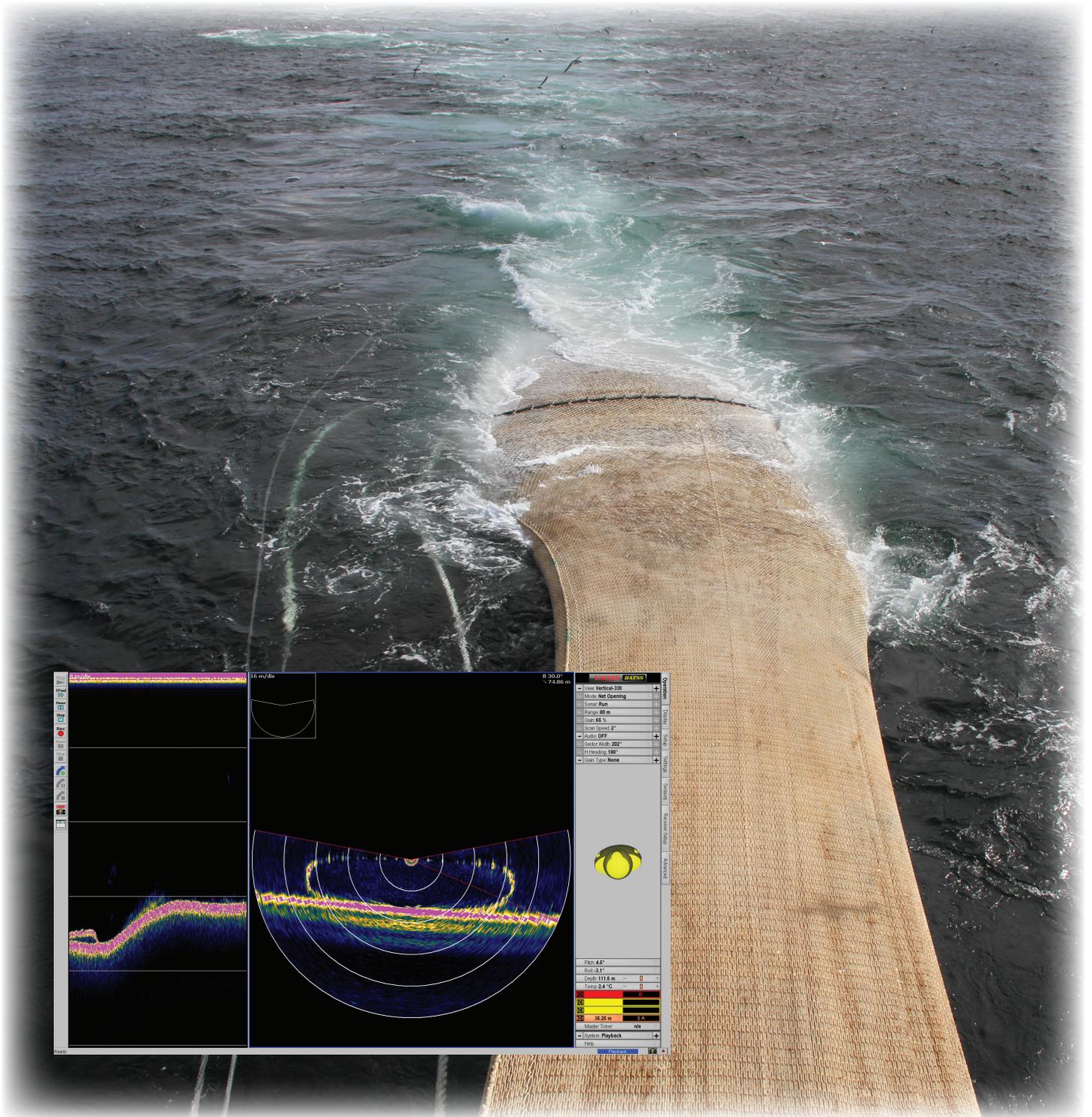


Quick start guide

Simrad DFS75 Trawl sonar





KONGSBERG

Simrad DFS75

Quick start guide

This manual provides you with the basic information required to get you started with the Simrad DFS75. For a more detailed description of the operation, see the *Simrad DFS75 Operator manual*. If you wish to investigate the complete functionality, including menus and all parameters, refer to the *Simrad DFS75 Reference manual* or the online help.

Please note that this manual does not provide any information related to the operation of the Simrad FX80 Catch monitoring system. For such information, please refer to the relevant FX80 end user documentation.

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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. All users must be familiar with the contents of the appropriate manuals before attempting to install, operate, maintain or in any other way work on the equipment. Kongsberg Maritime AS disclaims any responsibility for damage or injury caused by improper installation, use or maintenance of the equipment.

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 <http://www.simrad.com>. On this website you will also find a list of our dealers and distributors.

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About this manual

Purpose

The purpose of this quick start guide is to provide an introduction to safe and efficient use of the Simrad DFS75.

A good understanding of system functions and controls is essential to fully take advantage of the functionality provided. Sea conditions vary, sometimes drastically, and it is not possible to identify settings that will provide the best data at all times. Careful study of the information in this manual is highly recommended, preferably while exploring the system's functionality.

If you need more detailed information about this product, refer to the *Simrad DFS75 Operator manual* or the *Simrad DFS75 Reference manual*.

Please note that this manual does not provide any information related to the operation of the Simrad FX80 Catch monitoring system. For such information, please refer to the relevant FX80 end user documentation.

Target audience

The manual is intended for all inexperienced and new users of the Simrad DFS75.

Online information

All operation and installation end user documentation provided for your Simrad DFS75 can be downloaded from <http://www.simrad.com/fx80>.

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Simrad DFS75

Study this chapter to familiarize yourself with the Simrad DFS75.

Note

This chapter assumes that the Simrad DFS75 Trawl sonar is provided as an integrated part of the Simrad FX80 Catch monitoring system.

Important

As with all other advanced instruments, there are a few important things that you must be aware of.

When the DFS75 is not used

When you are not fishing, and the DFS75 units are on board, switch off the entire system.

Related topics

- *Powering down the DFS75* on page 15

If something breaks down

If you believe that something has broken down, contact your local dealer. He will be able to assist.

A list of all our dealers is provided on <http://www.simrad.com>. If you are unable to contact a dealer, observe the support information in this chapter.

Related topics

- *Support information* on page 10

When you switch off the DFS75

You must NEVER switch off the DFS75 by means of the on/off switch on the computer.

You must ALWAYS exit the DFS75 program by clicking **System** → **Stop** and then **System** → **Off** at the bottom of the menu system.



If you power down the DFS75 by means of the computer switch you may damage the software application and the interface parameters to external devices.

Important

Observe the procedure!

Related topics

- *Powering down the DFS75* on page 15

System description

The Simrad DFS75 is an innovative and advanced trawl sonar that allows you to monitor the fish activity inside your fishing gear using a high resolution colour sonar and echo sounder. The DFS75 is provided as a natural extension to the Simrad FX80 catch monitoring system, which also provides a live video feed.

Together, these two systems offer several key features:

- Revolutionizes your ability to identify, analyse and catch
- Live video feed from inside the trawl
- System is a part of the Simrad FX80 that allows you to monitor the fish activity inside your fishing gear using a live video stream.
- Video recording, editing, export and playback
- High resolution colour sonar and echo sounder images
- Uses standard 3rd wire cable
- Small and light-weight system offers easy installation
- Easy operation using familiar graphic interfaces

A real-time video feed from the trawl has long been desired by fishermen and researchers alike. Cabling and slip-rings have been the issue. One of the primary design criteria of the Simrad DFS75 system was to make it work on existing 3rd wire cables. We have achieved this goal using copper core coax cables. The use of existing copper core coax cables eases the cost and reduces the installation time.

The Simrad DFS75 Trawl sonar is integrated into the Simrad FX80 system to establish an efficient and accurate monitoring system for your gear and your catch. The combination of the high resolution images from the trawl sonar and the live video feed provides you with an unparalleled opportunity to identify and analyse both trawl movements and fish behaviour.

The entire Simrad DFS75 system – with live video and high resolution sonar – is controlled from a standard Processor Unit provided by Simrad. It is small, but yet powerful, and contains no moving parts. The system design will allow you to use two displays. Many users prefer this configuration, as it allows them to use one display system for the trawl sonar presentations, and another for the live video feed.

System units

The Simrad DFS75 comprises the following main units.

Colour display

A commercial colour display is used with the Simrad DFS75 system.

Note that the colour display is not a standard part of the DFS75 delivery.

Processor Unit

The Processor Unit is a marine computer based on the Microsoft Windows® 7 operating system. It is designed for rugged use.

The Processor Unit runs both the FX80 and the DFS75 programs simultaneously.

The unit is normally mounted in the wheelhouse.

The design allows you to use two displays. This may be an advantage for use with the DFS75 Trawl sonar. One display is then set up to operate and monitor the live video feed, while the other is used to operate the trawl sonar.

Note

The Processor Unit (Marine Computer) does not contain any fans. It will be very warm, even during normal operation.



Bridge Control Unit

The Bridge Control Unit provides all the interface and power supply functionality for the system. It is connected to the Communication Hub in the Trawl Deployment Unit with a high quality 3rd wire cable. This cable is used for both data communication (live video and sonar feed) and power.

The Bridge Control Unit is connected to the computer with an Ethernet cable. Additional Ethernet connections allow you to connect a second computer, and/or interface the ship's network. A serial line is provided to communicate with the ship's navigation system.

The Bridge Control Unit is designed for installation in a 19" rack. Its total height is 4U, and the depth is approximately 470 mm including the handles.

3rd wire cable

The third wire cable is not a part of the delivery. It must be provided by the installation shipyard or the client.

Winch system

The cable winch is not a part of the delivery. It must be provided by the installation shipyard or the client.

Trawl Deployment Unit

The Trawl Deployment Unit is made from polyurethane. It has been designed for tough use and the harshest of environments, yet it is easy to handle.

The Trawl Deployment Unit is the main underwater container for the system. It comprises two separate bodies assembled within a steel frame. One body

- The FX80 Trawl Deployment Unit holds the Communication Hub. The 3rd wire cable is connected to this hub, which provides the interfaces to the Camera Unit and the Sonar Head.
- The DFS75 Trawl Deployment Unit holds the DFS75 Sonar Head.



Communication Hub

The Communication Hub is located inside the FX80 Trawl Deployment Unit. This hub communicates with the Bridge Control Unit using the 3rd wire cable. It provides three interfaces to subsea units:

- Camera and LED lamp
- DFS75 Sonar Head
- Auxiliary unit



All connections are made using underwater connectors. Connectors that are not in use must be protected with dedicated lids.

Sonar Head

The DFS75 Sonar Head is positioned inside the DFS75 Trawl Deployment Unit. The Sonar Head provides the high resolution sonar image. Optional transducers and hydrophones can be connected to the Sonar Head to offer an echo sounder presentation, and to communicate with PS, PI or PX catch monitoring sensors on the trawl.

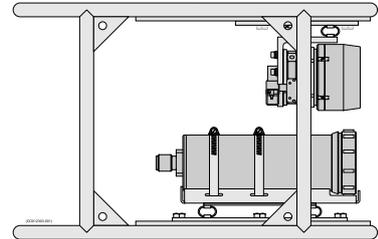


The Sonar Head is connected to the Communication Hub with a single cable.

Camera Unit

The Camera Unit is the assembly that contains the underwater monochrome camera and the powerful LED lamp.

The Camera Unit is normally mounted inside the trawl opening, or above the cod end. It is connected to the Communication Hub inside the Trawl Deployment Unit using a dedicated 4th wire cable.



Tip

On large trawls, the distance between the Trawl Deployment Unit and the Camera Unit will require a very long 4th wire cable. We recommend the use of a second winch with drum to hold this cable.

The Camera Unit is only in use by the FX80 system.

Support information

If you need technical support for your Simrad DFS75 you must contact your local dealer, or one of our support departments. A list of all our dealers is provided on <http://www.simrad.com>.

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- **Website:** <http://www.simrad.com>

Getting started

This chapter describes how to get started with the basic operation of the DFS75.

It contains a brief overview of the basic system operation and procedures. If you are a first time user, we recommend that you read through this chapter while operating the DFS75 so that you can familiarize yourself with the menus, dialog boxes and display presentations.

Power on/off procedures

These procedures explain how to switch the DFS75 system on and off.

Important

In this manual, the phrase “click” means that you shall place the cursor over the specified button, field or function, and press the left mouse (or trackball) button once. The phrase “double-click” means that you shall press the mouse button twice rapidly.

The phrase “press” means that you shall press a physical button with your finger, for example a character button or the **Enter** key on the keyboard.

Powering up the DFS75

Purpose

This procedure explains how to power up the Simrad DFS75 system.

Once you have deployed the Trawl Deployment Unit with the Sonar Head, the Simrad DFS75 will establish a high resolution sonar picture from the fishing gear.

Note

This procedure assumes that you are using the DFS75 Trawl sonar as an integrated part of the Simrad FX80 Catch monitoring system.

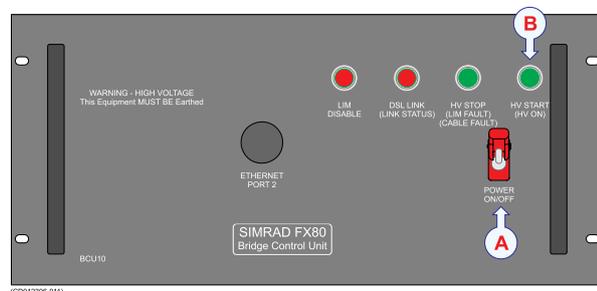
Prerequisites

- a** All cables - including the 3rd wire and the 4th wire - are in good working order.

- b** The fishing gear with the Trawl Deployment Unit and Camera Unit is located on the trawl deck, and an oral communication line is open between the personnel on the trawl deck and yourself on the bridge.

Related topics

- *Trawl deck procedures for deployment and retrieval on page 27*
- *Mounting the DFS75 Trawl Deployment Unit on the fishing gear on page 32*



Procedure

- 1** Power up the system on the bridge.

- a** Power up the Bridge Control Unit using the front mounted switch (**A**).

Tip

There are two power switches on the Bridge Control Unit, one on the front panel and one on the rear panel. Both switches must be set to “On”. During normal operation, you only need to use the front mounted switch (with the safety cover) to power on (and off) the unit.

- b** Power up the colour display.

If required, refer to the instructions provided by the display manufacturer.

- c** Power up the Processor Unit (computer).

Wait for the operating system to start up.

- d** Double-click the FX80 icon on the desktop to start the program.

- e** Wait while the program starts on the computer.

- f** Observe that the program presentation fills the entire screen.

- g** Observe that the FX80 starts.

The FX80 starts up using the same operational parameters as the last time you used it. If these parameters are acceptable, continue operation. If you wish to alter basic operational parameters, see the dedicated procedures.

- h** Press the **HV START** button (**B**) on the Bridge Control Unit.

Observe that the green light is lit after a short moment. The **DSL STATUS** lamp is flashing awaiting communication with the Communication Hub.

- i** Observe that the blue indicator lamp on the Communication Hub inside the Trawl Deployment Unit is lit.

This lamp indicates that the high voltage from the Bridge Control Unit is present.

- j Observe that the **DSL STATUS** lamp is lit continuously (red) to indicate that the communication between the Communication Hub and the Bridge Control Unit is operational.

This means that the communication is operational.

On the **FX80 Status bar**, observe that the Communication Hub is connected.

Since the camera is not yet connected to the Communication Hub, you will not be able to see any live feed.

- 2 Lay out the aft part of the fishing net, and mount the Camera Unit in the chosen position.
- 3 Ensure that the 4th wire is properly connected to the “Y” cable, and that the two connectors are firmly attached to the camera and LED lamp.
- 4 Deploy the trawl.
- 5 When you reach the headrope, stop the deployment.
- 6 Mount the Trawl Deployment Unit to its chosen location or kite.
- 7 Connect the 4th wire cable to the Communication Hub.
- 8 Observe the information provided on the **FX80 Status Bar**.

The connection speed will depend on the length and quality of the third wire. Verify that the **Hub** and **Camera** status indicators in the bottom left corner of the FX80 presentations both show *Connected*.

- 9 On the bridge, click **Live Feed** on the **Operation** menu, click the play button [▶], and observe the video presentation to verify that the FX80 is operational.



- 10 Use the **Camera Lamp** functionality to check the lamp.



- 11 On the **FX80 Operation** menu, enable the Auxiliary Port 1.

- 12 Start the DATSS program to access the DFS75 Trawl sonar.

- a Click the DATSS icon on the Processor Unit desktop, wait for the program to start.

If you have previously used the trawl sonar – and saved the settings – you can jump to step g).

- b On the right side of the presentation, click the **Setup** tab.

- c Click **Connect Sonar** on the **Setup** menu.

Observe that the **Connect Sonar** dialog box opens.

- d Click **Head 1** in the system structure, then click **Detect Heads**.

- e Click **Apply**.

- f Observe that the **Connect Sonar** dialog box closes.

- g In the lower right hand side of the presentation, click **System** → **Run**.

- h** Wait while the trawl sonar starts.

Tip _____

If you use only one display, the trawl sonar presentation will now fill the screen. Press the Windows button on your keyboard to open the operating system toolbar. That will allow you to see the FX80 program too. If you have two displays, use the operating system functionality to move one of the programs to the other display.

- 13** Deploy the rest of the trawl, observe the live feed while this is done.

Powering down the DFS75

Purpose

This procedure explains how to power off the Simrad DFS75.

Note _____

This procedure assumes that you are using the DFS75 Trawl sonar as an integrated part of the Simrad FX80 Catch monitoring system.

Note _____

You must never switch off the DFS75 only by means of the on/off switch on the computer. This may damage the software or the interface parameters for external devices. You must ALWAYS use this procedure.

Procedure

- 1** Retrieve the fishing gear.
- 2** In the FX80 program:
 - a** Click the **Exit** button in the program.
It is located on the **Title Bar** in the top right corner of the display presentation.
 - b** Observe that the program closes down.
- 3** In the DFS75 program:
 - a** In the lower right hand side of the presentation, click **System** →**Stop**.
 - b** In the lower right hand side of the presentation, click **System** →**Off**.
 - c** Observe that the program closes down.
- 4** If the computer does not switch itself off automatically, use the functionality provided by the operating system to switch it off manually.
- 5** Switch off the colour display.
If required, refer to the instructions provided by the display manufacturer.
- 6** Press the **HV Stop** button on the Bridge Control Unit to power down the high voltage to the Communication Hub in the Trawl Deployment Unit.

- 7 Press down the **Power On/Off** button on the Bridge Control Unit to power it down.

Operating principles

Important

In this manual, the phrase “click” means that you shall place the cursor over the specified button, field or function, and press the left mouse (or trackball) button once. The phrase “double-click” means that you shall press the mouse button twice rapidly.

The phrase “press” means that you shall press a physical button with your finger, for example a character button or the **Enter** key on the keyboard.

Cursor

The mouse (or trackball) controls the cursor movement on the DFS75 presentation. By moving the cursor over the various information provided on the display, and clicking the left mouse button, you are able to control all operation.

Tip

If you are left-handed, the Windows operating system allows you to redefine the mouse buttons. You can then choose to click with the right button.

The shape and purpose of the cursor change depending on its location.

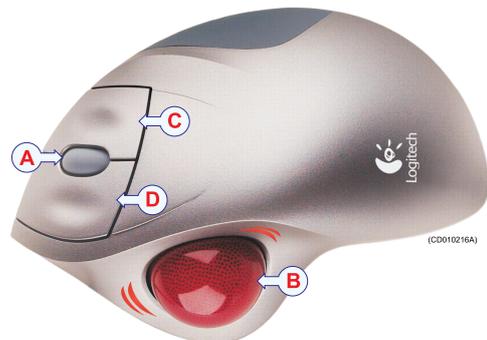
Mouse

The computer mouse can be used to control the functionality provided by the DFS75. The mouse controls the movements of the cursor, and the buttons are used to click on buttons and select parameters.

Trackball

All DFS75 functions can be controlled with the trackball. The ball controls the movements of the cursor, and the buttons are used to click on buttons and select parameters. Trackballs come in several shapes and sizes. A generic version is shown as an example only.

- A *Control wheel (not used)*
- B *Trackball, use this to control the cursor's location on the screen*
- C *Right mouse button (not used)*



D Left mouse button

Starting normal operation

Once you have powered up the complete DFS75 system, you are ready to start the actual operation.

When started up, the DFS75 will automatically apply its previous setup parameters.

Selecting 'active' view

Purpose

This procedure explains how you can select the 'active' view on the DFS75 presentation.

Description

By default, the DFS75 provides its echo information using two presentation *views*. The **Sounder** view is located on the left side of the DFS75 presentation, while the **Vertical** view is located on the right hand side.

Tip

You can change the size of each view by clicking on the border line and dragging it towards left or right.

Certain operational parameters are different in the two presentation views. If you wish to alter operational parameters related to a view, you must first 'activate' the view. You can do that by clicking inside the view, or using the **View** button on the top of several menus. The active view is identified with a blue frame.



By activating a view you will also notice that the options in the **Operation** and **Display** menus are changed to reflect the relevant valid parameters.

Related topics

- *Display menu* on page 46
- *Selecting presentation mode* on page 18

Procedure

1 Method 1

Click once inside a view to make it 'active'.

Observe the blue frame that indicates that the view has been activated.

2 Method 2

- a Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical "tabs" on the right side allows you to open a specific menu.

- b** Click the **Operation** tab to open the **Operation** menu.
- c** Observe the **View** button.



The number in the view reflects the operational frequency.

- d** Click the [-] or [+] buttons on either side of the button to choose the requested view.

Selecting presentation mode

Purpose

This procedure explains how you can select the presentation mode in the current DFS75 view.

Description

The presentation modes offered by the DFS75 changes the way the echo data are shown. To choose modes, use the **Mode** button on the **Operation** menu. Which mode to choose from depends on the currently active view.



Tip

You can also change presentation mode using the **Scan Mode** option on the **Scan** and **Auxiliary Transmit** tabs in the **Sonar Head Control** dialog box.

Note

The availability of presentation modes depend on the currently active view.

Related topics

- *Operation menu* on page 44

Procedure

- 1** Click inside the **Sounder** or **Vertical** view to activate it.
The parameter you change will only be applied to the active view.
- 2** Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 3** Click the **Operation** tab to open the **Operation** menu.
- 4** Observe the **Mode** button.



- 5** Click the [-] or [+] on either side of the button to choose the requested option.
You can also click the middle of the button to select from the submenu.

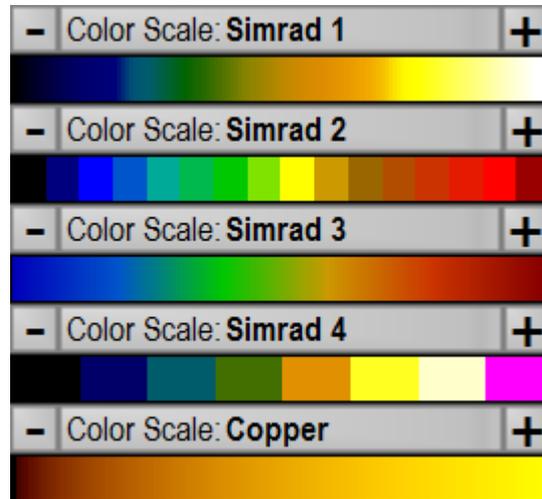
Selecting colour scale and presentation palette

Purpose

This procedure explains how to change the colour scale and the presentation palette on the DFS75 sonar picture and echograms.

Description

The total number of colours used in the presentation will be distributed between the minimum and maximum levels identified using the **Colour Scale** functionality. Values above maximum level are shown using the “maximum level” colour, while values below are shown with the background colour.



Note

The choice you make here does not have any effect on the DFS75 performance.

Which colour scale to use is mainly a personal preference based on ambient light conditions, the nature of the echoes and your own experience.

If you choose to use many colours, the resolution of the DFS75 presentation is greatly improved. It is then easier to distinguish the difference between the various echoes of different size and/or target strength.

Tip

You can also change the colour scale on the **Colours** tab in the **Display Options** dialog box.

Related topics

- *Display menu* on page 46
- *Advanced menu* on page 52

Procedure

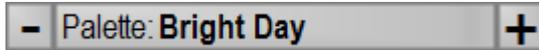
- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 2 Click the **Advanced** tab to open the **Advanced** menu.
- 3 Observe the **Colour Scale** button.



- 4 Click the [-] or [+] on either side of the button to choose the requested option. You can also click the middle of the button to select from the submenu.

5 Click the **Display** tab to open the **Display** menu.

6 Observe the **Palette** button.



7 Click the [-] or [+] on either side of the button to choose the requested option.
You can also click the middle of the button to select from the submenu.

Selecting menu language

Purpose

Description

The menu buttons on the DFS75 can be provided in several different languages.

Use this function to select the language you wish to use. With a few exceptions, the chosen language will also be used for all other texts on the DFS75.

The chosen language is not supported in the DFS75 dialog boxes.

Related topics

- *Operation menu* on page 44

Procedure

- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 2 Click the **Operation** tab to open the **Operation** menu.
- 3 Observe the **Language** button.



- 4 Click the [-] or [+] on either side of the button to choose the requested option.
You can also click the middle of the button to select from the submenu.

Defining the appearance of the menu buttons

Purpose

This procedure explains how you can use the three dedicated functions to set up the appearance of the menu buttons to suit your requirements.



Description

Three functions are provided for this purpose.

1 Icons

The iconic symbols on the buttons are provided for easier recognition of the various functions. However, the graphics take up valuable space. If you wish to remove the icon to see more of the text, set **Icons** to *Off*.

2 Font Size

The **Font Size** is provided so that you can adjust the size and visibility of the menu buttons to suit your preferences.

3 Menu Width

The **Menu Width** is provided so that you can adjust the size and visibility of the menu buttons to suit your preferences.

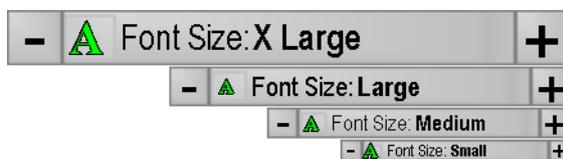
This function will alter the size of the text in the buttons. However, the text in some buttons may be abbreviated due to space limitations. When these buttons are made wider, the full text will be shown.

Related topics

- *Advanced menu* on page 52

Procedure

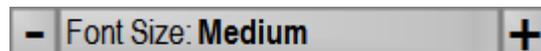
- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.



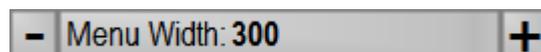
- 2 Click the **Advanced** tab to open the **Advanced** menu.
- 3 Observe the **Icons** button.



- 4 Click the [-] or [+] on either side of the button to switch on or off the icons.
- 5 Observe the **Font Size** button.



- 6 Click the [-] or [+] on either side of the button to choose the requested option. You can also click the middle of the button to select from the submenu.
- 7 Observe the **Menu Width** button.



- 8 Click the [-] or [+] on either side of the button to increase or decrease the width.

Selecting measurement units

Purpose

This procedure explains how to change the measurement units in the DFS75 presentations.

Description

The measurements units are defined using the **Range** and **Temperature** functions on the **Setup** menu.

Related topics

- *Display menu* on page 46

Procedure

- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 2 Click the **Setup** tab to open the **Setup** menu.
- 3 Observe the **Range** button.



- 4 Click the [-] or [+] buttons on either side of the button to choose the requested value. You can also click the middle of the button.
 - 5 Observe the **Temperature** button.
- 
- 6 Click the [-] or [+] buttons on either side of the button to choose the requested value.

Controlling the range setting

Purpose

This procedure explains how to define the range on the DFS75.

Description

The **Range** function allows you to specify the vertical range of the water column covered by the sonar. The range is defined from the Sonar Head and down to a given range value in the vertical or horizontal direction. The value shown and selected is by default applied only to the currently selected view (**Sounder** or **Vertical**).

In order to change the range for the **Sounder** or **Vertical** view, the view must be activated before you change the parameter.

Tip

This function can also be controlled on the **Transmit** and **Auxiliary Transmit** tabs in the **Sonar Head Control** dialog box.

Related topics

- *Operation menu* on page 44

Procedure

- 1 Click inside the **Sounder** or **Vertical** view to activate it.
The parameter you change will only be applied to the active view.
- 2 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 3 Click the **Operation** tab to open the **Operation** menu.
- 4 Observe the **Range** button.



- 5 Click the [-] or [+] buttons on either side of the button to choose the requested value.

Controlling the sonar gain

Purpose

This procedure explains how to change the gain.

Tip

Do not confuse this **Gain** function with the **TVG** function.

Description

You can compare this gain setting with the volume control on your car radio. When the gain is increased, the echoes will appear stronger. Weak echoes will be easier to see. However, since you also increase the acoustic noise in the reception, the DFS75 echo presentations will also show this. Too much gain will thus “distort” the presentation.

In order to change the gain for the **Sounder** or **Vertical** view, the view must be activated before you change the parameter.

Tip

- This **Gain** function can also be controlled using the **Panel Gain** parameter on the **Transmit** and **Auxiliary Transmit** tabs in the **Sonar Head Control** dialog box.
 - To monitor the gain applied to the received signal, observe the **Overload Counter** dialog box opened from the **View** menu.
 - You can also change the display gain on the DFS75. Observe the parameters on the **Controls** tab in the **Display Options** dialog box.
 - To change the gain in the catch monitor sensor receiver, observe the **Manual Gain** function in the **Receiver Setup** menu.
-

Related topics

- *Operation menu* on page 44

Procedure

- 1 Click inside the **Sounder** or **Vertical** view to activate it.
The parameter you change will only be applied to the active view.
- 2 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 3 Click the **Operation** tab to open the **Operation** menu.
- 4 Observe the **Gain** button.



- 5 Click the [-] or [+] buttons on either side of the button to choose the requested value.

Recording echogram and sonar sequences

Purpose

This procedure explains how to store echogram and sonar data. Each sequence of this data contains a set of acoustic data saved on digital format.

Once saved, you can play back this data just as if it was “normal” DFS75 data.

Description

The recording of echogram and sonar data is controlled from the **Recording** toolbar and from the **Status Bar**.

Note

*This procedure assumes that the recording parameters have been previously defined using the **Record** dialog box.*

Related topics

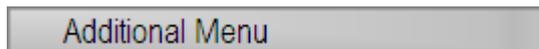
- *Replaying previously recorded echogram and sonar sequences* on page 24
- *Status Bar* on page 39

Procedure

1 Observe the bottom of the display presentation.

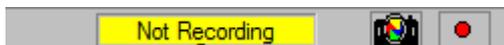
If the **Status Bar** is not visible, observe the following steps.

- Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- Click the **Advanced** tab to open the **Advanced** menu.
- Observe the **Additional Menu** button.

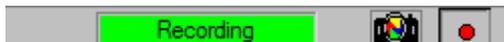


- Click **Additional Menu** → **View** → **Status Bar** to enable it.

2 Observe the red **Record** button on the right hand side of the **Status Bar**.



3 To start recording, click the red **Record** button.



4 To stop recording, click the red **Record** button one more time.

The recorded file is placed in the folder you have previously chosen during the recording setup.

Replaying previously recorded echogram and sonar sequences

Purpose

This procedure explains how to select and play back a previously recorded data file.

Description

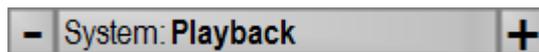
The playback of raw sonar data is controlled from the **System** function on the **Main** menu, or from the **Recording** toolbar. This procedure explains how you can use the **System** function on the **Main** menu.

Related topics

- *Recording echogram and sonar sequences* on page 24
- *Status Bar* on page 39
- *Main menu* on page 44

Procedure

- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 2 Observe the **Main** menu at the bottom of the menu system
- 3 Click the **System** button to open the submenu, then click **Playback**.



- 4 Observe that an operation system dialog box opens to let select the playback file.
- 5 The playback starts once you click **OK** in the operation system dialog box.
- 6 Observe that the **Playback Progress** dialog box opens to control the playback.

Tip

The **Recording** toolbar provides additional functionality to control the playback. This includes a “fast forward” function. To open the

Recording toolbar, use the **Recording Toolbar** on/off switch on the **Display** menu.



Opening the context sensitive on-line help

Purpose

This procedure explains how to access the context sensitive on-line help.

Description

The DFS75 is provided with an extensive context sensitive on-line help system. All information of the *DFS75 Reference manual* is also provided in the on-line help. The on-line help is located in a single proprietary Microsoft CHM file. This CHM file will also run on any other computer provided that the computer runs a Microsoft operating system.

To open the help system, click the **Help** button in any dialog box. This will provide instantaneous information about the relevant dialog box with links to related procedures and other topics.

Navigation in the on-line help file is made by means of the menu system on the left side, as well as the interactive links in the document.

Note

*This procedure explains how you can use the **System** function on the **Main** menu.*

Related topics

- *Opening the context sensitive on-line help* on page 25
- *Main menu* on page 44

Procedure

1 Method 1:

- a Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- b Observe the **Main** menu at the bottom of the menu system
- c Click the **Help** button to open the help system.



2 Method 2:

Click the **Help** button in any dialog box. The description of the related dialog box will appear in the help window.

Saving the current user settings

Purpose

This procedure explains how to save the current configuration and parameter settings.

If you have several different sensor configurations dedicated for various gears or different tasks, we also strongly recommend that you save these.

Description

The user settings functionality is provided on the **Settings** menu. You can also find several related functions on the **Configuration** menu.

Related topics

- *Settings menu* on page 49

Procedure

- 1 Observe the menu system. It is located on the right hand side of the DFS75 presentation. The vertical “tabs” on the right side allows you to open a specific menu.
- 2 Click the **Settings** tab to open the **Settings** menu.
- 3 Observe the **Save Setting** button.



- 4 Click **Save Settings**, and fill in a name in the **Enter New Setting Name** dialog box that opens.

If you are using a current setting, the name of this setting will appear. If you wish to overwrite this user profile with new parameters, simply click **OK**.

If you wish to save the current settings with a new name, type this name, and click **OK**.

Trawl deck procedures for deployment and retrieval

These are the specific procedures required to mount the various DFS75 units onto the fishing net.

Connecting the 3rd wire cable to the Communication Hub in the Trawl Deployment Unit

Purpose

Before you can put the DFS75 system to work, you need to connect the 3rd wire to the Communication Hub. This procedure explains how to splice the 3rd wire to a pigtail cable provided with the DFS75, and how to connect this pigtail to the Communication Hub.

Note

There are many different 3rd wire cables available, and there are also many ways to splice the 3rd wire to the pigtail. This procedure explains one method suggested by Simrad.

Important

It is very important that this splicing is done properly. The splice must be completely waterproof, and there must be no electrical short between the core conductor and the shield. The quality of this splice is vital for the operational performance of the DFS75.

Description

The 3rd wire cable comprises a core conductor surrounded by a grounding shield, together these form a coaxial cable. This coaxial cable is enclosed by a protective jacket and a flexible steel armour.

The 3rd wire cable enters the Trawl Deployment Unit through a dedicated opening, and it is then supported by a strain relief block in a special compartment. Both the core conductor and the shield in the 3rd wire is connected to the pigtail provided by Simrad. The other end of the pigtail cable is provided with a watertight plug, which is connected to the Communication Hub. The design will not allow you to plug this into the wrong socket.

Important

It is very important that the 3rd wire cable enters the Trawl Deployment Unit using an external proper dimensioned strain relief. This item is not provided by Simrad.

Prerequisites

In order to do this procedure, you will need:

- a The pigtail provided by Simrad as a part of the DFS75 delivery
- b Heat shrinking tubes with diameters to fit the outer diameter of the cables, minimum total length is 70 cm.
- c Crimping sleeve with relevant set of pliers
- d Tinned braid foil, length approximately 30 cm
- e One tube with mastic
- f Heat gun
- g Isolation tape
- h Multimeter

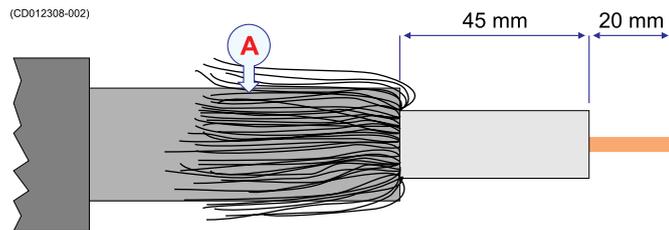
Procedure

- 1 Remove the outer steel armour on the 3rd wire cable to access the coax cable. You need to free at least 20 cm of the coaxial cable.

We have seen that this is done using a grinder, but you must then be very careful.

- 2 Once you have removed the outer steel armour, the metal edges will be very sharp. Lift these edges of the armour to access underneath it, and apply several layers of tape – under the steel armour – for protection. After that, apply several layers of tape outside the steel armour and its edges to protect personnel and equipment.
- 3 Remove the insulation on the coax cable (A), and fold back the grounding braid.

Observe the illustration. You need to free approximately 80 mm of the coaxial cable, and approximately 20 mm of the core conductor must be stripped.

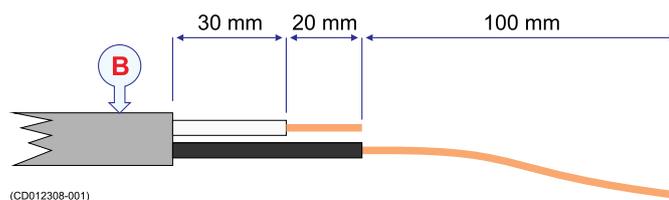


- 4 Remove the insulation on the pigtail cable (B).

Observe that the pigtail cable consists of one black and one white wire. The white cable is ground.

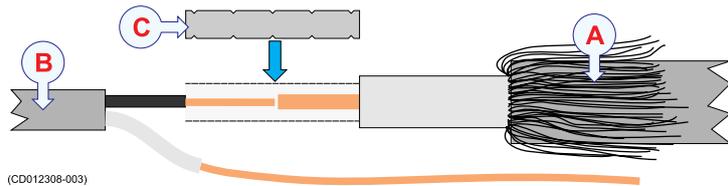
In total you will need approximately 150 mm cable. Cut off and strip the two cables as shown in the illustration.

It does not matter if the ground conductor is longer than necessary, it will be cut to fit later.



- 5 Thread the heat shrinking tubes as follows:
 - Onto the pigtail: Approximately 150 mm long
 - Onto the 3rd wire cable: First one with length approximately 330 mm, then another one with length approximately 150 mm
- 6 Take the stripped end of the black wire in the pigtail cable (**B**), and insert it into the crimping sleeve (**C**).

- 7 On the 3rd wire cable, insert the stripped core conductor into the other end of the crimping sleeve (**C**).



Make sure that the two cables are laying next to each other inside the crimping sleeve, and that as little as possible of the stripped wires are shown outside the crimping sleeve.

Tip _____

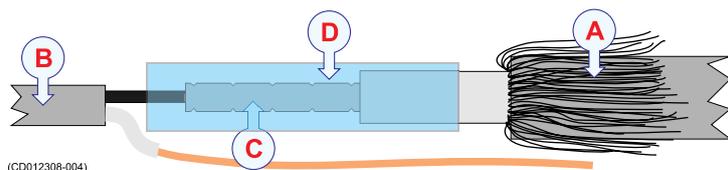
If you have problems inserting the two stripped cables, you may need to remove dust and metal shavings from inside the crimping sleeve. As an alternative, use a crimping sleeve with a larger diameter.

- 8 Crimp the sleeve from centre and towards the end alternatively on each side of the centre. Turn the cable 180 degrees after every second crimping.
- 9 Clean the remaining cable insulation on each side of the crimping sleeve.
- 10 Pull over the first heat shrink tube (**D**) that you previously threaded onto the 3rd wire cable. Make sure that it covers the crimping sleeve, and also reaches as far as possible over the insulation on each side of the sleeve.

Push the earthing braids on the coax cable well back.

Important _____

Make sure that you cover the crimping sleeve completely, and that no stripped conductors are visible.

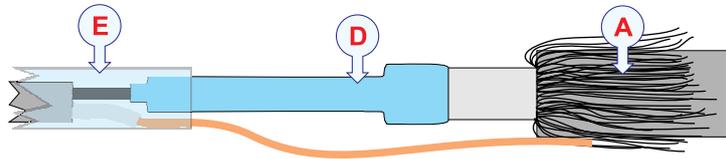


- 11 Shrink the tube (**C**) using the heat gun.

Keep the heat moving constantly to prevent overheating, and make sure that you heat the tube all the way around. Start in the centre of the tube. When it has shrunk, proceed towards each end, so that the glue is squeezed out. After heating, take a short break to let the tube cool down.

- 12 Pull over the second heat shrink tube (E) that you previously threaded onto the pigtail cable.

Make sure that this shrinking tube covers both the pigtail wires, as well as approximately half of the first shrink tube (D).

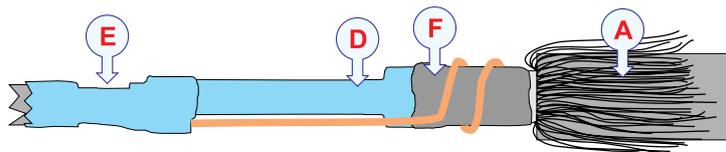


- 13 Shrink the tube (E) using the heat gun.

Keep the heat moving constantly to prevent overheating, and make sure that you heat the tube all the way around. Start in the centre of the tube. When it has shrunk, proceed towards each end, so that the glue is squeezed out. After heating, take a short break to let the tube cool down.

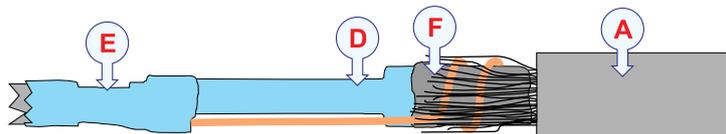
- 14 Apply a thin layer of mastic (F) around the end of the first shrink tube (D). Make sure that it covers a large part of the shrinking tube as well as a good part of the coax insulation.

Wind the ground conductor from the pigtail cable around the mastic.



- 15 Push the cable screen from the coax cable (A) over the mastic (F) and the ground conductor from the “pigtail” cable.

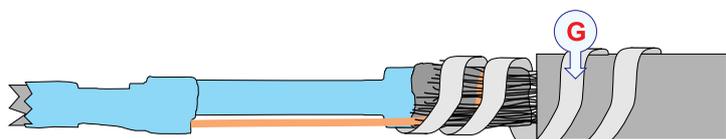
Squeeze all well together to ensure good contact between the ground on the coax cable to the ground on the pigtail cable.



Cut off excess ground wires, and make sure that no loose strands are left behind.

- 16 Wind tinned braid (G) tight and tightly all over the joint.

Make sure that each turn overlaps the previous turn. Press the end of the braid into the layer beyond, and remove surplus.



Important

Make sure that the tinned braid is wound tight enough over the cable joint. This is important to ensure proper ground connection.

- 17 Clean the cables and the shrinking tubes properly.

- 18** Pull over the third heat shrink tube that you previously threaded onto the 3rd wire cable.

Centre the heat sinking tube over the joint, and make sure that it covers the entire length of the previous heat sinking tubes and the tinned braid.

- 19** Shrink the final tube using the heat gun.

Keep the heat moving constantly to prevent overheating, and make sure that you heat the tube all the way around. Start in the centre of the tube. When it has shrunk, proceed towards each end, so that the glue is squeezed out. After heating, take a short break to let the tube cool down.

- 20** Use a multimeter to measure the resistance is the between the two pins on the pigtail plug.

The resistance should be infinite or very large. If the multimeter indicates a short circuit you must cut both cables and start from scratch.

- 21** Mount the strain relief to the 3rd wire cable.

Place the strain relief so that the seam between the 3rd wire cable and pigtail cable comes right inside the extension, ie inside the Trawl Deployment Unit. If necessary, adjust the thickness of the 3rd wire cable by wrapping tape tightly around it.

Important _____

It is very important that the 3rd wire cable is connected to the Trawl Deployment Unit using an external and proper dimensioned strain relief. This is not provided by Simrad.

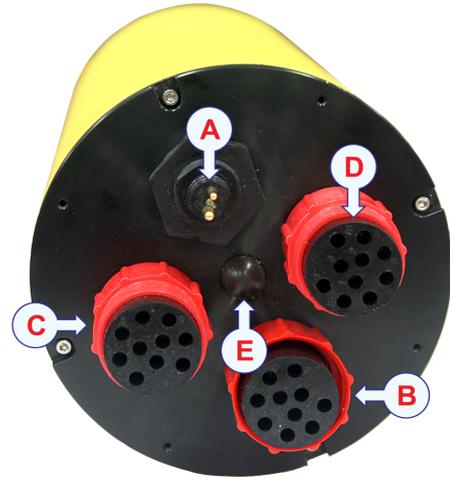
- 22** Place the pigtail cable inside the Trawl Deployment Unit, and connect it to the Communication Hub.

Connecting the power and telemetry cable from the Sonar Head to the Communication Hub in the Trawl Deployment Unit

Purpose

This procedure explains how to connect the DFS75 Sonar Head to the Communication Hub.

- A Pigtail connector
- B Camera connector
- C Auxiliary 1 connector for DFS75 Sonar Head
- D Auxiliary 2 connector (for optional second sensor system)
- E Indicator lamp for high voltage



Description

The DFS75 Sonar Head is connected to the Auxiliary 1 socket on the Communication Hub using a watertight connector. The cable (green) and the connector is provided with the Sonar Head.

Important

The interface between the DFS75 Sonar Head and the Communication Hub is made using a proprietary format. No parameter adjustments are required.

- A Interface cable and connector for the power and telemetry cable to the Communication Hub
- B Echo sounder transducer (optional)
- C Forward looking hydrophone (optional)
- D Connector for catch hydrophone (optional)



Procedure

- 1 Open the DFS75 and the FX80 Trawl Deployment Units.
- 2 On the Sonar Head, locate the green cable with the connector.
- 3 Connect the green power and telemetry cable from the Sonar Head to the Auxiliary 1 socket on the Communication Hub.
- 4 Make sure that you tighten the connectors properly.

Mounting the DFS75 Trawl Deployment Unit on the fishing gear

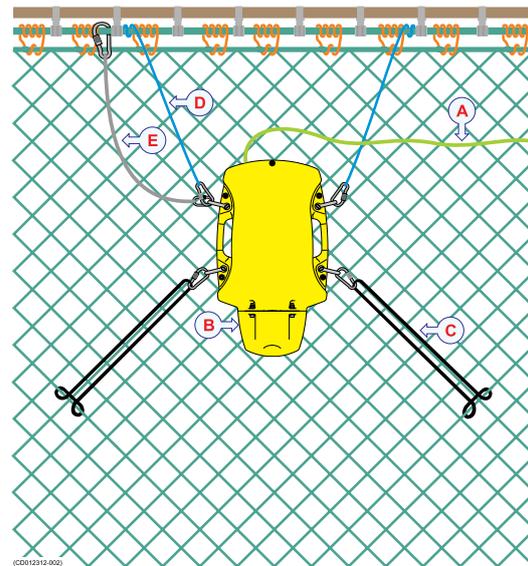
Purpose

This procedure explains the basic principles for mounting the DFS75 Trawl Deployment Unit on the fishing gear.

Note

There are many different ways to make this installation, and many vessels have established their own procedures and “best practices” for these tasks. This procedure explains the basic principals of one method suggested by Simrad.

- A** Power and telemetry cable to the Communication Hub
- B** Sonar Head must point towards aft
- C** Use rope or strong rubber straps with snap hooks
- D** Fastening rope to the headrope on the trawl
- E** Safety rope

**Description**

Most users mount the Trawl Deployment Unit when after the cod end of the trawl has been deployed.

No matter how the Trawl Deployment Unit is mounted on the gear, the most important task will always be to keep it from falling off during use. Second, you must always mount the unit so that the acoustic beams from the Sonar Head hits and reflects from the targets you wish to see.

Important

Make sure that you position the Trawl Deployment Unit while considering the tensions on the fishing gear once it has been deployed. Keep in mind that when the footrope hits the bottom, or the cod end is filled with fish, the location of the footrope may change. The same tensions may also cause the Trawl Deployment Unit to be tilted or pitched.

In most cases, if you cannot see the expected targets on the sonar screen, there is nothing wrong with the sonar. Check the pitch and roll values. Is the sonar beam really pointing the right direction?

Simrad will not take any responsibility for any loss of or damage to equipment, even if our general installation and/or mounting procedures have been followed.

Prerequisites

In order to do this procedure, you will need an ample supply of mounting materials (wires and ropes, hooks and shackles)

Related topics

- *Connecting the power and telemetry cable from the Sonar Head to the Communication Hub in the Trawl Deployment Unit on page 31*

Procedure

- 1** Place the DFS75 Trawl Deployment Unit on its chosen location on the fishing net.
This may for example be immediately behind the headrope, or on a kite.
- 2** Make sure the Trawl Deployment Unit is facing the correct way, the Sonar Head shall face aft.
- 3** Make sure that the Trawl Deployment Unit is positioned so that the sonar beam is pointing in the right direction.
- 4** Make sure that the mounting takes into consideration the various tensions applied to the fishing net once it has been deployed.
Once deployed, these tensions may cause the Trawl Deployment Unit to pitch and roll. They may also cause the footrope to move forward or backward and then “out of reach” for the sonar beam.
- 5** Secure the unit to the relevant structures using minimum four wires or ropes from the metal frame to the net.
- 6** Connect the power and telemetry cable to the Communication Hub.

Mounting the FX80 Trawl Deployment Unit on the fishing gear

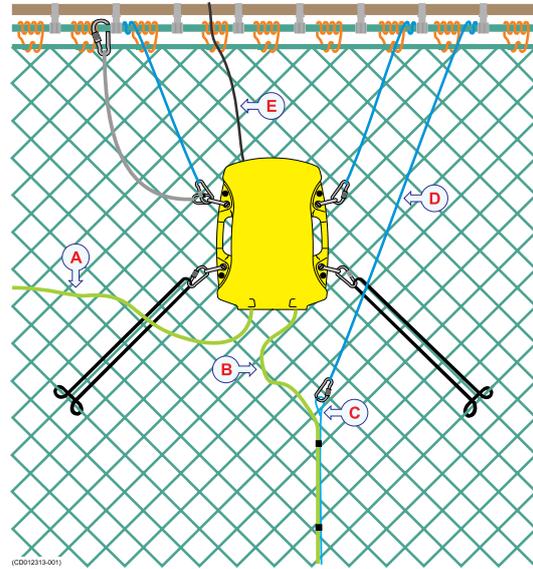
Purpose

This procedure explains the basic principles for mounting the FX80 Trawl Deployment Unit on the fishing gear.

Note

There are many different ways to make this installation, and many vessels have established their own procedures and “best practices” for these tasks. This procedure explains the basic principals of one method suggested by Simrad.

- A Power and telemetry cable to the DFS75 Sonar Head
- B 4th wire cable, allow for plenty slack
- C Non stretchable rope attached to the 4th wire cable
- D Rope secured to the headrope to take up the tension
- E 3rd wire cable



Description

Most users mount the Trawl Deployment Unit when after the cod end of the trawl has been deployed. No matter how the Trawl Deployment Unit is mounted on the gear, the most important task will always be to keep it from falling off during use.

Important

- 1 Make sure that the 3rd wire cable enters the Trawl Deployment Unit using an external proper dimensioned strain relief. This item is not provided by Simrad.
- 2 Make sure that the 4th wire cable is connected with proper slack, and with a dedicated safety rope to accept the tension.
- 3 Make sure that you position the Trawl Deployment Unit while considering the tensions on the fishing gear once it has been deployed. Keep in mind that when the footrope hits the bottom, or the cod end is filled with fish, the location of the footrope may change. The same tensions may also cause the Trawl Deployment Unit to be tilted or pitched.

Simrad will not take any responsibility for any loss of or damage to equipment, even if our general installation and/or mounting procedures have been followed.

Prerequisites

In order to do this procedure, you will need an ample supply of mounting materials (wires and ropes, hooks and shackles)

Related topics

- *Connecting the 3rd wire cable to the Communication Hub in the Trawl Deployment Unit* on page 27
- *Connecting the power and telemetry cable from the Sonar Head to the Communication Hub in the Trawl Deployment Unit* on page 31

Procedure

- 1 Place the FX80 Trawl Deployment Unit on its chosen location on the fishing net. This may for example be immediately behind the headrope, or on a kite.
- 2 Make sure the Trawl Deployment Unit is facing the correct way.

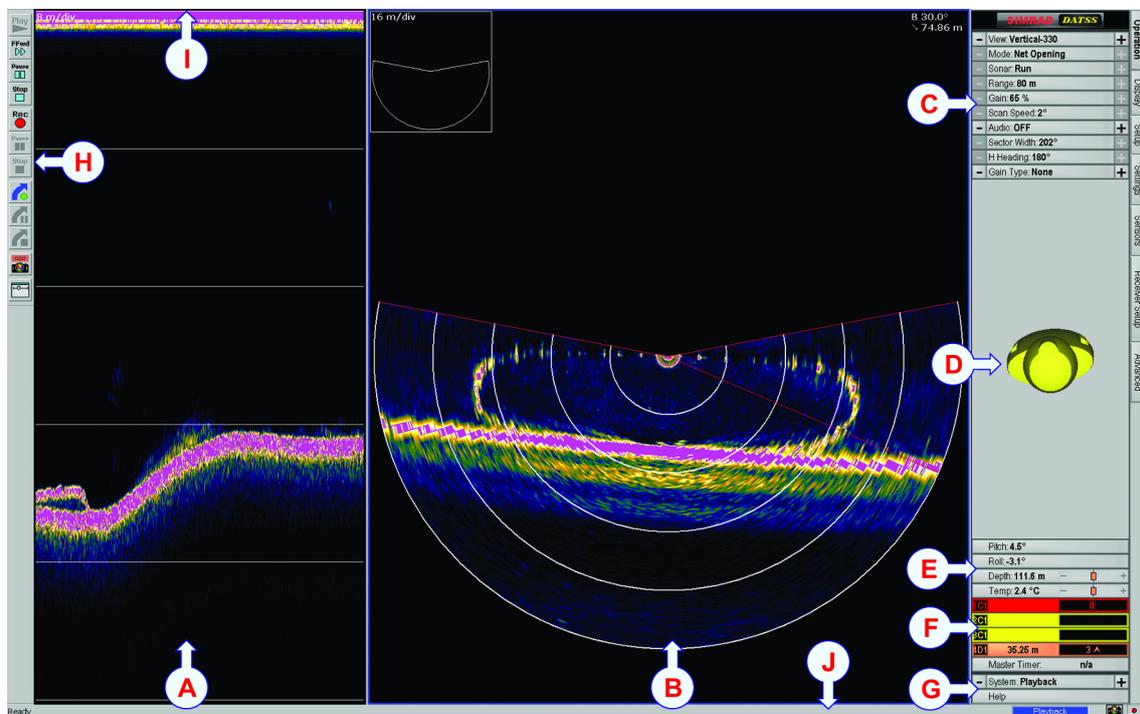
- 3 Make sure that the mounting takes into consideration the various tensions applied to the fishing net once it has been deployed.
Once deployed, these tensions may cause the Trawl Deployment Unit to pitch and roll. They may also cause the footrope to move forward or backward.
- 4 Secure the unit to the relevant structures using minimum four wires or ropes from the metal frame to the net.
- 5 Unless you keep it connected all the time, connect the 3rd wire cable to the Communication Hub prior to or during the deployment of the trawl.
- 6 Connect the 4th wire cable to the Communication Hub prior to or during the deployment of the trawl.

Presentation overview

The display presentation offered by the Simrad DFS75 system provides a **Sector** view with a sonar presentation, and a **Sounder** view with an echogram. It also provide a **Status Bar** and a menu system to facilitate operation using a computer mouse or a trackball.

Display organisation

By default, the DFS75 display presentation covers the entire screen view.



A typical DFS75 display presentation is shown. Two views are provided, an **Sounder** view on the left hand side (A), and a **Vertical** view on the right hand side (B). In this example, the **Vertical** view is set to presentation mode *Net opening*.

This example has been made in *Playback* mode with previously recorded data. For this reason, certain presentation elements are not shown. The menu options also reflect the chosen operational mode.

A Sounder view

You can change the size of each view by clicking the border line between them and move it sideways.

B Vertical view

In order to do changes in a view, you need to ‘activate’ it. To do that, click once in the view, or click the **View** button at the top of several menus.

C Menu

A large menu system is offered to maintain full control of the DFS75 operation. Choose which menu to use by clicking the tabs at the right hand side. Note that the parameters provided by certain menus depend on the current view and presentation mode.

D Trawl Deployment Unit

This is a real-time presentation of the DFS75 Trawl Deployment Unit movements and behaviour.

E Trawl Deployment Unit sensors

The DFS75 Trawl Deployment Unit holds sensors to record its depth and movements, as well as the ambient temperature.

F Catch monitoring sensors

If Simrad catch monitoring sensors are used with the DFS75 system, the information from these sensors are provided here.

G Operational mode and help

The **System** button provided allows you to choose operational mode. The **Help** button opens the on-line help.

H Recording toolbar

A dedicated toolbar is provided to allow fast access to key functions related to recording and playback. To enable the toolbar, click **Rec.Toolbar** on the **Display** menu.



I Status bar and Message Log

When enabled, a dedicated toolbar is provided to allow fast access to key functions related to navigation markers. To enable the toolbar, click **Status bar** on the **View** menu.

The Message Log will – when opened – place itself at the bottom of the DFS75 presentation. To open (and close) the **Message Log**, click **Message Log** on the **View** menu.

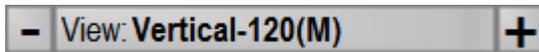
Presentation views

By default, the DFS75 provides its echo information using two presentation *views*. The **Sounder** view is located on the left side of the DFS75 presentation, while the **Vertical** view is located on the right hand side.

Tip

You can change the size of each view by clicking on the border line and dragging it towards left or right.

Certain operational parameters are different in the two presentation views. If you wish to alter operational parameters related to a view, you must first ‘activate’ the view. You can do that by clicking inside the view, or using the **View** button on the top of several menus. The active view is identified with a blue frame.



By activating a view you will also notice that the options in the **Operation** and **Display** menus are changed to reflect the relevant valid parameters.

Presentation modes

The presentation modes offered by the DFS75 changes the way the echo data are shown. To choose modes, use the **Mode** button on the **Operation** menu. Which mode to choose from depends on the currently active view.



Operational modes

The DFS75 supports four operational modes. To choose one of these modes use the **System** function.



The **System** function is always available at the bottom right corner of the display presentation – unless of course you have chosen to hide the menu system.

When you click the button, a small submenu appears to provide four choices.

The following operational modes are available:

1 Stop

The DFS75 is stopped. Neither transmission nor reception takes place, and there is no communication between the Processor Unit and the Sonar Head.

Note

You have not switched off the entire system. The Bridge Control Unit is still operating, and the high voltage is still applied through the 3rd wire cable to the subsea units.

2 Run

The DFS75 is operating normally. Use this mode for normal operation of the system.

3 Playback

This mode allows you to play back previously recorded sonar sessions. An operating system dialog box opens to let you choose which file to play back. Once selected, the **Playback Progress** dialog box opens to let you control the playback.

Tip

To change playback file, you must first click **System** → **Stop**, and then start the playback one more time.

You can also change to *Playback* mode by clicking the **Play** button on the **Recording** toolbar.

4 Off

This option closes down the DFS75 program.

Status Bar

The **Status Bar** is located at the bottom of the DFS75 presentation.

The **Status Bar** is only shown when you have enabled it. To do so, click the **Status Bar** option on the **View** menu.

The purpose of the **Status Bar** is to offer information about the current operational mode, as well as an overview of the interfaces with external devices. The **Status Bar** also provides you with fast access to key functions such as screen capture and recording.



The **Status bar** provides the following functionality (from left):

a Ready

This status message is provided when the DFS75 is ready for operation.

b NMEA status

The DFS75 is normally connected to a number of external devices to import information related to navigation and the vessel's movements. Each interface is provided with a colour coded status field on the **Status bar**.

The following colours are used:

- **Green:** The data received from the external device have good quality.
- **Yellow:** The data received from the external device have compromised quality.
- **Purple:** Identical data received from multiple sensors do not provide the same information.
- **Red:** The DFS75 does not receive any data from the external device.

c System status

This field provides the current operational mode.

One of the following messages are provided:

- **Not recording:** The Sonar Head is operational, data recording has not been started.
- **Recording:** The Sonar Head is operational, data recording is activated.
- **Recording paused:** The Sonar Head is operational, data recording is temporarily halted.
- **Playback:** The Sonar Head has been deactivated, the DFS75 currently shows information from a previously recorded file.
- **Playback paused:** The Sonar Head has been deactivated, the DFS75 shows information from a previously recorded file, but the playback is temporarily halted.
- **Inactive:** The Sonar Head has been deactivated, the DFS75 operation has been temporarily stopped.

d Screen capture

Click this button once to capture the current presentation. You will not be asked to enter a file name. The file is automatically named with the current time, and saved to `\diagnostic` folder under the DFS75 installation folder.

Tip _____

If you only need to save one single image, and you wish to control the file name, you can use the **Save Image With Overlays** function on the **Recording** toolbar.

e Record

Click this button once to start and stop recording. If you have previously defined the recording parameters using the **Record** dialog box, you will simply start recording. If those parameters are not defined, the **Record** dialog box will open.

Tip _____

The very first recording you make after defining the recording parameters will be saved with the file name you specified. The next recordings are made with file names automatically generated by the current time. They will however be saved in the folder you specified.

Observe the relevant operational procedures.

The menu system

The menu system is by default located on the right hand side of the DFS75 presentation.

The selection of operational parameters on the DFS75 is done using a set of menus, and several menu buttons and commands. Some of the menu buttons and commands open dialog boxes to provide additional parameters.

The menus are located at the top right side of the display presentation. By means of the tabs, you can choose which menu to open. The following menus are available:

- **Operation**
- **Display**
- **Setup**
- **Settings**
- **Sensors**
- **Receiver Setup**
- **Advanced**

The **Additional Menu** button at the bottom of the **Advanced** menu holds three secondary menus:

- **View**
- **Configuration**
- **Tools**

Tip

The **View** menu can also be opened by right-clicking anywhere in the display presentation.

The options provided by each menu depend on the chosen presentation mode and the currently active view. Note that operational parameters defined for the 'active' view does not apply to the other view.

- View: Sounder	+
- Mode: Sounder	+
- Sonar: Run	+
- Range: 120 m	+
- Gain: 40 %	+
- Bandwidth: Medium	+
- Frequency: 200 KHz	+
- Audio: OFF	+
- Gain Type: None	+
- Resolution: Low	+

Related topics

- *The menu system* on page 43

The menu buttons

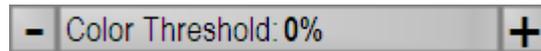
Each menu contains several menu buttons. Each button shows the function of the button, some of them also display the current parameter setting. The majority of the buttons in each menu provide one or more of these functions.

- a You can increase and decrease parameter values by clicking the [+] and [-] fields on the button.

- b You can select parameter value from the button's submenu.
- c You can click the button repeatedly to change the parameter.
- d You can open a dedicated dialog box.

How to select a numerical parameter using the +/- buttons

- 1 Move the cursor to either side of the button, and observe that the background colour changes.



- a Click on the left side of the button to decrease the numerical value.
- b Click on the right side of the button to increase the numerical value.

How to select a parameter using a submenu

- 1 Click the middle section of the button to open a submenu, then click the requested command, option or button.



The chosen value is applied, and the submenu is automatically closed.

- 2 Whenever applicable, you can also access the submenu by clicking the left and right side of the button. This method will not show you the choices on the submenu.
 - a Click on the left side of the button to select a 'lower' submenu choice.
 - b Click on the right side of the button to select a 'higher' submenu choice.

How to select parameters using a dialog box

- 1 Click anywhere on the button to open a separate dialog box.



Context sensitive on-line help

The DFS75 is provided with an extensive context sensitive on-line help system. All information of the *DFS75 Reference manual* is also provided in the on-line help. The on-line help is located in a single proprietary Microsoft CHM file. This CHM file will also run on any other computer provided that the computer runs a Microsoft operating system.

To open the help system, click the **Help** button in any dialog box. This will provide instantaneous information about the relevant dialog box with links to related procedures and other topics.

Navigation in the on-line help file is made by means of the menu system on the left side, as well as the interactive links in the document.

The menu system

The menu navigation employed by the DFS75 is based on the user interface provided for the Simrad sonars.

The main menu is by default located at the right side of the screen. To change parameters, you can either use the dedicated [+] and [-] icons on each side of the individual buttons, or you can click the centre of the button to open a small submenu. Several buttons will also open dedicated dialog boxes. [+] and [-] icons shown in dark colours are not available for the current view or presentation mode.

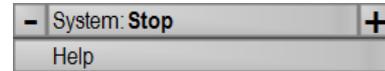
Tip

This chapter only provides the purpose of each function and dialog box. If you wish to learn more about the functionality and the parameters offered, refer to the *Simrad DFS75 Reference manual* or the context sensitive online help.

Main menu

1 System

The **System** function allows you to choose the operational mode, and to close the DFS75 program.



2 Help

Click this button to open the DFS75 context sensitive on-line help. The button opens the help system's start page.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Operation menu

The following functions and parameters are available from the **Operation** menu.

Note that the choices available on the **Operation** menu depend on the currently selected view and presentation mode. Some functions are not available when the **Sounder** view is active, and some are not available when the **Vertical** view is active.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is 'active' and available for adjustments.

2 Mode

The **Mode** function (also known as **Scan Mode**) allows you to choose the presentation mode to be used in each DFS75 view.

3 Sonar

The **Sonar** function (also known as **Pause Head**) allows you to pause the operation of the DFS75 Sonar Head without changing operational mode or powering down the system.

- View: Vertical-120(M)	+
- Mode: Polar	+
- Sonar: Pinging	+
- Range: 120 m	+
- Gain: 40 %	+
- Bandwidth: Medium	+
- Frequency: 120 KHz	+
- Scan Speed: 7°	+
Reverse Scan	
- Audio: OFF	+
- Sector Width: 360°	+
- Gain Type: AGC/RCG	+
- Gain R: Fast	+
- Resolution: High	+
- Pulse Type: CW	+

4 Range

The **Range** function allows you to specify the vertical range of the water column covered by the sonar. The range is defined from the Sonar Head and down to a given range value in the vertical or horizontal direction. The value shown and selected is by default applied only to the currently selected view (**Sounder** or **Vertical**).

In order to change the range for the **Sounder** or **Vertical** view, the view must be activated before you change the parameter.

5 Gain

The purpose of the **Gain** function is to adjust the echo level in the DFS75 sonar and echogram presentations.

6 Bandwidth

The **Bandwidth** function allows you to adjust the quality of the sonar presentation by adjusting the bandwidth of the received echo signal.

7 Frequency

The **Frequency** function is simply an indicator that allows you to see the operational frequency of the DFS75.

8 Scan Speed

The **Scan Speed** function allows you to change the scanning speed for the stepper motor. In other words, this is how fast the sonar transducer rotates inside the head.

This function is only available for the **Vertical** view. It is not available if you set the **Vertical** view to presentation modes *Sounder* or *Smooth Sounder*.

9 Reverse Scan

The purpose of the **Reverse Scan** function is to reverse the direction of the stepper motor in the Sonar Head.

This function is only available for the **Vertical** view. It is not available if you set the **Vertical** view to presentation modes *Sounder* or *Smooth Sounder*.

10 Audio

The **Audio** function allows you to disable or enable the audio output.

11 Sector Width

The **Sector Width** allows you to adjust the opening angle of the current sector that the Sonar Head covers.

This function is only available for the **Vertical** view. It is not available if you set the **Vertical** view to presentation modes *Sounder* or *Smooth Sounder*.

12 H(orizontal) Heading

The **Horizontal Heading** function (also known as **Sector Heading**) allows you to specify the centre of the search sector.

This function is only available for the **Vertical** view. It is not available if you set the **Vertical** view to presentation modes *Sounder* or *Smooth Sounder*.

13 Gain Type

The **Gain Type** function allows you to implement gain filtering using reverberation control (RCG) and automatic gain control (AGC).

14 Gain Response

The **Gain Response** function allows you to decide how fast the RCG and AGC filters in the DFS75 shall react to sudden changes to the echo strength and sonar conditions.

15 Resolution

The **Resolution** function allows you to change the range resolution of the sonar presentation.

16 Pulse Type

The **Pulse Type** function allows you to select between Linear Frequency Modulated (LFM) and Continuous Wave (CW) pulses.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Display menu

The following functions and parameters are available from the **Display** menu.

Note that the choices available on the **Display** menu depend on the currently selected active view and the operational mode.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is ‘active’ and available for adjustments.

2 Mode

The **Mode** function (also known as **Scan Mode**) allows you to choose the presentation mode to be used in each DFS75 view.

3 Palette

The purpose of the **Palette** function is to choose which colour theme to be used by the DFS75 presentations.

4 Cursors

The purpose of the **Cursors** function is to provide bearing and depth information about selected echoes on the DFS75 presentation.

- View: Sounder	+
- Mode: Sounder	+
- Display: Bright Day	+
- Cursors: OFF	+
- Tools: OFF	+
- Magnifier: OFF	+
- Scroll Speed: Normal	+
Clear Display	
- Rec Toolbar: ON	+
- Sounder Position: Left	+

5 Tools

Use the **Tools** function to create annotations on the DFS75 display presentation. Several tools are available depending on the current mode.

6 Zoom

The **Zoom** function allows you to magnify details in the DFS75 presentation.

7 Scroll Speed

The **Scroll Speed** function allows you to control how fast the echogram presentation shall move from left towards right over the screen.

8 Clear Display

The **Clear Display** function allows you to refresh the currently selected ('active') DFS75 view.

9 Recording Toolbar

The **Recording Toolbar** function allows you to show or hide the toolbar with the playback and recording buttons.

10 Sounder Position

The **Sounder Position** function allows you to reposition the **Sounder** view relative to the **Vertical** view.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Setup menu

The following functions and parameters are available from the **Setup** menu.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is 'active' and available for adjustments.

- View: Sounder	+
- Tx Power: Low	+
- Range: Meters	+
- Temperature: °C	+
- Language: English	+
- Sound Speed: 1475 m / sec	+
I/O Setup	
Sensor Setup	

2 TX Power

The **TX Power** function allows you to increase or decrease the transmission power.

3 Range Unit

The purpose of the **Range Unit** function is to control the unit of range measurements used by the DFS75.

4 **Temperature Unit**

The purpose of the **Temperature Unit** function is to control the unit of temperature measurements used by the DFS75.

5 **Language**

The purpose of the **Language** function is to select the language to be used on the menus and elsewhere in the graphical user interface.

6 **Sound Speed**

The purpose of the **Sound Speed** adjustment is to control the sound speed value; how fast the sound waves travel through the water. The parameter is used by the software to estimate range, propagation loss and spreading loss, all of which are essential concepts in the DFS75.

7 **Sound Speed Override**

The **Sound Speed Output** function allows you to use a different value for sound speed during playback than what was originally recorded.

Note _____

*The **Sound Speed Override** button is only available in Playback mode.*

8 **I/O Setup**

The **I/O Setup** dialog box allows you to control the properties of each of the available communication channels on the DFS75 Processor Unit.

9 **Sensor Setup**

The **Sensor Setup** dialog allows you to define which of the Simrad catch monitoring sensors to use with the DFS75.

10 **Connect Sonar**

The **Connect Sonar** dialog box is used to establish communication with the Sonar Head in the Trawl Deployment Unit.

Note _____

*The **Connect Sonar** button is only available when the system is set to Off.*

Tip _____

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Settings menu

The following functions and parameters are available from the **Settings** menu.

1 Setting

The **Settings** function allows you to select and put to use one of the saved user profiles.

2 Save Setting

The **Save Setting** function allows you to save the current user profile using a unique name. You can use your own name, or any name describing for example a fishing situation.

All user selectable parameters are saved.

3 Rename Setting

The **Rename Setting** function allows you to rename the current user profile using a unique name.

4 Delete Setting

The **Delete Setting** function allows you to delete the current user profile from the hard disk.

5 Factory Default

The **Factory Default** function allows you to retrieve and put to use the default operational parameters defined by the manufacturer.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.



Sensors menu

The following functions and parameters are available from the **Sensors** menu.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is 'active' and available for adjustments.

2 Catch sensors

All catch monitoring sensors that are currently connected to the DFS75 are shown with one button for each measurement. For each sensor the type and status are identified. You are not permitted to change the type of sensor from this menu, but you can disable the reading by setting the sensor to *Off*. To manage sensors and measurements, observe the **Sensor Setup** button and dialog.

- View: Vertical-120(M)	+
- Catch 1C1: ON	+
- Catch 2C1: ON	+
- Catch 3C1: ON	+
- Depth-1000m 4D3: ON	+
- Door Spread 5S1: ON	+
- Temperature 6T1: ON	+
- Catch Alarm: ON	+
- Sensor Presentation: Medium	+
- Sensor Panel: Panel	+
Sensor Setup	
Channel Spectrum	

3 Catch Alarm

The **Catch Alarm** function allows you to enable visual indicator to notify you when one or more of the catch sensors are triggered.

4 Sensor Presentation

The **Sensor Presentation** function allows you to change the physical size of the sensor buttons in the **Sensor Panel** at the bottom of the DFS75 menu.

5 Sensor Panel

The **Sensor Panel** function allows you to place the sensor information on a selected location on the screen. By default, the **Sensor Panel** is located at the bottom of the menu system.

6 Sensor Setup

The **Sensor Setup** dialog box allows you to define which catch monitoring sensors that shall be used with the DFS75 system.

7 Channel Spectrum

The **Channel Spectrum** dialog box allows you to monitor the information provided to the DFS75 from the catch sensors.

Note

*The **Channel Spectrum** button is only available when the DFS75 is in operational mode Run.*

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Receiver Setup menu

The following functions and parameters are available from the **Receiver Setup** menu. Note that this menu is only available in operational mode *Run*.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is 'active' and available for adjustments.

2 Interference Filter

The **Interference Filter** function allows you to remove interference (noise and false echoes) from other echo sounders and sonars in the vicinity of your own vessel.

3 Interference Filter Level

The **Interference Filter Level** function allows you to specify the strength of the interference filter.

4 Sensor Filter

The **Sensor Filter** can be used if you have problems with the reception. It will average the data received from the sensors.

5 Catch/Bottom Sensor Filter

The **Catch/Bottom Filter** is used to restrict the change of state from the catch and bottom contact sensors. This will reduce jitter in the presentation.

6 AGC

The **AGC** function allows you to apply an automatic scaling of the received data.

7 Manual Gain

The **Manual Gain** function allows you to apply a selected amount of gain to the receiver circuitry.

8 Multipath Filter

The **Multipath Filter** is designed to remedy for reflections, spikes and time-lag in the sensor data. These problems may occur if neighbouring channels are used, or if the DFS75 is disturbed by other hydroacoustic systems in use on your own or other vessels.

9 Water Profile

The **Water Profile** functions allows you to set up the sensor communication for use in salt or fresh water.

- View: Sounder	+
- Interference Filter: ON	+
- Interf. Filter Level: 9	+
- Sensor Filter: Weak	+
- Cat./Bo.S.Filter: Weak	+
- AGC: OFF	+
- Manual Gain: 0 dB	+
- Multipath Filter: ON	+
- Water Profile: Salt	+
- Detect Threshold: 8 dB	+
- Max Shoot Speed: 1 Kn	+

10 Detection Threshold

The **Detection Threshold** is used to control the threshold level for detection of signals. Signals below the threshold level will not be detected, while signals above the threshold will be detected. If threshold level too low this may cause false signals to be detected.

11 Maximum Shooting Speed

The **Maximum Shooting Speed** function allows you to compensate for the Doppler effect during deployment of the trawl.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Advanced menu

The following functions and parameters are available from the **Advanced** menu. Note that several options on this menu are only visible in operational mode *Run*.

1 View

The **View** button allows you to choose which of the two views (**Sounder** or **Vertical**) on the DFS75 presentation that is 'active' and available for adjustments.

2 TVG

The **TVG** (Time Variable Gain) function allows you to compensate the received data for loss due to geometric spread.

3 Peak Detection

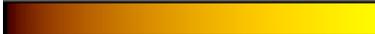
The **Peak Detection** function allows you to increase the sonar image resolution by increasing the sampling frequency in the Sonar Head while maintaining the same number of samples on the data sent to the Bridge Control Unit.

4 Orientation

The **Orientation** function allows you to specify in which way the Sonar Head is pointing; fore or aft.

5 Audio Setup

The **Audio Setup** dialog box allows you to define the various parameters related to the audio output.

- View: Vertical-120	+
- TVG: 20Log	+
- Peak Detection: High	+
- Orientation: Down (Fore)	+
Audio Setup	
- Filter: Weak	+
- Grid: ON	+
- Menu Autohide: OFF	+
- Color Scale: Copper	+
	
- Color Threshold: 0%	+
- Icons: OFF	+
- Font Size: Medium	+
- Menu Width: 300	+
Sonar Head Info	
Additional Menu	

6 Filter

The **Filter** function permits you to enhance the quality of the reception and presentation by reducing the acoustic interference.

7 Grid

The **Grid** functions allows you to enable or disable the depth lines in the currently active view.

8 Menu Autohide

When enabled, the **Menu Autohide** function will automatically hide the menu system when the cursor is located in the DFS75 echo presentation views. Once the cursor is moved back to the right side of the display, the menu system reappears.

9 Colour Scale

The purpose of the **Colour Scale** function is to control the number of colours and colour theme used by the DFS75 in the echogram and sonar presentations.

10 Threshold

The **Colour Threshold** function allows you to reduce or increase the number of colours. This will provide a filtering effect that removes the weakest echoes.

11 Span Monitors

The **Span Monitors** function allows you to distribute the DFS75 presentation to more than one colour display.

Note

This menu option will only be available if:

- a The Processor Unit is equipped with a display adapter that supports more than one colour display.*
 - b The operating system has been set up to use more than one colour display.*
-

12 Icons

The **Icons** function allows you to enable or disable the use of iconic symbols in the menu buttons.

13 Font Size

The **Font Size** functions allows you to increase or decrease the size of the text in the menu buttons. If you select a different size, the width and height of the buttons will automatically change accordingly.

14 Menu Width

The **Menu Width** function allows you to change the physical size of the menu buttons. Only the width is changed, not the height, and not the font size.

15 Sonar Head Info

The **Sonar Head Info** dialog box – and the **Sonar Head Info** tab in the **Sonar Head Control** dialog box – allows you to monitor key parameters and software versions related to the Sonar Head. It also allows you to run the head calibration, and you can read the operational voltages inside the Sonar Head.

16 Additional Menu

This **Additional Menu** button opens a small submenu with access to three special purpose menus.

- *View menu* on page 54
- *Configuration menu* on page 56
- *Tools menu* on page 58

Tip

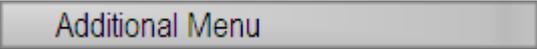
For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

View menu

Tip

The **View** menu is opened by clicking **Advanced** → **Additional Menu** → **View**.

You can also open the menu by right-clicking anywhere in the active view.



The following functions and parameters are available from the **View** menu.

1 Clear Display

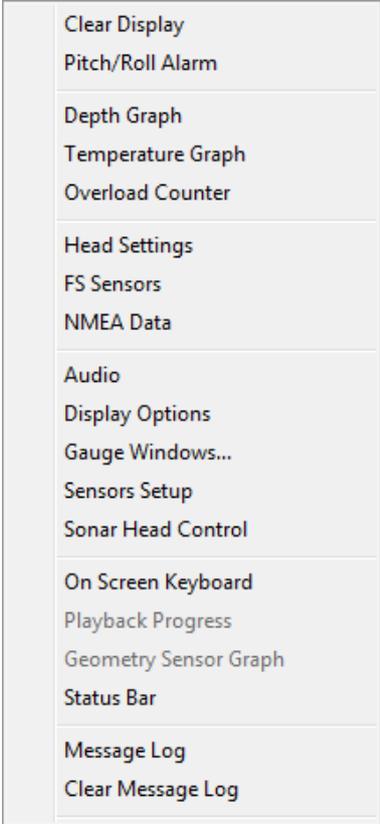
The **Clear Display** function allows you to refresh the currently selected ('active') DFS75 view.

2 Pitch/Roll Alarm

The **Pitch/Roll Alarm** function allows you to enable or disable this alarm related to the Sonar Head movements.

3 Depth Graph

The **Depth Graph** function opens a dedicated dialog box to present the depth of the Sonar Head as a function of time.



4 **Temperature Graph**

The **Temperature Graph** function opens a dedicated dialog box to present the ambient water temperature around the Sonar Head as a function of time.

5 **Overload Counter**

The **Overload Counter** function allows you to monitor the gain “overload”.

6 **Head Settings**

The **Head Settings** dialog box is in fact a predefined gauge window. It allows you to view the current operational parameters of the DFS75 Sonar Head.

7 **FS Sensors**

The **FS Sensors** dialog box is in fact a predefined gauge window. It allows you to view the current environmental parameters of the DFS75 Sonar Head.

8 **NMEA Data**

The **NMEA Data** dialog box is in fact a predefined gauge window. It allows you to view the current input data from external devices such as navigation information from a Global Positioning System (GPS).

9 **Audio**

This function is also provided on the **Operation** menu.

The **Audio** function allows you disable or enable the audio output.

10 **Display Options**

The purpose of the **Display Options** dialog box is to control the colour scale, palette and grid colours used on the DFS75 presentation. It also allows you to modify other parameters related to the display presentation, such as gain, grid and scroll speed.

11 **Gauge Windows**

The **Gauge Windows** dialog box allows you to create your own information windows to provide an overview of selected operational and/or technical parameters.

12 **Sensors Setup**

This function is also provided on the **Sensors** and **Setup** menus.

The **Sensor Setup** dialog box allows you to define which catch monitoring sensors that shall be used with the DFS75 system.

13 **Sonar Head Control**

The purpose of the **Sonar Head Control** dialog box is to provide all relevant operational parameters for the Sonar Head.

14 **On-screen keyboard**

This is an on/off switch. When enabled, you can use the operating system’s on-screen keyboard to type in data.

15 **Playback Progress**

The **Playback Progress** dialog box allows you to control the playback status and speed when the DFS75 is set in *Playback* mode.

16 Geometry Sensors Graph

The **Geometry Sensor Graph** function opens a dedicated dialog box to present the geometry measurements as a function of time.

17 Status Bar

The **Status Bar** function allows you to show or hide the Status Bar.

18 Message Log

The **Message Log** function allows you to show or hide the messages provided by the DFS75 during operation.

19 Clear Message Log

The **Clear Message Log** function allows you to remove all content from the message log. It will not delete the log file on the hard disk.

In order to clear the messages, the **Message Log** must be enabled and shown at the bottom of the presentation.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

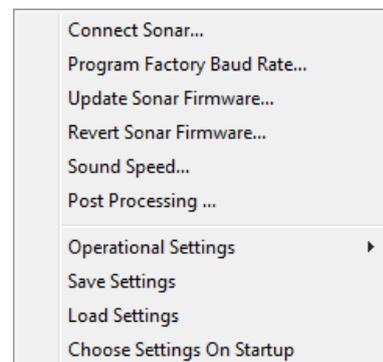
Configuration menu

Tip

The **Configuration** menu is opened by clicking **Advanced** → **Additional Menu** → **Configuration**.



The following functions and parameters are available from the **Configuration** menu. Note that several options on this menu are only available in operational mode *Run*, other are one available when the DFS75 is switched to *Stop*.



1 Connect Sonar

The **Connect Sonar** dialog box is used to establish communication with the Sonar Head in the Trawl Deployment Unit.

2 Program Factory Baud Rate

The **Program Factory Baud Rate** dialog box allows you to reprogram the communication speed within the Sonar Head.

3 Update Sonar Firmware

The **Update Sonar Firmware** dialog box allows you to update the software that resides inside the Sonar Head.

4 Revert Sonar Firmware

The **Revert Sonar Firmware** dialog box allows you to revert to the previous version of the software that resides inside the Sonar Head.

5 Sound Speed

The purpose of the **Sound Speed** adjustment is to control the sound speed value; how fast the sound waves travel through the water. The parameter is used by the software to estimate range, propagation loss and spreading loss, all of which are essential concepts in the DFS75.

6 Post Processing

The **Post Processing** dialog box allows you to enable and control specific filters.

7 Operational Settings

The **Operational Settings** function allows you to select which user profile (settings) you wish to use, and to add or delete user profiles from the hard disk.

8 Save Settings

The **Save Setting** function allows you to save the current user profile using a unique name. You can use your own name, or any name describing for example a fishing situation.

All user selectable parameters are saved.

9 Load Settings

The **Load Setting** function allows you to load previously saved user settings.

10 Choose Settings On Startup

This is an “on/off” switch.

When this function is enabled, a dedicated dialog box – **Select User And Operational Settings** – is provided to request user and settings when the DFS75 software program is started.

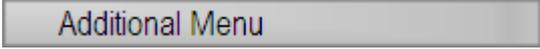
Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.

Tools menu

Tip

The **Configuration** menu is opened by clicking **Advanced** → **Additional Menu** → **Tools**.



Additional Menu

The following functions and parameters are available from the **Tools** menu.

1 Arrow

This is the default tool. Click Arrow tool to “switch off” the tool your are currently using.

2 Reference Cursor 1/2

This is the same function as the **Cursor** function provided on the **Display** menu. Two different cursors can be placed on the presentation.

3 Tape Measure

This is the same function as **Tape** on the **Tools** function provided on the **Display** menu. A line will be drawn on the presentation to present length and angle.

4 Height Measure

This is the same function as **Height** on the **Tools** function provided on the **Display** menu. A line will be drawn on the presentation to measure height.

5 String Measure

This is the same function as **String** on the **Tools** function provided on the **Display** menu. A line will be drawn on the presentation to define and measure an area.

6 Text

This is the same function as **Pencil** on the **Tools** function provided on the **Display** menu. You can place a line and a text box anywhere you like.

7 Wiper

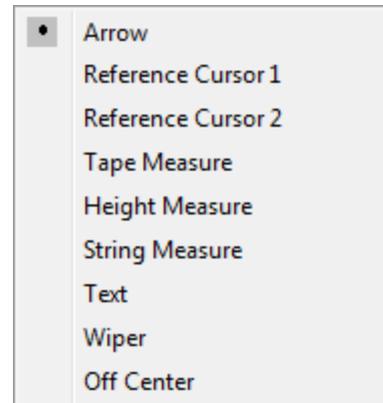
This is the same function as **Wipster** on the **Tools** function provided on the **Display** menu. It will remove annotations.

8 Off Center

This function is not used on the DFS75 system.

Tip

For detailed information about every function, button and dialog box, refer to the *DFS75 Reference manual* or to the context sensitive on-line help.



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