

Mimer SoftRadio

Connecting radios all over the world

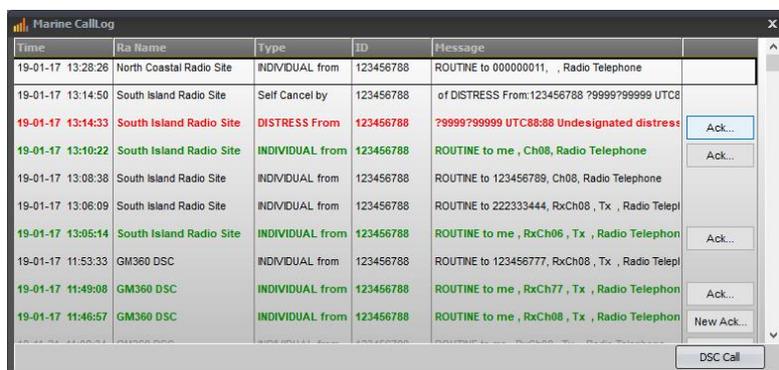
Mimer Option 3115

Marine Calls

DSC & ATIS-signalling for Marine VHF use

Setup instructions

SoftRadio v4



Time	Ra Name	Type	ID	Message	
19-01-17 13:28:26	North Coastal Radio Site	INDIVIDUAL from	123456788	ROUTINE to 00000011, , Radio Telephone	
19-01-17 13:14:50	South Island Radio Site	Self Cancel by	123456788	of DISTRESS From:123456788 ?9999?99999 UTC8	
19-01-17 13:14:33	South Island Radio Site	DISTRESS From	123456788	?9999?99999 UTC8:88 Undesignated distress	Ack...
19-01-17 13:10:22	South Island Radio Site	INDIVIDUAL from	123456788	ROUTINE to me, Ch08, Radio Telephone	Ack...
19-01-17 13:08:38	South Island Radio Site	INDIVIDUAL from	123456788	ROUTINE to 123456789, Ch08, Radio Telephone	
19-01-17 13:06:09	South Island Radio Site	INDIVIDUAL from	123456788	ROUTINE to 222333444, RxCh08, Tx , Radio Telep	
19-01-17 13:05:14	South Island Radio Site	INDIVIDUAL from	123456788	ROUTINE to me, RxCh06, Tx , Radio Telephon	Ack...
19-01-17 11:53:33	GM360 DSC	INDIVIDUAL from	123456788	ROUTINE to 123456777, RxCh08, Tx , Radio Telep	
19-01-17 11:49:08	GM360 DSC	INDIVIDUAL from	123456788	ROUTINE to me, RxCh77, Tx , Radio Telephon	Ack...
19-01-17 11:46:57	GM360 DSC	INDIVIDUAL from	123456788	ROUTINE to me, RxCh08, Tx , Radio Telephon	New Ack...

Release date Nov 20, 2020

This guide will help with the use and setup of your Mimer option 3115 “Marine Calls” giving DSC transmission and DSC and ATIS reception. Please also refer to the web pages www.lse.se, www.lse.se/marine, and the other setup manuals for SoftRadio.

This option is suited for fixed use, i.e. harbors, coast guard, oil rig etc. It is not suited for use onboard ships since there is no way to initiate a distress message.

1 Table of Contents

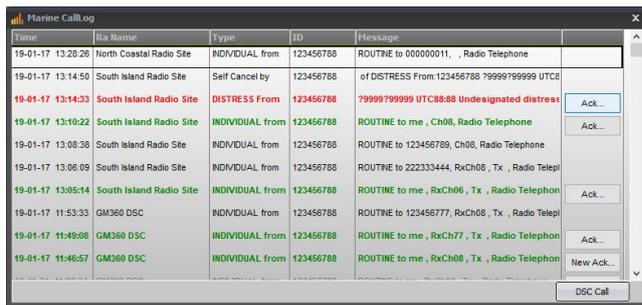
1	TABLE OF CONTENTS	3
2	GENERAL	4
2.1	SEVERAL MMSI	4
2.2	SOFTWARE NEEDS	4
2.3	HARDWARE NEEDS - DSC	4
2.4	HARDWARE NEEDS - ATIS	4
3	WHAT ARE DSC AND ATIS?	5
3.1	DSC	5
3.2	ATIS	5
4	STARTING THE SOFTWARE	6
4.1	OPENING THE MARINE CALLLOG WINDOW	6
4.2	OPENING THE DSC CALL WINDOW	6
5	RECEIVING CALLS	7
5.1	DSC MESSAGES	7
5.2	ATIS MESSAGES	7
5.2.1	“ATIS Killer”	8
6	SENDING DSC CALLS	8
6.1	MAKING A CALL	8
6.2	SENDING THE CALL	9
6.3	ACKNOWLEDGING DSC CALLS	9
6.4	RESPONSE WINDOW	9
7	SETTINGS BEFORE USE	10
7.1	MARINE CALLS SETTINGS	10
7.2	TOUCH SCREEN SUPPORT	11
8	LOGFILES OF INCOMING CALLS	12
9	EXPORTING ATIS INFORMATION	12
10	CHANGING THE CALL TONE	13
10.1	FORMAT OF AUDIO MESSAGE FILES	13
11	RADIO EQUIPMENT	14
11.1	SETUP TIP FOR ICOM	14
12	HIDING A DSC RADIO IN SOFTRADIO	15

2 General

Mimer Marine Calls has two basic functions.

- To send and receive DSC calls
- To receive ATIS calls

The latest calls will be presented in the **Marine CallLog** window and all calls will also be saved to a file on the PC hard drive.



Time	Rx Name	Type	ID	Message
19-01-17 13:28:28	North Coastal Radio Site	INDIVIDUAL from	123456788	ROUTINE to 00000011, , Radio Telephone
19-01-17 13:14:50	South Island Radio Site	Self Cancel by	123456788	of DISTRESS From 123456788 ?9999?99999 UTC
19-01-17 13:14:33	South Island Radio Site	DISTRESS From	123456788	?9999?99999 UTC88:88 Undesignated distress
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19-01-17 11:46:57	GM360 DSC	INDIVIDUAL from	123456788	ROUTINE to me, RxCh08, Tx, , Radio Telephon

Example of logged calls from DSC units

2.1 Several MMSI

From v4 of Mimer SoftRadio it is possible to set up different MMSI numbers for different connected radios. This gives the advantage that one dispatcher can service several radio sites that each have their own MMSI's. In the earlier v3 there was a restriction to one MMSI per dispatcher.

2.2 Software needs

The operator PC shall have Mimer SoftRadio v4 installed.

Then install the Marine Calls option.

2.3 Hardware needs - DSC

Any analogue radio type in the Marine VHF band, set to Marine CH70, can be used. It does not have to be a dedicated Marine radio.

The network interface by the radio needs to be fitted with an FSK-encoder/decoder, part number 3095.

2.4 Hardware needs - ATIS

The ATIS call is sent on the voice channel. There is no need for a dedicated radio. The network interface by the radio needs to be fitted with an FSK-encoder/decoder, part number 3095. Alternatively, if a Kairos base station is used, it has a built in ATIS decoder and there is no need for a separate decoder in the interface.

More information about radios at the end of this manual.

3 What are DSC and ATIS?

Most of the text below is borrowed from Wikipedia. More details can be found there.

3.1 DSC

Digital Selective Calling or DSC is a standard for sending pre-defined digital messages via the medium frequency (MF), high frequency (HF) and very high frequency (VHF) maritime radio systems. It is a core part of the Global Maritime Distress Safety System (GMDSS).

All DSC messages are sent on marine CH70 and the radio therefor needs to use CH70 for receive and transmit in order for the DSC function to work. If the radio is set to another channel the DSC will not work.

3.2 ATIS

The Automatic Transmitter Identification System (ATIS) is a marine VHF radio system used and mandated on navigable inland waterways in Europe for identifying the ship or vessel that made a radio transmission. The identity of the vessel is sent digitally immediately after the ship's radio operator has finished talking and releases their transceiver's push-to-talk button.

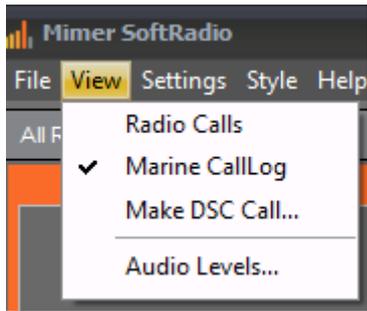
ATIS messages are sent on the currently used voice channel as a data message when PTT is released. It does not need a separate radio receiver.

4 Starting the software

4.1 Opening the Marine CallLog window

The Marine CallLog window is opened by ticking the selection “Marine CallLog” on the “View” menu in SoftRadio.

When ticked it will be opened automatic every time SoftRadio is started.

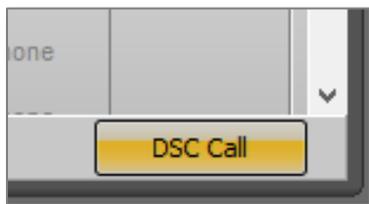


Opening the CallLog window of Marine Calls

4.2 Opening the DSC Call window

You can open the DSC Call window in two ways.

- Click “Make DSC Call” in the View menu as above, or
- Click the button in the righthand corner of the Marine CallLog window.

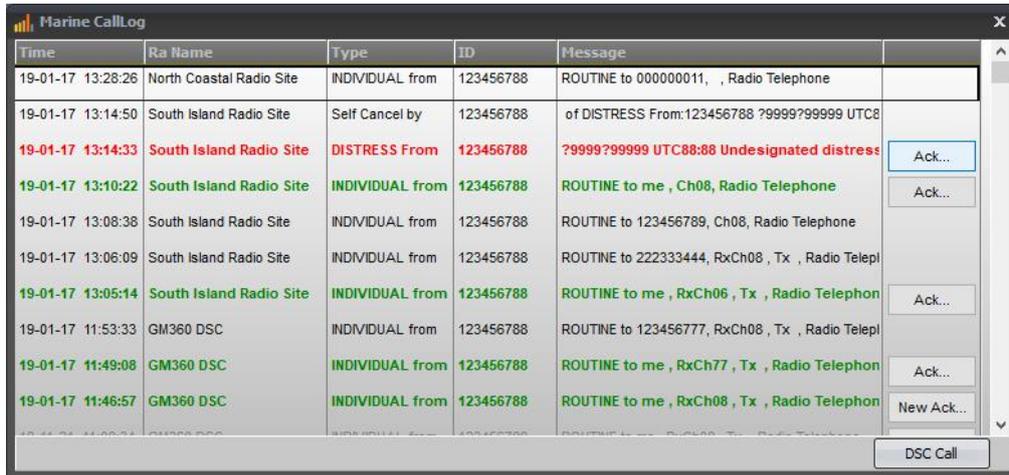


Opening the DSC Call window from the Marine CallLog

5 Receiving calls

The Marine CallLog window will show all incoming DSC & ATIS calls that have been received by the Network Interface at the radio(s).

The log will handle many radios and shows the radio that received the call in the column "Ra Name".



Time	Ra Name	Type	ID	Message	
19-01-17 13:28:26	North Coastal Radio Site	INDIVIDUAL from	123456788	ROUTINE to 000000011, , Radio Telephone	
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Exampel of calls received in the Marine CallLog

The ID column shows the number of the calling party.

The Message column shows in plain text the DSC message received.

5.1 DSC messages

DSC messages can be sent in different formats depending on the urgency and who or whom it is sent to. The CallLog reflects this in different colours.

The CallLog will show:

- Messages sent to the operators own MMSI number in green.
- Distress messages in red
- All other types in black

Calls shown in grey are historic calls that have been stored when SoftRadio is closed, and then read back into the log when SoftRadio is started again.

5.2 ATIS messages

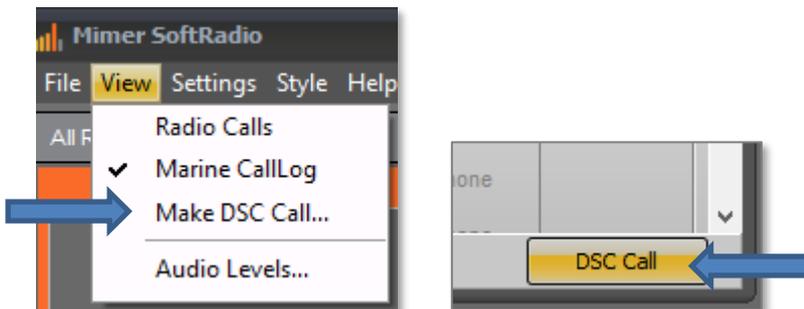
In Marine VHF radio systems at inland water ways, for example rivers in Europe, a message format called ATIS is used. This is an ID code that is sent every time the PTT on the ship radio is released so that the coast radio station shall see whom is transmitting.

5.2.1 "ATIS Killer"

Since ATIS messages are sent out on the voice channel, they will normally be heard by the other part in the conversation. To prevent the ATIS message from being played in the loudspeaker, on SoftRadio, a special circuit detects and "kills" the ATIS modem audio.

6 Sending DSC calls

To make a DSC call you need to open the DSC Call window. You can leave it open after the call or close it again when you are ready.



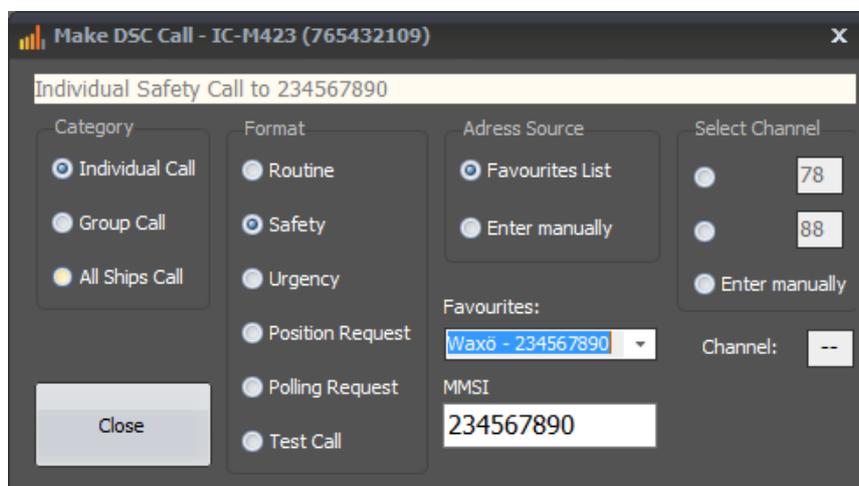
Two ways of opening the DSC Call window

6.1 Making a call

Go through the steps in the call window to select category and format of the call.

Then select or manually enter the number you would like to call.

Finally select the channel that you would like the called party to answer back on. (All calls, that require that a voice communication is set up, needs to transmit information on which channel the voice call shall take place.)

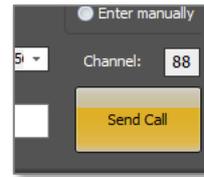


DSC Call window

6.2 Sending the call

When all parameters are correctly set, the “Send Call” button will be shown.

Press the “Send Call” button to make the call.



6.3 Acknowledging DSC Calls

Incoming DSC calls often needs an acknowledgement.

The CallList shows a button “Ack...”, next to such calls, that leads to the Response window.

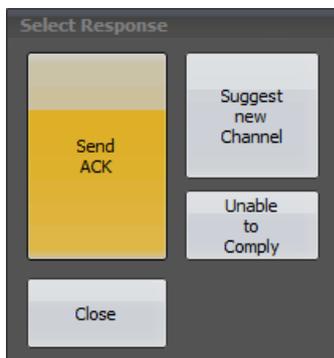
A call that already has been acknowledged will display the button “New Ack...” which lets you repeat or send a different acknowledgement on the same call.



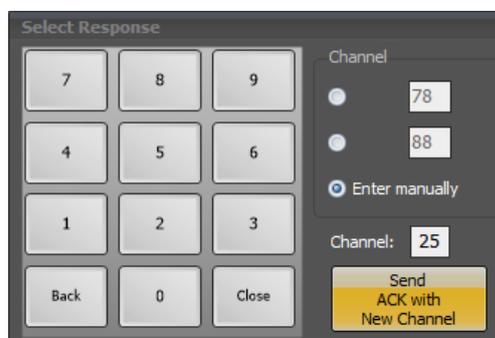
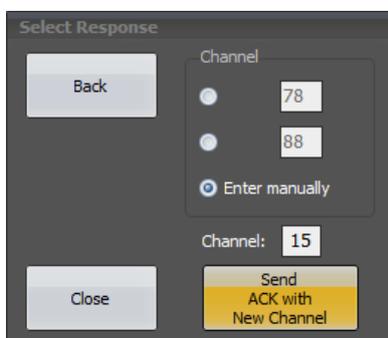
6.4 Response window

You have three choices here.

- Send the standard acknowledgement
- Send an acknowledge suggesting another channel for the voice call
- Send “Unable to comply”



Response window



Channel select window when acknowledging with a new channel.

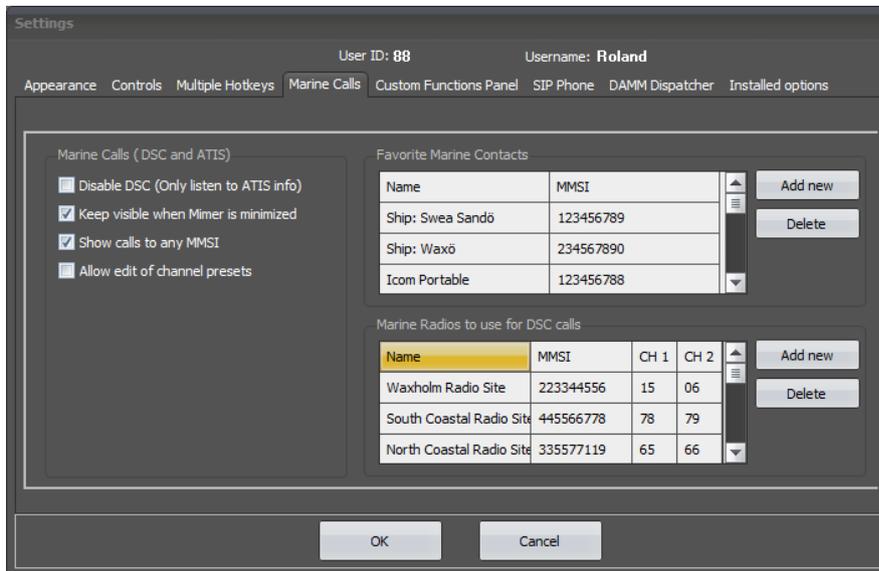
The keypad appears if you have chosen touch screen support in SoftRadio Settings.

7 Settings before use

Before use of DSC you need to do some settings in SoftRadio.

The use of ATIS needs no settings. (But you might want to tick “Disable DSC”)

Open the Settings menu and select the “Marine Calls”-tab.



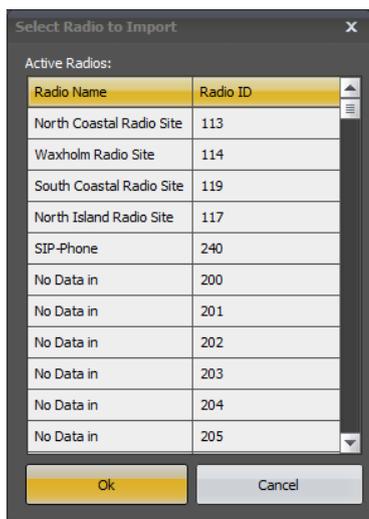
Marine Calls settings menu in SoftRadio

7.1 Marine Calls settings

You can set the following:

- **Disable DSC**
Ticking this box will inhibit decoding and transmitting of DSC calls. Only decoding of ATIS will be possible.
- **Keep visible when Mimer is minimized**
This setting will allow the Marine CallLog window to stay open even if Mimer SoftRadio is minimized to the Windows bar.
- **Show calls to any MMSI**
Ticking this box will present all calls, that the radio can hear, in the CallList. Calls for other MMSI than the numbers, set below, will be shown in black.
- **Allow Edit of Channel pre-sets**
Ticking this box allows the operator to change the pre-set channels in the send DSC application.
Unticking the box locks the pre-sets to the two channels that are set in this window.

- **Favourite Marine Contacts**
Here you can set up a list of ships etc. that you often make calls to. They are then selectable in the menu for making a DSC call.
- **Marine Radios to use for DSC calls**
This is the list of fixed radios in the SoftRadio system that you would like to receive DSC calls through.
For each radio you can enter a corresponding MMSI number and two pre-set call channels.
When you push “Add new” you get the following menu:



Radio select menu (Radio ID refers to the ID number in the SoftRadio system, not MMSI)

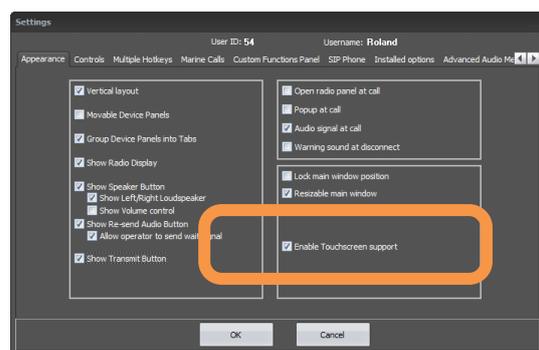
Please note that you can have the same MMSI number on several radios at different sites.

Please also note that several SoftRadio dispatchers can have the same MMSI number and will then receive the same calls.

After the changes has been done, restart SoftRadio for them to take effect.

7.2 Touch screen support

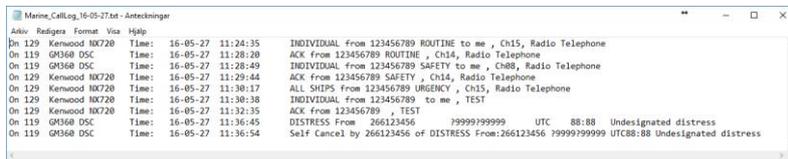
If you are using a touch screen and do not have a standard keyboard, ticking the “Enable Touchscreen Support” box will give you help by displaying a virtual keyboard when for example entering a channel number in the DSC application.



8 Logfiles of incoming calls

All incoming calls are stored in files on the operators PC. The files are standard text files divided with one new file for each new day.

They are found under: C:\Users\Public\Documents\Mimer\Logfiles



```
Marine_Call_Log_16-05-27.txt - Anteckningar
Aktiv Redigera Format Visa Hjlp
In 129 Kerwood NK720 Time: 16-05-27 11:24:35 INDIVIDUAL from 123456789 ROUTINE to me , Ch15, Radio Telephone
On 119 GH360 DSC Time: 16-05-27 11:28:20 ACK from 123456789 ROUTINE , Ch14, Radio Telephone
On 119 GH360 DSC Time: 16-05-27 11:28:49 INDIVIDUAL from 123456789 SAFETY to me , Ch88, Radio Telephone
On 129 Kerwood NK720 Time: 16-05-27 11:29:44 ACK from 123456789 SAFETY , Ch14, Radio Telephone
On 129 Kerwood NK720 Time: 16-05-27 11:30:17 ALL SHIPS from 123456789 URGENCY , Ch15, Radio Telephone
On 129 Kerwood NK720 Time: 16-05-27 11:30:38 INDIVIDUAL from 123456789 to me , TEST
On 129 Kerwood NK720 Time: 16-05-27 11:32:35 ACK from 123456789 , TEST
On 119 GH360 DSC Time: 16-05-27 11:36:45 DISTRESS From 266123456 9999999999 UTC 88:88 Undesignated distress
On 119 GH360 DSC Time: 16-05-27 11:36:54 Self Cancel by 266123456 of DISTRESS From:266123456 9999999999 UTC88:88 Undesignated distress
```

Example of Log file

9 Exporting ATIS information

There is also a separate software available that exports the ATIS messages to other software from third party providers.

This can for example be used if a third-party map software is used and you would like to plot on the chart which ship is transmitting at the moment.

Mimer software number 3151. *Described separately.*

10 Changing the call tone

The tone message that is played at the operator when a call or alarm comes in, is a standard .wav-file. If another tone message is preferred the file can be changed out. It can also be altered in order to be longer or shorter if that is preferred.

Just remember to give the new file the same name as the old file. You might also want to keep the old file as a backup, in that case, first give the old file a new name before you use the same name for the new file.

The audio files are found here: <C:\ProgramData\Mimer\>
They are called: [radiocall.wav](#) & [radioalarm.wav](#)

10.1 Format of Audio Message files

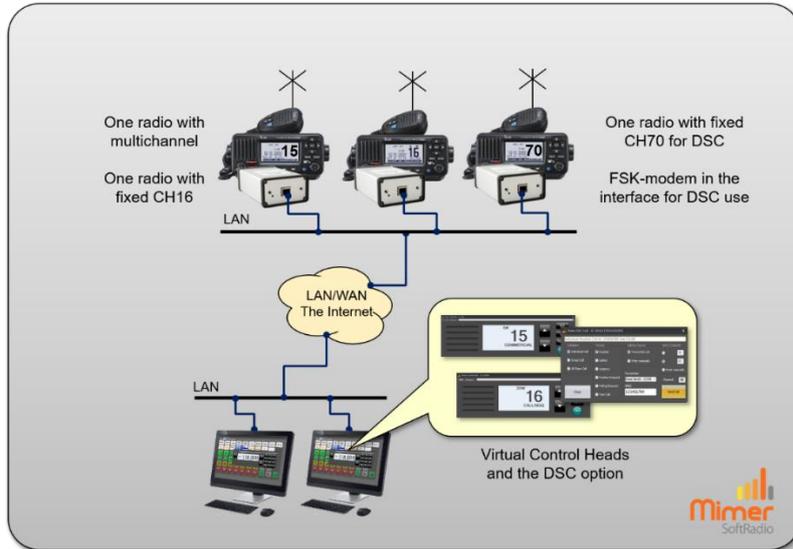
If you make your own audio file. The file shall have the following properties.

- .wav-file
- recorded in mono
- 16 bits, 8kHz sample rate = 128kbit/s sample rate

11 Radio Equipment

For DSC a separate radio unit with a fixed Marine CH70 is needed.

ATIS is sent on the voice channel and does not need a separate radio unit.



Two operators working with three marine radios.

In the typical setup example above,

- one radio has a fixed channel setup with Marine CH70. This radio is used for the DSC signaling.
- one radio has a fixed Marine CH16, so that the call channel 16 can be monitored at all times.
- the third radio is multichannel for all types of radio calls.

If only DSC shall be used, the network interface at the CH70 radio needs to be fitted with an FSK enc/dec module. If also ATIS shall be decoded, all network interfaces need the extra module.

The SoftRadio system can be setup with as many sites needed with the same number of radios as above. When having the same fixed channel on several sites, diversity (voting) is often used. Read more here: www.lse.se/voting.

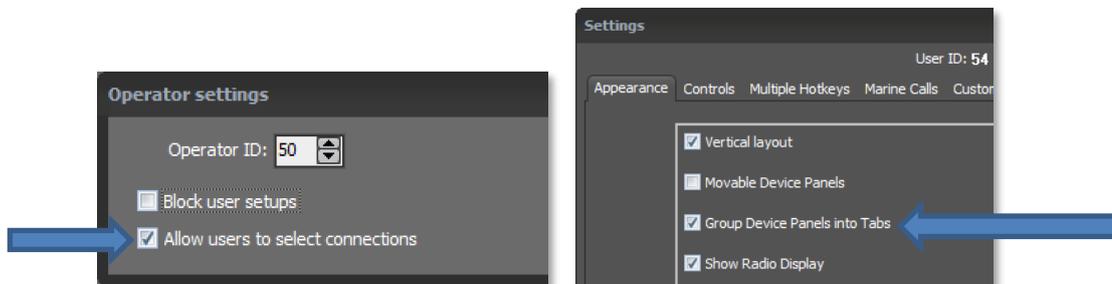
Please note that the radio used for DSC can be any type of analogue VHF radio. It does not need to be a dedicated Marine radio.

11.1 Setup tip for Icom

If you use an Icom marine radio for CH70, the radio needs to be reprogrammed. The factory setting is that the channel can't be used for transmission. You need to use the radios CPS program and change so that you are allowed to transmit on CH70.

12 Hiding a DSC radio in SoftRadio

In the example above you have a radio (CH70) that you need in the system but have no need to show to the operator. It needs to run in the background, but since you normally don't operate it from the dispatcher, there is no need to show it on SoftRadio.



In order to hide a radio, you need to run the larger version of SoftRadio called "SoftRadio XL".

- Set up all your radios, including the one that will be hidden, as usual in Mimer Connection Setup.
- Tick in the box "Allow users to select connections".
- Under Settings in SoftRadio tick the box "Group Device Panels into Tabs".
- You only need to have one tab. You can name it for example "Marine".
- Go into "Select Devices" in SoftRadio and set all radios as Active. Then untick the radio that shall be hidden from the list of radios on your tab.

ID	Name	Active	Marine
102	Multi Channel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
103	Marine CH16	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
104	Marine CH70/DSC	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The radio will now be active in the background so that DSC calls can be sent and received without the operators being disturbed.

Mimer Marine Calls Setup

THIS MANUAL WILL HELP WITH:

- UNDERSTANDING THE MARINE CALLS OPTION TO SOFTRADIO
- EXAMPLES OF USE
- SETUP INSTRUCTIONS



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LS Elektronik AB

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