COBHAM

SAILOR 6390 Navtex Receiver

User Manual

SAILOR 6390 Navtex Receiver

User manual

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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.

Approvals and standard compliance

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 below list may not be complete. Contact your authorized dealer for more information.

MED (Marine Equipment Directive)

SAILOR 6390 Navtex Receiver is approved to MED 2018/773 and fulfills the requirements in the following standards:
IEC-60945 (2002), IEC-60945 Corrigendum 1 (2008), IEC- 61097-6 (2012), IEC-61162-1 (2016), IEC-61162-450 (2018).

SOLAS (Safety of Life at Sea)

The SAILOR 6390 Navtex Receiver is approved to SOLAS Regulations IV/7, IV/14 IMO resolutions MSC.148(77), MSC.302(87) and MSC.430(98): ITU-R M.540-2 (06/90) and ITU-R M.625-3 (10/95).

FCC (Federal Communications Commission)

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

BAM (Bridge Alert Management)

IEC 62923-1:2018 and IEC 62923-2:2018

The SAILOR 6390 Navtex Receiver is approved to be a BAM compliant Maritime navigation and radio communication equipment.

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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 i*s used to emphasize the paragraph title in cross-references.

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

Table of contents

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.

Figure 1: SAILOR 6390 Navtex Receiver

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).

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1. Default value.

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)

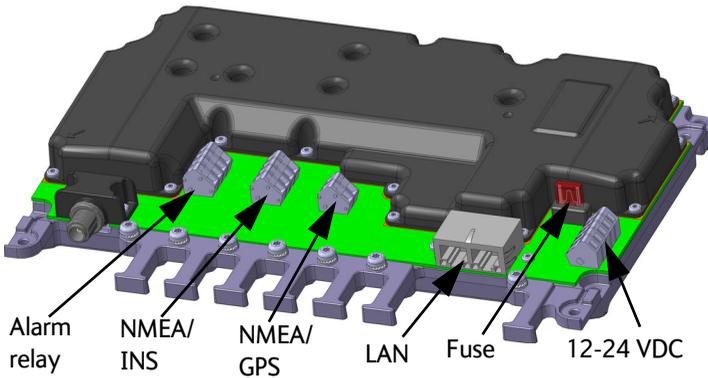■ Support for Bridge Alert Management (BAM)

Connector overview

Figure 2: Connector overview and fuse location

Navtex message (example)

The following message shows an example of a Navtex message.

```
ZCZC XZ28
REYKJAVIK VIA GRINDAVIK
120350 UTC JUNE 2021

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 *Filters for message types* on page 13 for a list of all message types.)
28	Serial number of message 01-99: (normal), 00: Priority
Message text	REYKJAVIK VIA GRINDAVIK 120350 UTC JUNE 2021 NO MESSAGE ON HAND
NNNN	End of message (not displayed)

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 Integrated Navigation System (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. The SAILOR 6004 Control panel has a buzzer for alarm 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.

Figure 3: SAILOR 6004 Control panel

Use as a stand-alone unit with an Integrated Navigation System (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.

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.

Figure 4: Navtex icon in SAILOR 6004 Control Panel

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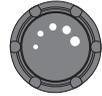
To dim to level zero push the power button once. If an alert appears while the display is in level zero, the display returns to the latest dim value and the alert is displayed.
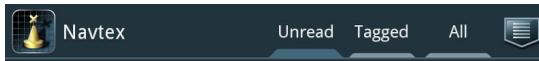
Navtex screen

The Navtex app has the following idle screen:

Figure 5: Navtex idle screen

1. Top bar

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

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1. If dimming is set to AUTO.

2. Navtex app-specific area.

Details	Id	Type	▾Time	Freq
	JX97	Special (X)	07:24	490
	RB13	Met warning	07:24	490
	AA15	Nav warning	07:20	490
	CC49	Ice report	07:16	490
	PE98	Met forecast	07:14	490
	PK79	Other ENAS	07:13	490
	JL80	Nav warning	07:13	490

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 flag: Nav or Met warning
- Red flag: SAR message

Note Only messages filtered for **Display** are shown. For more details see *Filters for stations and message types* on page 11.

3. Bottom bar

Alerts

- 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 flag: Nav or Met warning.
  – Red flag: Unread SAR message.
- 3 indicators, from the top: 4209.5 kHz (local), 518 kHz (international, mandatory), 490 kHz (local). Green while receiving a message.
- Icon for notifications, e.g. new Navtex software available (ⓘ placed above UTC time).
- Time, e.g. UTC time received from the Navtex receiver via GNSS input.
- Icons for alerts (to the right)
  – For a list of alert icons, see *Icons for alerts* on page 29.

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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.

Figure 6: Sorting Navtex messages

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.
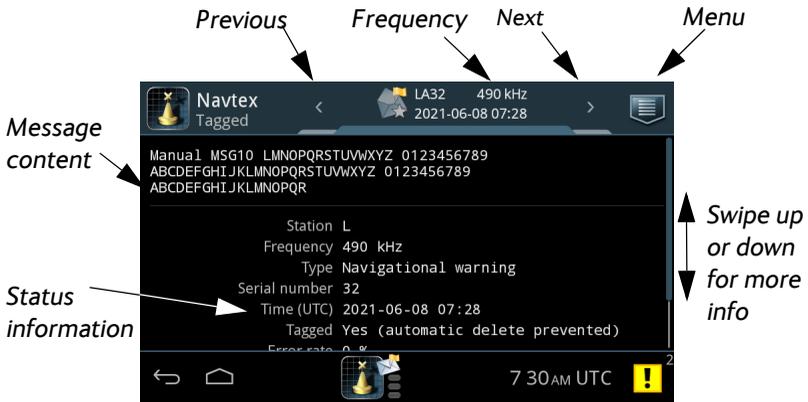

Figure 7: View Navtex message

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**.

a. Default value.

SAR messages

When a SAR message (message type D, see page 13) is received, the SAILOR 6390 Navtex Receiver emits an audible signal and the message is displayed as a popup in the SAILOR 6004 Control Panel's display.

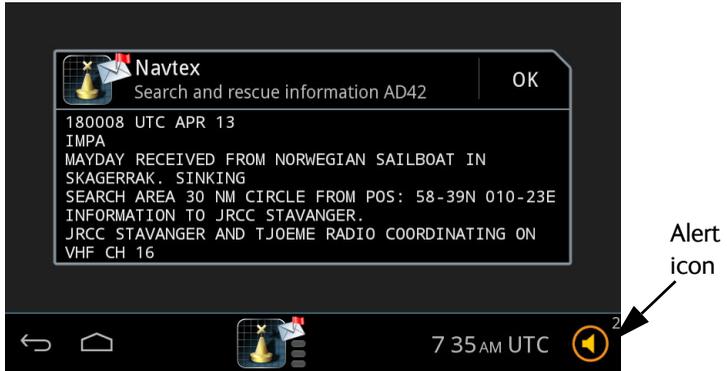An unread SAR message triggers a warning alert, which is indicated in the bottom bar.

Alert icon

Figure 8: SAR message popup

1. Tap **OK**.
   The message is now marked as read instead of unread, and the alert icon changes state.
2. Tap the alert icon in the bottom right corner to bring up the alert list.
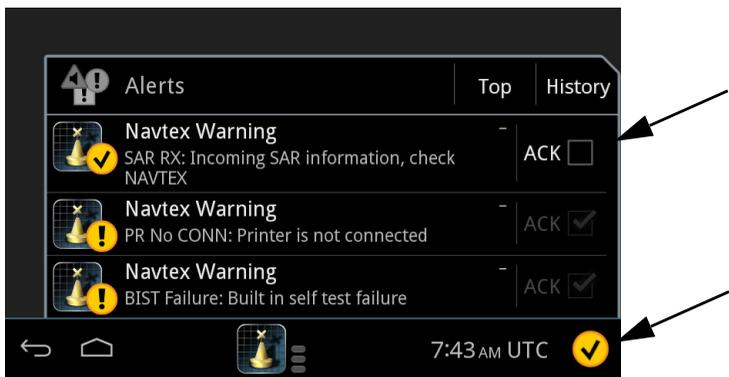

Figure 9: Alert list

3. Locate the Warning related to the SAR message in the list and tap next to ACK to acknowledge the warning.
    The warning disappears from the alert list when it is rectified and acknowledged.

Note	The alert icon in the right side of the bottom bar always shows the alert with highest priority, so if other higher priority alerts are present you may see a different symbol in this area.

Filters for stations and message types

You can customize 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**.
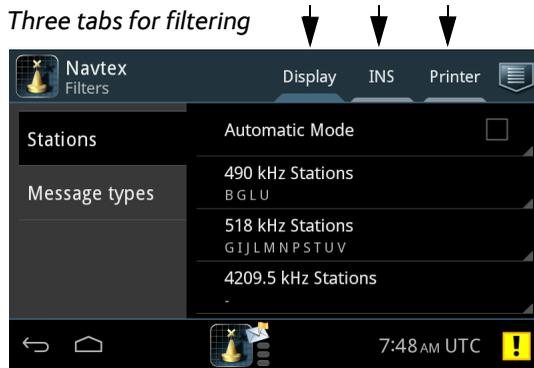
Three tabs for filtering

Figure 10: Filters for stations and message types

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]

Figure 11: Filters for stations

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.

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 (min. 50Nm) 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 deselect the stations to be included in Automatic Mode.

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

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.
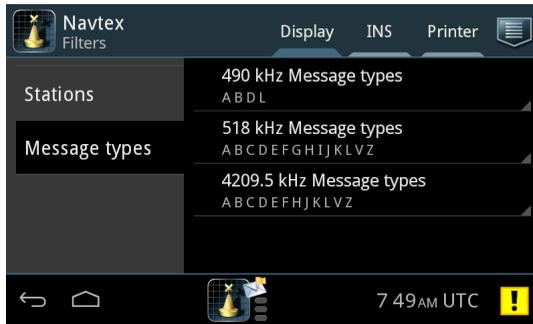
3. Tap **Message types**.

Figure 12: Filters for 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**.
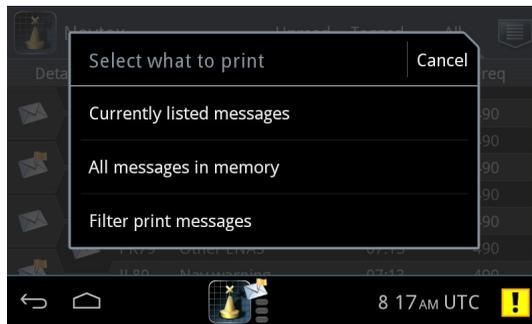2. Tap the list you want to print.

Figure 13: Print messages

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 then **Store Messages**.
3. If wanted, change the file name and location.
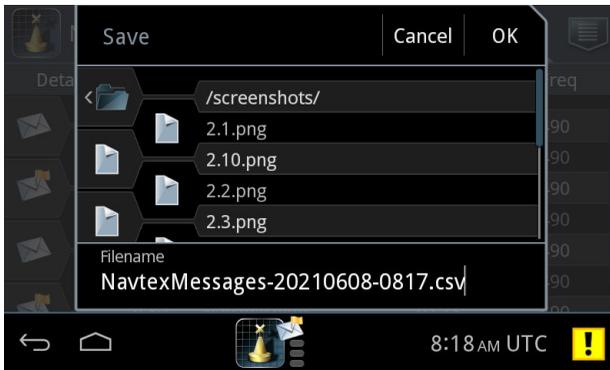4. Tap **OK**.

Figure 14: Store messages 1

Figure 15: Store messages 2

5. 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.

6. 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®.

	A	B	C	D	E	F	G	H
	Station	Frequency	UtcTime	New	Tagged	ErrorPercentage	Expired	Message
1								
2	LA13	490.0	18-07-2021 21:52	0	0	0	1	NCC-HAMBURG
3	EA86	490.0	19-07-2021 00:43	0	0	0	1	190040 UTC JAN 14
4	LA67	490.0	19-07-2021 13:56	0	0	0	1	NCC-HAMBURG
5	LE17	490.0	19-07-2021 17:45	0	0	0	1	191750 NAVTEX-HAMBURG (NCC)
6	LA36	490.0	20-07-2021 13:56	0	0	0	1	NCC-HAMBURG
7	LA77	490.0	20-07-2021 21:55	0	0	0	1	NCC-HAMBURG
8	LE22	490.0	20-07-2021 21:58	0	0	0	1	202150 NAVTEX-HAMBURG (NCC)
9	LB28	490.0	21-07-2021 02:13	0	0	1	1	210212 NAVTEX-HAMBURG (NCC)
10	LA33	490.0	21-07-2021 13:50	0	0	0	1	NCC-HAMBURG
11	LA08	490.0	21-07-2021 13:52	0	0	0	1	NCC-HAMBURG
12	LA87	490.0	21-07-2021 13:53	0	0	1	1	NCC-HAMBURG
13	LA69	490.0	21-07-2021 13:54	0	0	0	1	NCC-HAMBURG
14	LA06	490.0	21-07-2021 13:52	0	0	1	1	NCC-HAMBURG
15	LA38	490.0	22-07-2021 12:17	0	0	0	1	NAVTEX-HAMBURG (NCC)
16	LA37	490.0	23-07-2021 01:41	0	0	0	1	NCC-HAMBURG
17	LA76	518.0	23-07-2021 01:47	0	1	7	0	181421 UTC JAN 14
18	SE27	518.0	23-07-2021 02:58	0	1	0	0	230300 NAVTEX-HAMBURG (NCC)

NavtexMessages-20210811-0928.csv

Figure 16: File with stored messages

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.

Service & maintenance

This chapter has the following sections:

- *Maintenance*
- *Alerts and notifications*
- *Troubleshooting guide*
- *Service and repair*

Maintenance

Maintenance of the SAILOR 6390 Navtex Receiver can be reduced to a maintenance check at each visit of the service staff. Inspect the unit for mechanical damages, salt deposits, corrosion and any foreign material. Due to its robust construction and ruggedness the unit has a long lifetime. Anyway it must carefully be checked at intervals not longer than 12 months – dependent on the current working conditions.

Contact for support

Contact an authorized dealer for technical service and support of the SAILOR 6390 Navtex Receiver. Before contacting the authorized dealer you can go through the troubleshooting guide to solve some of the most common operational problems.

To access the Service Interface

All tasks related to installation, service and maintenance are described in the installation manual.

Only a service engineer should access the Service Interface directly from the display of the SAILOR 6004 Control Panel.

Do as follows:

1. Tap **System > Applications**.
2. Tap [icon] **> Device list**.
3. Tap the device.
4. Tap [icon] .

5. Tap **Service Interface**. If you want to leave the service interface press the **HOME** symbol. .

| Note | When you leave the service interface, the Navtex receiver will restart. |

Figure 17: Service Interface

6. Tap **Show MENU**

Figure 18: Service Interface, Show menu

Figure 19: Service Interface, Hide menu

- NMEA Trace, more information in the next section.
- RF Reception Levels, more information on page 23.
- Installation Tests, more information on page 24.
- Navtex DB Dump, more information on page 26

NMEA Trace tool

To verify the installation of NMEA devices to the SAILOR 6390 Navtex Receiver you can start the NMEA Trace tool to see whether the connected device on a selected port receives and sends correct NMEA information. The NMEA Trace verifies the electrical connection, it does not guarantee that the NMEA sentence is parsed correctly. The NMEA Trace tool runs independently from the Service Interface and you can access the SAILOR 6390 Navtex Receiver as in normal operation.

To start the NMEA Trace tool, do as follows:

1. Press **Show MENU**
2. Click **NMEA Trace**
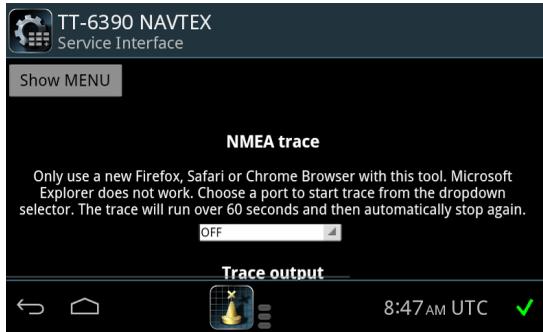3. In the drop down list select which port you want to run an NMEA trace on:

Figure 20: Service Interface, NMEA trace

A new window opens and the tracing starts automatically.

Figure 21: Service Interface, NMEA trace ongoing

In this window the current data to and from the port selected in the drop-down list are displayed. At the same time you can monitor alerts related to the connected devices and configure the connected devices in the display of the SAILOR 6004 Control Panel.

4. After ended tracing, you can download the NMEA trace log file to a USB storage device connected to SAILOR 6004 Control Panel.
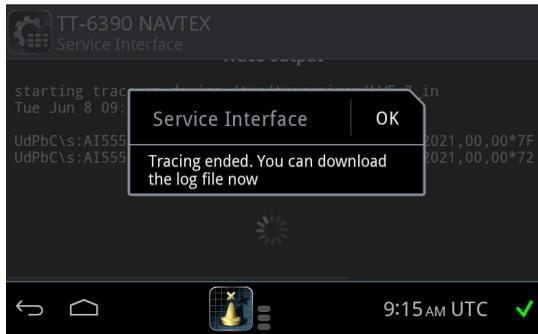
Figure 22: Service Interface, NMEA trace download

Checking RF Reception Levels

To check RF reception levels, do as follows:

1. Press **Show MENU**.
2. Click **RF Reception Levels**.
3. Click the button **Get reception levels**. RF levels are measured and sent to the service interface.
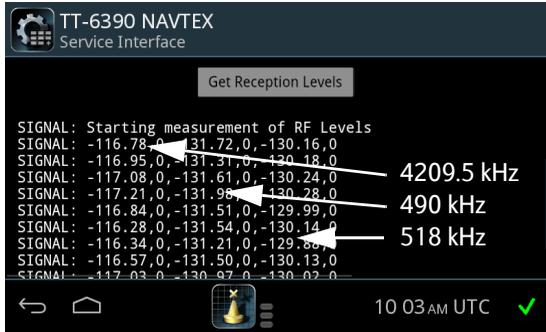

Figure 23: Service Interface, RF reception levels

Figure 24: Service Interface, RF reception levels, ongoing

Example: `SIGNAL: -116.78,0,-131.72,0,-130.16,0`

4209.5 kHz signal: -116.78 dBm, Searching for valid signal
490 kHz signal: -131.72 dBm, Searching for valid signal
518 kHz signal: -130.16 dBm, Searching for valid signal

Installation Tests

To run the available installation tests, do as follows:

1. Press **Show MENU**.
2. Click **Installation Tests**.
3. Click the button **Run Self Test** to run a Self Test of the SAILOR 6390 Navtex Receiver.

Figure 25: Service Interface, Installation tests

4. Click the button **Generate Test Message**. The test message is displayed in the SAILOR 6004 Control Panel.

> **Note** Make sure that the station Z for 490 kHz is selected for **Display**. (Tap on **Control Panel**: **Menu** icon > **Filters** > **Stations**, **Display**).

5. **Change audio source**: The demodulated signal (1700 Hz +/-85 Hz) received on 518 kHz is always present for debug on connector J9. If a receiver is not performing as expected, change the debug audio source to that receiver (490 kHz/518 kHz/4209.5 kHz) and listen for e.g. a constant tone, indicating a spurious on that receiver channel. The presence of a constant tone can then be compared to the RF reception level measurements (see page 23).
Note that changing the audio source is not saved to memory. After reboot the 518 kHz channel is always selected.
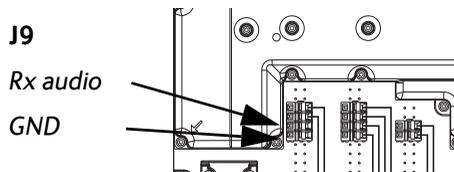

6. To toggle the Alarm Relay click **On** and **Off** to check the connected alarm system.

Figure 26: Service Interface, toggle alarm relay

Navtex DB Dump

1. Press **Show MENU**.
2. Click **Navtex DB Dump**.
3. Click the button **Backup**. A pop up window opens, follow the on-screen instructions to open or save the file.
4. The messages are exported in a comma separated file.
5. The image below shows an example of a file with stored messages, the output file is opened in Microsoft Excel®.

NavtexMessages-20210811-0928.csv
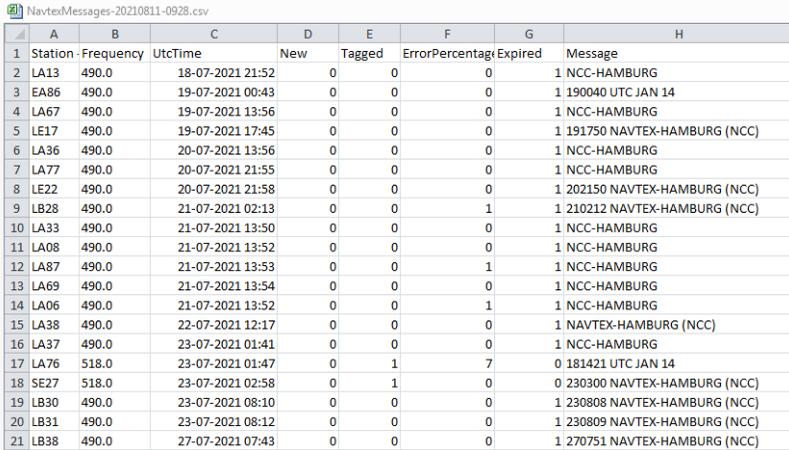
	A	B	C	D	E	F	G	H
1	Station	Frequency	UtcTime	New	Tagged	ErrorPercentage	Expired	Message
2	LA13	490.0	18-07-2021 21:52	0	0	0	1	NCC-HAMBURG
3	EA86	490.0	19-07-2021 00:43	0	0	0	1	190040 UTC JAN 14
4	LA67	490.0	19-07-2021 13:56	0	0	0	1	NCC-HAMBURG
5	LE17	490.0	19-07-2021 17:45	0	0	0	1	191750 NAVTEX-HAMBURG (NCC)
6	LA36	490.0	20-07-2021 13:56	0	0	0	1	NCC-HAMBURG
7	LA77	490.0	20-07-2021 21:55	0	0	0	1	NCC-HAMBURG
8	LE22	490.0	20-07-2021 21:58	0	0	0	1	202150 NAVTEX-HAMBURG (NCC)
9	LB28	490.0	21-07-2021 02:13	0	0	1	1	210212 NAVTEX-HAMBURG (NCC)
10	LA33	490.0	21-07-2021 13:50	0	0	0	1	NCC-HAMBURG
11	LA08	490.0	21-07-2021 13:52	0	0	0	1	NCC-HAMBURG
12	LA87	490.0	21-07-2021 13:53	0	0	1	1	NCC-HAMBURG
13	LA69	490.0	21-07-2021 13:54	0	0	0	1	NCC-HAMBURG
14	LA06	490.0	21-07-2021 13:52	0	0	1	1	NCC-HAMBURG
15	LA38	490.0	22-07-2021 12:17	0	0	0	1	NAVTEX-HAMBURG (NCC)
16	LA37	490.0	23-07-2021 01:41	0	0	0	1	NCC-HAMBURG
17	LA76	518.0	23-07-2021 01:47	0	1	7	0	181421 UTC JAN 14
18	SE27	518.0	23-07-2021 02:58	0	1	0	0	230300 NAVTEX-HAMBURG (NCC)
19	LB30	490.0	23-07-2021 08:10	0	0	0	1	230808 NAVTEX-HAMBURG (NCC)
20	LB31	490.0	23-07-2021 08:12	0	0	0	1	230809 NAVTEX-HAMBURG (NCC)
21	LB38	490.0	27-07-2021 07:43	0	0	0	1	270751 NAVTEX-HAMBURG (NCC)

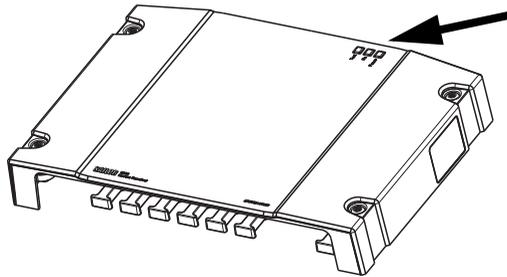Figure 27: Excel file with stored Navtex messages

System LEDs

Figure 28: System LEDs

LED	Color	Description
Power	Green	Lit when the device is on.
Rx	Green	Flashing when receiving Navtex data on any active frequency.
Test	Green	Lit when the power-on-self-test is passed. Flashes if a fault is detected.

Alerts and notifications

Introduction to alerts and notifications

The SAILOR 6390 Navtex Receiver reports alerts of the type warning and caution, and complies with the requirements for Bridge Alert Management according to IEC-62923-1 (2018) and IEC-62923-2 (2018).

Alerts and notifications are reported and indicated in the bottom bar of the SAILOR 6004 Control Panel display.

Alert icons appear to the right and notifications just above the UTC time in the bottom bar as shown.
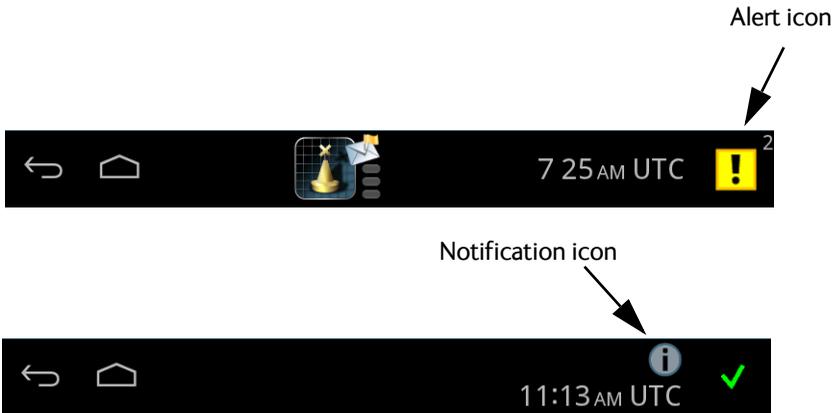

Figure 29: Icons for alerts and notifications

An alert is presented with an alert icon in the lower right side of the display. An alert can be of the type warning or caution. If a warning is not acknowledged the audible warning signal (2 beeps) is repeated every 4 minutes until it is acknowledged. The audible warning signal disappears when the alert changes state from the initial active unacknowledged state, e.g. when it is acknowledged or the alert is rectified.

You can display the current list of active alerts by tapping the lower right corner of the SAILOR 6004 Control Panel display where the alert icon is displayed.

The alert list is prioritized. The most important alert is an alarm, then warning and finally caution. The most important active alerts move to the top of the list, after

that the alerts with the same importance are sorted primarily by time of last change of state (see IEC62923-1 2018 section 6.4.2.1). To go to the top of the list of Alerts (highest priority), tap **Top**.

To display notifications, tap the notification icon above the UTC time in the bottom bar.

Alerts

Icons for alerts

The following table shows the icons for alerts with a description.

Note The SAILOR 6390 Navtex Receiver does **not** report alerts of the type Alarm (red icon).

Icon	Name	Icon description
	Active - unacknowledged alarm	A flashing red triangle. A symbol of a loudspeaker in the middle of the triangle. This alert is accompanied by an audible alarm signal (3 beeps). This icon is displayed when there is an active unacknowledged alarm.
	Active – silenced alarm	A flashing red triangle. A symbol of a loudspeaker with a prominent diagonal line through it. This icon is displayed when there is an active silenced alarm.
	Active – acknowledged alarm	A red triangle. An exclamation mark in the middle of the triangle. This icon is displayed as long as the alarm condition is present.
	Active - responsibility transferred alarm	A red triangle. An arrow pointing towards the right in the middle of the triangle. This icon is displayed as long as the alarm condition is present.

Icon	Name	Icon description
	Rectified – unacknowledged alarm	A flashing red triangle. A tick mark in the middle of the triangle.
		This icon is displayed when the alarm condition has been rectified but not yet acknowledged.
	Warning: Active unacknowledged alert	A flashing yellow circle with a symbol of a loudspeaker in the middle of the circle. This alert is accompanied by an audible warning signal (2 beeps).
		This icon is displayed when there is an active unacknowledged warning.
	Warning: Active unacknowledged alert, silent	A flashing yellow circle. A symbol of a loudspeaker with a prominent diagonal line through it.
		This icon is displayed when there is an active silenced warning.
	Warning: Active acknowledged alert	A yellow circle with an exclamation mark in the middle of the circle.
		This icon is displayed as long at the warning condition is present.
	Warning: Active transferred alert	A yellow circle. An arrow pointing towards the right in the middle of the circle.
		This icon is displayed as long at the warning condition is present.
	Warning: Inactive unacknowledged alert, rectified	A flashing yellow circle with a tick mark in the middle of the circle.
		This icon is displayed when the warning condition has been rectified but not yet acknowledged.

Icon	Name	Icon description
⚠️	Caution:Alert	A yellow square with an exclamation mark in the middle of the square. A caution alert disappears automatically when the caution situation is cleared.
✅	(check mark)	No active alerts

Alert history

The alert history contains alerts of the last 24 hours (or maximum1000 entries). The alert history is cleared when you switch off the SAILOR 6004 Control Panel. The alerts are not saved. To display the alert history do as follows:

1. Tap the Alert icon in the lower right corner.
2. Tap **History** to display a list of alerts. You can swipe through the list.
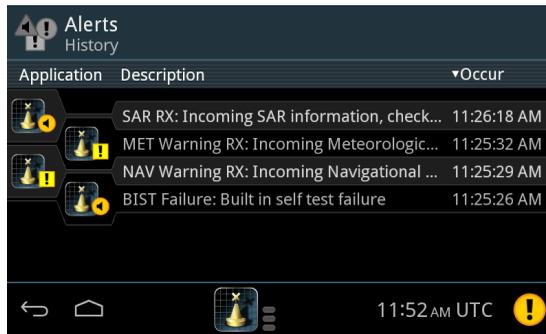
Figure 30: Alert history

3. Tap an alert to display specific alert information.

Alert acknowledgment

Active warnings must be acknowledged. When all active warnings are acknowledged the icons stop flashing. To acknowledge an alert do as follows:

1. Tap the alert icon in the lower right corner to display the list with alerts.
2. Tap the check box next to **ACK** to acknowledge the alert. The alert icon changes into the acknowledged version.
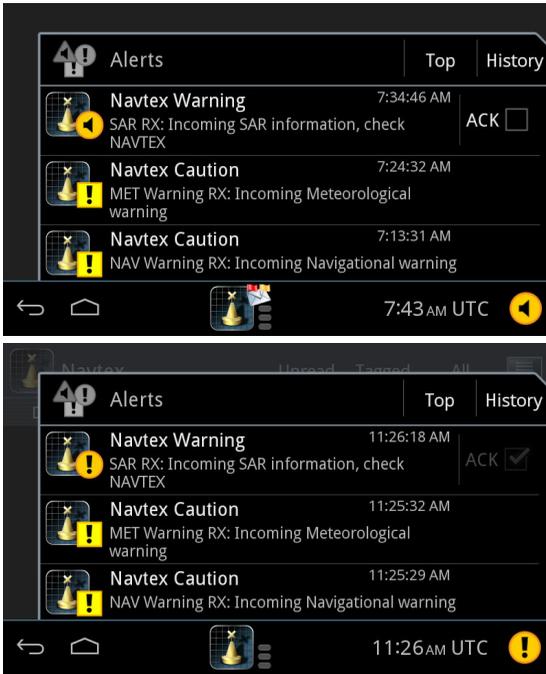
Before acknowledgment.

After acknowledgment.

Note: This icon only changes if no other higher-priority alert is present.

Figure 31: Alert acknowledgment

Notifications

Notifications are shown in the bottom bar above the UTC time.

Icon for notifications

This icon ⓘ is shown above the UTC time in the bottom bar if an unread notification is present. Tap the icon to see the list of notifications.

History

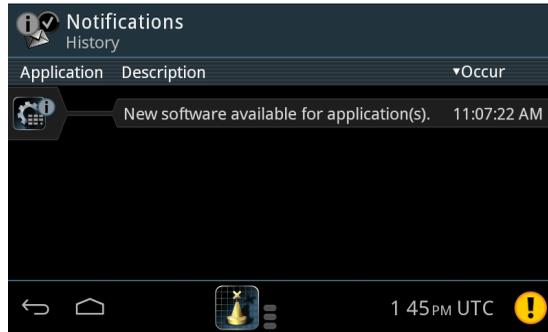To see the notification history, tap 🛈 and then select **History**.

Figure 32: Notification history

List of alerts

The following list shows the alerts that may appear in the display.

Responsibility transfer: The SAILOR 6390 Navtex Receiver accepts responsibility transfer requests for all category B Warnings.

Escalation time: All Warnings are escalated as Warning after 4 minutes.

ID/ Instan-ce	Prio-rity	Cate-gory	Title	Description	Reasons and remedy
3123/1	C	B	NAV Warning RX	Incoming Navigational warning	Read associated message.
3123/2	C	B	MET Warning RX	Incoming Meteorological warning	Read associated message.
3122/3	W	A	SAR RX	Incoming SAR information, check NAVTEX	Read associated message.
3115/4	W	B	RCDR MALFUNC	Receiver malfunction	Contact your supplier.

ID/ Instan- ce	Prio- rity	Cate- gory	Title	Description	Reasons and remedy
3062/5	W	B	BIST Failure	Built in self test failure	Check antenna installation.
3062/6	W	B	General Failure	Check NAVTEX equipment	Power- cycle the unit. If the problem persists, contact you supplier.
3079/60	C	B	PR Offline	Printer is offline	Set the printer online.[a]
3079/61	C	B	PR is busy	Printer is busy	Wait until current print job is finished.[a.]
3079/62	C	B	PR Paper Low	Printer is low on paper	Insert more paper.[a.]
3079/63	C	B	PR Out Paper	Printer is out of paper	Insert more paper.[a.]
3078/64	W	B	PR No CONN	Printer is not connected	Check the printer connection.
3078/65	W	B	PR ERR	Printer error	See the original printer documentation.[a.]
3078/66	W	B	No Default PR	No default printer configured	This must be set up during installation. Contact your installation center.[a.]
3016/67	C	B	GNSS POSN Lost	GNSS position is lost	Check the GNSS input
3016/68	C	B	AUTO Mode DISABL	Automatic mode is disabled (no fix)	Check the GNSS input. Without a valid GNSS input the automatic mode does not work. See *Filters for stations* on page 11.

a.   3rd party printer servers cannot raise this alert.

If the connection between the SAILOR 6390 Navtex Receiver and the SAILOR 6004 Control Panel is lost, the SAILOR 6004 Control Panel shows an error "Connection lost". Check the LAN cable and make sure that no one is connected to the SAILOR 6390 Navtex Receiver using the Service Interface.

Responsibility transfer

When receiving a request to transfer the responsibility using ACN sentence, the SAILOR 6390 Navtex Receiver will evaluate that request.

If the request is denied, the SAILOR 6390 Navtex Receiver will report the refusal using ARC sentence to the external BAM-compliant equipment that requested transfer of responsibility.

If the request is granted, the SAILOR 6390 Navtex Receiver will transfer responsibility to the external BAM-compliant equipment, change the alert state accordingly and present the changed alert state.

If the external BAM-compliant equipment is no longer detected, Navtex will resume responsibility for the alerts for which responsibility was transferred.

Control Panel verification

System app

Having switched on the SAILOR 6004 Control Panel, an icon named **System** is always displayed, plus the icon(s) of the applications that are installed. Under **System** you can set up and manage the SAILOR 6004 Control Panel.

Figure 33: Screen to enter **System** (example)

Self Test

Tap **Self Test** to start the self test of the SAILOR 6004 Control Panel. For further details on the self test see the installation manual of the SAILOR 6004 Control Panel.

About

Tap **About** to view the following:

- **Legal** with legal and copyright information, open source licences, etc.
- **Version** with software versions and serial number of the SAILOR 6004 Control Panel.
- **Network** with IP address and MAC address of the SAILOR 6004 Control Panel.

Troubleshooting guide

Problem	Symptom	Remedy
The SAILOR 6390 Navtex Receiver will not turn on.	Green power LED on SAILOR 6390 Navtex Receiver is off.	If the power cable is connected directly to the SAILOR 6390 Navtex Receiver then check that ON IN is wired to VBAT-.
No message can be received.	Test LED flashes.	Check the antenna installation.
The Time column shows dashes, but not time	No valid message time.	Check the GNSS connection.
No connection to the Navtex Receiver	The display shows: Caution: connection lost to BDU	1. Check the cable between the Navtex receiver and the Control Panel. 2. Someone has not logged out properly of the Service Interface.

Problem	Symptom	Remedy
Device failure		If the checks and tests described in this section do not resolve the problem in the Navtex installation, a fault may have developed. When contacting an authorized representative be sure to provide as much information as possible describing the observed behavior - also including the type of the Navtex units, serial number, and software release version. You find this information in the setup menu of the connected SAILOR 6004 Control Panel.
SAILOR 6004 Control Panel cannot be switched off.		If the SAILOR 6004 Control Panel cannot be switched off normally (e.g. due to a fault): Push and hold for 12 seconds. If a remote switch is installed, you have to use the remote switch, you cannot switch off with the power button.
Password entered in the SAILOR 6004 Control Panel, but padlock does not open	Authorization failed. Wrong password or the connection to the SAILOR 6390 Navtex Receiver is lost	Check that you enter the correct password. Check the power supplies, cabling, Ethernet connection between the SAILOR 6390 Navtex Receiver and the SAILOR 6004 Control Panel. Restart both units: – SAILOR 6390 Navtex Receiver: remove and connect power, – SAILOR 6004 Control Panel: use on/off button. Check that no one has logged into the Service Interface. Password for Service Interface: sailorsailor Password for SAILOR 6004 Control Panel: sailorsailor
RX self test failed		Check the antenna installation.

RX self test (with SAILOR 6004 Control Panel)

The RX self test runs automatically after start-up. You can also manually start an RX Self Test directly from the display of the SAILOR 6004 Control Panel. Do as follows:

1. From any list of messages (**Unread**, **Tagged** or **All**), tap the menu icon and **Settings**.
2. Tap the menu icon again, then **RX Self Test**.
3. Tap **Yes** to continue.
4. Wait until the test is finished. The result of the test is shown in the display. If the test has failed check the antenna installation.
   If a printer is connected and enabled the self test results are printed.
5. Tap **Close** to return to the **Settings** page.
6. Tap the Back icon to return to the list view.

Service and repair

Should your Cobham SATCOM product fail, contact your dealer or installer, or the nearest Cobham SATCOM partner. You will find the partner details on www.cobhamsatcom.com/where-to-buy. You can also access www.cobhamsatcom.com and select **COBHAM SYNC PARTNER PORTAL**, which may help you solve the problem. Your dealer, installer or Cobham SATCOM partner will assist you whether the need is user training, technical support, arranging on-site repair or sending the product for repair. Your dealer, installer or Cobham SATCOM partner will also take care of any warranty issue.

Applicable SAILOR part numbers

Part number	Description
406390A-00500	SAILOR 6390 Navtex Receiver
406391A-00500	SAILOR 6391 Navtex System (SAILOR 6004 Control Panel and SAILOR 6390 Navtex Receiver)
406004A-00500	SAILOR 6004 Control Panel

Disassembling – removing the cover

1. Remove the cover of the SAILOR 6390 Navtex Receiver by loosening the 4 screws marked in the figure below.
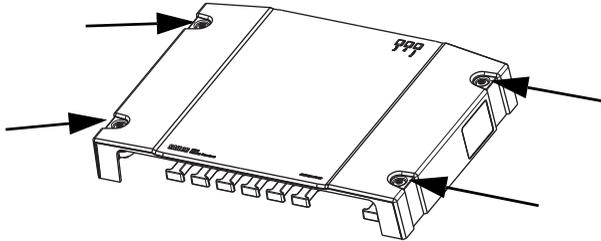

Figure 34: Disassembling - remove cover

2. Remove the cables from the spring-loaded terminals and the connectors.
3. Remove the SAILOR 6390 Navtex Receiver by moving it upwards, away from the mounting surface.

Replacing the fuse

One fuse is installed in the SAILOR 6390 Navtex Receiver. If this fuse is blown, do as follows:

1. Track down why the fuse was blown and solve the problem, e.g. incorrect polarity at the DC supply.
2. Remove the cover by loosening the 4 screws.
3. Take out the old fuse. Use the fuse puller.
4. Insert the new fuse. The fuse rating is 1 A.
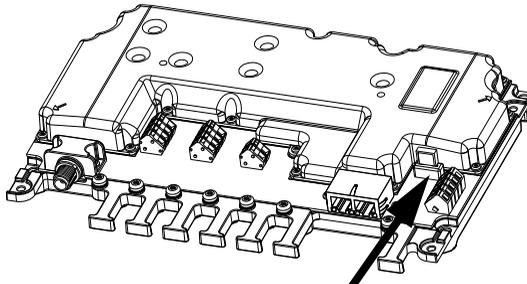
Figure 35: Replace the fuse

Repacking for shipment

Should you need to send the product for repair, please read the below information before packing the product.

The shipping carton has been carefully designed to protect the SAILOR 6390 Navtex Receiver and its accessories during shipment. This carton and its associated packing material should be used when repacking for shipment. Attach a tag indicating the type of service required, return address, part number and full serial number. Mark the carton FRAGILE to ensure careful handling.

> **Note** | Correct shipment is the customer's own responsibility.

If the original shipping carton is not available, the following general instructions should be used for repacking with commercially available material.

1. Wrap the defective unit in heavy paper or plastic. Attach a tag indicating the type of service required, return address, part number and full serial number.
2. Use a strong shipping container, e.g. a double walled carton.
3. Protect the front- and rear panel with cardboard and insert a layer of shock-absorbing material between all surfaces of the equipment and the sides of the container.
4. Seal the shipping container securely.
5. Mark the shipping container FRAGILE to ensure careful handling.

Failure to do so may invalidate the warranty.

Disposal

Old electrical and electronic equipment marked with this symbol can contain substances hazardous to human beings and the environment. Never dispose these items together with unsorted municipal waste (household waste). In order to protect the environment and ensure the correct recycling of old equipment as well as the re-utilization of individual components, use either public collection or private collection by the local distributor of old electrical and electronic equipment marked with this symbol.

Contact the local distributor for information about what type of return system to use.

Specifications

SAILOR 6390 Navtex Receiver

Item	Specification
Weight	1.3 kg
Dimensions	L x W x H: 190 x 270 x 42.5 mm
Input voltage	12-24 VDC (10.8 VDC to 31.2 VDC)
Power consumption	Typical 6.5 W
Heat dissipation	<10 W
Temperature	-15 ˚C to +55 ˚C (Operational) -15 ˚C to +55 ˚C (Storage)
Compass Safe Distance	20 cm (Standard magnetic compass) 20 cm (Emergency magnetic compass)
IP rating	IP22 (estimated)
Navtex receivers	490 kHz, 518 kHz and 4209.5 kHz simultaneous reception. Software updatable for 500 kHz NAVDAT
Antenna support	Active and passive antenna (12 V @ 60 mA antenna supply)
Sensitivity 490/518 kHz 4209.5 kHz:	 <12 dBμV@10 Ω/150 pF <-6 dBμV@50 Ω <12 dBμV@10 Ω/150 pF <6 dBμV@50 Ω

Item	Specification
Interfaces	TNC antenna connector Alarm relay output (normally closed) 2 LAN connectors Remote on NMEA0183 in and out for INS support NMEA0183 in for e.g. GNSS input 600 Ω single ended audio interface for troubleshooting
Printer	Support via LAN connector
NMEA sentences	NMEA0183 input, EN61162-1: ACK, ACN, NRM, CRQ, HBT sentences. NMEA0183 output, EN61162-1: ALC, ARC, ALF, ALR, NRM, NRX, HBT sentences. LWE input, IEC 61162-450: ACK, ACN, NRM, CRQ, SRP, HBT sentences. LWE output, IEC 61162-450: ALC, ARC, ALF, ALR, NRM, NRX, SRP, HBT sentences. GNSS input: RMC, ZDA sentences. Proprietary sentences.

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.

B

BAM   Bridge Alert Management (BAM) is a concept, defined by the IMO, for the management, handling and harmonized presentation of alerts on the bridge. BAM imposes requirements on equipment that handles and presents alerts on the bridge, including equipment that provides central alert management (CAM) system functionalities.

F

FCC   Federal Communications Commission

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.

M
MED	Marine Equipment Directive

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
SOLAS	Safety of Life at Sea

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.

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