PUBLIC

KONGSBERG

Simrad ST90

Fish-finding sonar

Software Release Note

Software version: 24.7.4

This document describes the changes introduced with the new software version.

- **Product**: ST90
- **Software version**: 24.7.4
- **Upgrade from version**: 24.7.2

This software controls all functionality in the ST90 system. This includes transmission and reception, interfaces with external peripherals and sensors, and all user interface.

A firmware update for the Transceiver Unit is not included with this release.

Additional end-user documents related to the ST90 system can be found on our website. This includes publications that are translated into other languages. Selected publications are also provided in IETM (*Interactive Electronic Technical Manual*) formats.

- https://www.kongsberg.com/st90

SIMRAD
By KONGSBERG

442731/L

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Document information

- **Product**: Simrad ST90
- **Software version**: 24.7.4
- **Document**: Software Release Note
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Warning

The equipment to which this manual applies must only be used for the purpose for which it was designed. Improper use or maintenance may cause damage to the equipment and/or injury to personnel. You must be familiar with the contents of the appropriate manuals before attempting to operate or work on the equipment.

Kongsberg Discovery disclaims any responsibility for damage or injury caused by improper installation, use or maintenance of the equipment.

Disclaimer

Kongsberg Discovery AS endeavours to ensure that all information in this document is correct and fairly stated, but does not accept liability for any errors or omissions.

Support information

If you require maintenance or repair, contact your local dealer. You can also contact us using the following address: simrad.support@simrad.com. If you need information about our other products, visit https://www.kongsberg.com/simrad. On this website you will also find a list of our dealers and distributors.

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Software changes

The following specific changes have been made.

Operating Panel Mk4

This software version supports the Mk4 Operating Panel.

The Mk4 Operating Panel is connected to the Processor Unit with a USB cable. The operating panel includes remote control functionality for toggling the ST90 sonar system on and off.

Do I need to upgrade?

This software update introduces new functionality. The new functionality is only related to the new Mk4 Sonar Operating Panel. Unless you use this operating panel or plan to replace your existing panel, you do not need to install this new software version.

Software licenses

The Simrad ST90 is not a licensed product.

The ST90 system does not need any software licenses to operate. However, specific software license codes "unlocks" additional functionality.

The software license is a 32 character hexadecimal string based on the hardware identifier (**Hardware ID**). This unique identifier is generated using information from key components in the Processor Unit. The software license is linked to the physical Processor Unit. You cannot move the ST90 system software from one Processor Unit to another unless you also request and install a new license.

In order to obtain a software license you must contact one of our dealers or distributors. You can also use the request form on our website, or contact our support department directly.

Software installation

When a new software version is released for the ST90 system it must be installed on your Processor Unit. Contact your local dealer, or a Simrad distributor, to have the new software version installed.

Note:

You must remove the old version of the software before you install the new version.

A dedicated wizard is used to install the software. Installation of additional operating system components may be required. These are installed automatically. Observe the information offered in the wizard.

Registered dealers and distributors can download the new software version from our website.

Topics

Removing the operating software, page 8

Installing a new version of the operating software, page 10

Removing the operating software

Before you can install the new software version, you must remove the old version.

Prerequisites

The following items may be useful:

- Computer mouse
- Computer keyboard

Neither tools nor instruments are required. This procedure is made for the Microsoft® Windows® 10 operating system. It is assumed that you are familiar with this operating system.

Context

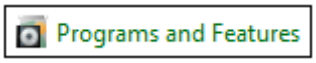
Removal of the software is done using functionality provided by the operating system.

Procedure

1. Turn on the Processor Unit.
2. Select **Power off** to turn off the system.
3. In the **Power Off** dialog box, select **Exit to Operating System** to close the ST90 program.

4. If applicable: Connect the keyboard and the mouse to USB sockets on the Processor Unit.
5. Uninstall the application.
   a. If applicable: Open the on-screen keyboard.
   b. In the bottom left corner of your desktop, select the looking glass to start a search.
   c. Type `Control Panel` to locate the application, then open it.

   d. Select **Programs and Features**.



   e. On the list provided, locate the software you shall uninstall.
   f. Select it, then select **Uninstall**.
   g. Observe the **Remove existing settings** dialog box.
   h. Do not select any check boxes!
   i. Select **Uninstall** in the dialog box to remove the software.
   j. Follow the instructions provided by the wizard.
6. Click the [**X**] in the top right corner to close the Control Panel.
7. If applicable: Disconnect the keyboard and the mouse from the Processor Unit.

Installing a new version of the operating software

A dedicated wizard is used to install the software. The operating software for the ST90 system must be downloaded on a separate computer.

Prerequisites

The following specific items are required for this task:

- Personal computer
- USB flash drive
- Computer mouse (Optional)
- Computer keyboard (Optional)

Neither tools nor instruments are required. This procedure is made for the Microsoft® Windows® 10 operating system. It is assumed that you are familiar with this operating system.

Procedure

1. On the personal computer:
   a. Download the new software version.
   b. Unpack the ZIP file to access the executable application file.
   c. Copy the application file to a USB flash drive.
2. Turn on the Processor Unit.
3. Make the following preparations.
   a. If applicable: Connect the keyboard and the mouse to USB sockets on the Processor Unit.
   b. Insert the USB flash drive.
4. Install the new version of the application.
   a. From the Windows® **Start** button, right-click to open File Explorer.
   b. Locate the executable setup file (`.exe`).
   c. Copy the file to a temporary folder on the "D" drive.
   d. Double-click the setup executable file to start the installation.
   e. Select the check box to accept the license terms and conditions.
   f. Select **Install**.

g. Follow the instructions provided by the wizard.

   We recommend that you install the software in the default folder suggested by the wizard.

h. Close File Explorer.

i. Remove the USB flash drive.

5. On the Processor Unit desktop, double-click the ST90 icon to start the program.

6. If applicable: Disconnect the keyboard and the mouse from the Processor Unit.

End-user documentation

The end user documentation and online help for the ST90 system is not updated with the latest software release.

The ST90 *Reference Manual* is included with the ST90 software as context sensitive on-line help.

Additional end-user documents related to the ST90 system can be found on our website. This includes publications that are translated into other languages. Selected publications are also provided in IETM (*Interactive Electronic Technical Manual*) formats.

- https://www.kongsberg.com/st90

Updated functions and dialog boxes

This new software version has resulted in changes to some of the functions and dialog boxes in the ST90 user interface.

Topics

Operating Panel page, page 14

Operating Panel page

The Operating Panel offers all necessary control functions for normal operation. It further allows you to assign certain functions to dedicated buttons and switches. The **Operating Panel** page is used to select which physical hardware panel you use, and to assign functionality to the programmable buttons.

How to open

This page is located in the **Installation** dialog box. To open the page, select **Installation** on the **Setup** menu.

Prerequisites

The **Installation** dialog box is not available when your ST90 system is set to *Replay* mode.

Description

The controls provided by the operating panel are arranged in logical functional groups. This arrangement offers you straightforward operation with fast access to all relevant functionality. All the functionality the ST90 system provides can be accessed using the trackball on the operating panel and the menu system shown in the display presentation.

The ST90 system supports several different operating panels. These are referred to as "MkX" where "X" is an integer.

- The Mk4 Operating Panel is connected to the Processor Unit with a USB cable. A dedicated power supply unit is not required. The operating panel includes remote control functionality for toggling the ST90 sonar system on and off.

The Mk2 Operating Panel is the standard panel provided for the ST90 system.

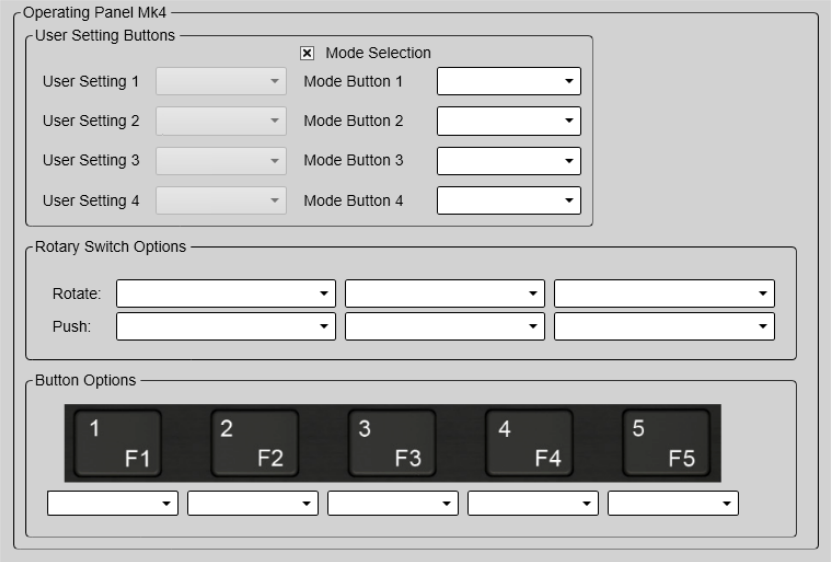
Select which operating panel to use. Assign functionality as permitted by each type of operating panel.

Topics

Operating Panel Mk4, page 15

Operating Panel Mk4

The Mk4 Operating Panel is connected to the Processor Unit with a USB cable. A dedicated power supply unit is not required. The operating panel includes remote control functionality for toggling the ST90 sonar system on and off.



Details

User Settings / Presentation Modes

On the Mk4 Operating Panel, the four buttons dedicated for user settings or presentation modes are located on the left side at the top of the panel. Select **Mode Selection** to specify what you want to use the buttons for. Assign one predefined user setting *or* presentation mode to each button on the Operating Panel.

Tip:

*Before you can assign custom user settings to the operating panel, a selection of settings must be available from the **User Settings** dialog box. The **User Settings** dialog box is located on the **Main** menu.*

*Any user setting selected on the Operating Panel is identified in the upper left corner of the Horizontal view. The identifying number refers to the **User Setting** number on the **Operating Panel** page. Click on the text to make it larger. Click one more time to restore the original font size.*

Rotary Switch Functions (**Rotate**)

The Mk3 Operating Panel is fitted with two rotary switches. The switches are identified with numbers. Each switch can be assigned a function related to range, gain, bearing or tilt.

Under **Rotary Switch Options**, assign one **Rotate** function to each rotary switch on the Operating Panel. The following functions can be assigned:

Horizontal Range

This is the range setting in the *Horizontal* view.

Horizontal Range 2

This is the range setting in the *second Horizontal* view when a "dual" presentation mode is used.

Vertical Range

This is the range setting in the *Vertical* view.

Vertical Range 2

This is the range setting in the *second Vertical* view when a "dual" presentation mode is used.

Inspection Range

This is the range setting in the *Inspection* view.

Plane Range

This is the range setting in the *Plane* view.

Active Ping Range

This is the range setting in the currently active view.

Active Ping Gain

This is the gain setting in the currently active view

Active Ping Bearing

This is the bearing setting in the currently active view.

Active Ping Tilt

This is the tilt setting in the currently active view

Display Gain

Use this setting together with **Gain** to adjust the sensitivity of the ST90 system. **Display Gain** controls the "amount" of echo that is displayed, in other words the "strength" or "intensity" of the echo presentation. The function thus increases or decreases the presentation of the echo colours.

The gain is increased and decreased in steps of 1 dB. The chosen display gain will automatically apply to all the beams.

You can also control this functionality from the **Display** menu.

Rotary Switch Functions (**Push**)

Assign one **Push** function to each rotary switch. The assigned function is activated when you *press* the rotary switch.

None

No specific functionality is assigned.

Auto Tilt

This is an "on/off" function. When *Auto Tilt* mode is activated the beam will automatically change its tilt angle for each transmission ("ping"). The centre of the tilt sector is defined by the chosen tilt angle just before the *Auto Tilt* mode is started. The chosen tilt sector is shown on the tilt indicator in the *Horizontal* view using a shaded background. The sector and step settings are made using the **Tilt** function on the **Main** menu.

Zoom

Place the cursor anywhere in the view, right-click and select **Zoom**. Only one zoom level is provided. Select **Zoom** one more time to restore the original view.

Menu Off

This is an "on/off" function. Unless you need to make frequent changes to the operating parameters, you may want to hide the menu from the display presentation. This gives you more space for echo information.

Audio

Select **Audio** to turn the audio output on or off.

Own Ship

This is the same function as **Place Own Ship Marker** on the shortcut menu. Select this function to add a square symbol to the vessel's current position in the echo presentation. The own ship marker is now regarded as an *object*. All information about the object is shown in the **Objects** menu listed as "OSM". Use **Delete Own Ship Marker** on the shortcut menu to delete the marker from the current view.

Auto Bearing

This is an "on/off" function. Set this function to *On* to start the automatic search function. In the *Auto Bearing* mode the ST90 system will automatically search within defined sector limits. The sector is identified in the view using two angular symbols. The sector and step settings are made using the **Bearing** function on the **Main** menu.

Screen Recording

This is an "on/off" function. The **Screen Recording** function allows you to record and save the echo presentation as a video file. Each screen recording

you make is saved in `.mp4` format on the Processor Unit hard disk. The file name reflects the current date and time.

Select **Screen Recording** to start and stop the recording from the Operating Panel.

Use the **Screen Recording** page to define where the video files are saved. This page is located in the **Output** dialog box.

Delete Oldest Marker

The ST90 system offers several different marker types. You can add as many markers as you like. The most common markers can be added using dedicated buttons on the Operating Panel. Other markers are added using the shortcut menu in each view. Each marker is identified with its geographical location.

Select **Delete Oldest Marker** to use the Operating Panel to remove the oldest marker from the echo presentation.

Send to External

Each marker is identified with its geographical location. This marker location can be very useful for other instruments. For example, you can export this information to a chart plotter. You can configure your ST90 system to export marker information. You must choose a suitable output port and select which datagram formats to export.

Tip:

*Use the **Output Marker** page to export target markers to a communication port. This page is located in the **Output** dialog box. To open, select it on the **Operation** menu.*

Place the cursor on the marker from which you want to export the target information. Press `Send To External`.

Place Marker

Press `Place Marker` to create a visual marker symbol at the cursor's current position. Each marker is shown as a small triangle with or without a short identifying label.

In this context, the phrase *marker* is used to identify a visual symbol placed in the display presentation. A marker is thus a graphical indicator used to identify and highlight specific locations or objects. You can use markers to pinpoint and label interesting positions, objects or targets the ST90 system detects. Placing a marker on an echo identifies the echo as "interesting". It is regarded as an *object* that you can act upon.

Delete All Objects

Placing a marker on an echo identifies the echo as "interesting". It is regarded as an *object* that you can act upon. You can add as many markers as you like.

Markers are shown as small triangles. Select **Delete All Objects** to remove all the markers from the views.

Tip:

*You can delete a single marker, or multiple markers simultaneously, by selecting **Delete** in the **Objects** menu. You can also use the shortcut menu to delete markers. If you use **Delete Marker** on the shortcut menu you can only remove one marker at a time.*

Increase Display Gain / Decrease Display Gain

Use **Display Gain** to increase or decrease the "strength" of the echo presentation.

Use this setting together with **Gain** to adjust the sensitivity of the ST90 system. **Display Gain** controls the "amount" of echo that is displayed, in other words the "strength" or "intensity" of the echo presentation. The function thus increases or decreases the presentation of the echo colours.

Adjust the **Display Gain** so that you can see the targets without too much noise and reverberation. The chosen setting is a matter of personal preferences.

Tip:

*Open this function from the **Display** menu.*

Button Options

The Mk4 Operating Panel is fitted with five function buttons. The buttons are identified with the text Fx where "x" is an integer. Each button can be assigned a dedicated function.

Under **Button Options**, assign one function to each Fx button on the Operating Panel. The following functions can be assigned:

None

No specific functionality is assigned.

Auto Tilt

This is an "on/off" function. When *Auto Tilt* mode is activated the beam will automatically change its tilt angle for each transmission ("ping"). The centre of the tilt sector is defined by the chosen tilt angle just before

the *Auto Tilt* mode is started. The chosen tilt sector is shown on the tilt indicator in the *Horizontal* view using a shaded background. The sector and step settings are made using the **Tilt** function on the **Main** menu.

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Place the cursor anywhere in the view, right-click and select **Zoom**. Only one zoom level is provided. Select **Zoom** one more time to restore the original view.

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Adjust the **Display Gain** so that you can see the targets without too much noise and reverberation. The chosen setting is a matter of personal preferences.

Tip:

*Open this function from the **Display** menu.*

Computer audio enabled for transducer movements

The Operating Panel is not fitted with a loudspeaker. Select this function to allow the Processor Unit to provide audio notifications when you lower or hoist the transducer.

Minimum display requirements

Unless specifically ordered, the ST90 system is not provided with a display. The display must then be purchased locally.

You can use more than one display on your Processor Unit depending on personal and/or operational preferences.

Note:

Make sure that the chosen display meets the requirements for the ST90 system. The design and construction must allow for marine use, and the display must be able to withstand the movements and vibrations normally experienced on a vessel. Verify that you have easy access to cables and connectors, and that the display can be installed in a safe and secure way.

The minimum technical requirements for the display are:

Resolution

Minimum requirement: 1280 x 1024 pixels

The visual quality of the presentation depends on the quality of your graphic adapter and display. We recommend that you use a large display with resolution 1920 x 1080 or 1920 x 1200.

Video interface

The video interface must match the output format(s) provided by the Processor Unit. The Processor Unit may offer video output on several formats. Investigate your options before you purchase a display.

Physical screen size

The screen size depends on personal and/or operational preferences. We recommend that you use 24 inch or bigger diagonal screen size. The ST90 software supports 16:9 and 16:10 displays.

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