAILOR 6004 Control Panel. Every time a Navtex message is received and applies to the filtering set up for **Printer**, the message is output on the printer.

The SAILOR 6390 Navtex Receiver applies header and footer information to the printout, stating frequency, date and time of reception and serial number of the SAILOR 6390 Navtex Receiver. If the printed message line is longer than allowed on the printer, the printer inserts the sign ~ to indicate a forced line division and breaks the line.

You can also print a selected list. Do as follows:

1. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon and **Print**.
2. Tap the list you want to print.
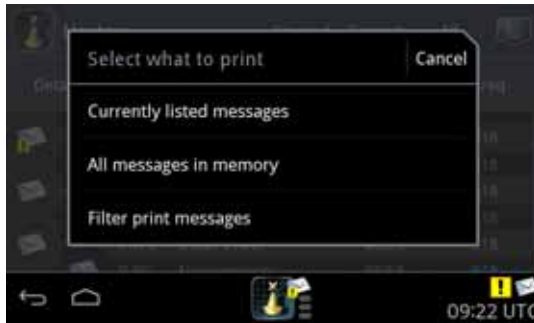
To store messages

You can store the message database with all messages on a USB storage device. Do as follows:

1. Insert a USB storage device in one of the USB connectors at the rear of the SAILOR 6004 Control Panel (only one storage device at a time).

2. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon and **Store Messages**.

3. Tap **Yes** to confirm. The message database is copied to the USB storage device, the messages are exported in a comma separated file. The unit returns to the previous list view.

4. Remove the USB storage device.

The image below shows an example of a file with stored messages, the output file is opened in Microsoft Excel®.

Operation with INS equipment

Messages filtered out using the INS filter settings are sent to the INS equipment via NMEA. See the user documentation for the INS for further information how Navtex messages are displayed and printed.

Glossary

A

AIS   Automatic Identification System. Automatic tracking system used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships and AIS Base stations.

G

GMDSS   Global Maritime Distress and Safety System. The system is intended to perform the following functions: alerting (including position determination of the unit in distress), search and rescue coordination, locating (homing), maritime safety information broadcasts, general communication, and bridge-to-bridge communication.

GNSS   Global Navigation Satellite System

GPL   General Public License, software license, which guarantees individuals, organizations and companies the freedom to use, study, share (copy), and modify the software.

GPS   Global Positioning System

I

INS   Integrated Navigation System

L

LAN   Local Area Network

LGPL   Lesser General Public License

LORAN   LOng RAnge Navigation, a terrestrial radio navigation system
                 which enables ships and aircraft to determine their position and
                 speed from low frequency radio signals transmitted by fixed
                 land based radio beacons.

N

NAVDAT   High Speed NAVtex DATa sent out on 500 kHz. Not yet part of
                 mandatory Navtex reception, but mentioned in ITU-R M.2010
                 and ITU-R M.2201.

NMEA   National Marine Electronics Association (standard). A combined
                 electrical and data specification for communication between
                 marine electronic devices such as echo sounder, sonars,
                 anemometer (wind speed and direction), gyrocompass,
                 autopilot, GPS receivers and many other types of instruments.
                 It has been defined by, and is controlled by, the U.S.-based
                 National Marine Electronics Association.

S

SAR   Search And Rescue

U

UTC   Universal Time, Coordinated. The International Atomic Time
                 (TAI) with leap seconds added at irregular intervals to
                 compensate for the Earth's slowing rotation. Leap seconds are
                 used to allow UTC to closely track UT1, which is mean solar
                 time at the Royal Observatory, Greenwich.

COBHAM