

SAILOR Portable Radio Service tool

Operation and installation guide

Service Tool - Portable Series

System Channel Table Menu

COBHAM

Menu Items

Order	Menu Item	Visible	Value
<input type="radio"/>	LIGHT	<input checked="" type="checkbox"/>	KEY
<input type="radio"/>	CHAN	<input checked="" type="checkbox"/>	INT
<input type="radio"/>	BEEP	<input checked="" type="checkbox"/>	MIN
<input type="radio"/>	VER	<input checked="" type="checkbox"/>	
<input type="radio"/>	VBAT	<input checked="" type="checkbox"/>	
<input type="radio"/>	TEMP	<input checked="" type="checkbox"/>	
<input type="radio"/>	SLEEP	<input checked="" type="checkbox"/>	OFF
<input type="radio"/>	CONTRST	<input checked="" type="checkbox"/>	3
<input type="radio"/>	SHANG	<input checked="" type="checkbox"/>	4 sec
<input type="radio"/>	SCRES	<input checked="" type="checkbox"/>	OFF
<input type="radio"/>	WTCH	<input checked="" type="checkbox"/>	DUAL
<input type="radio"/>	SQ	<input checked="" type="checkbox"/>	TIME
<input type="radio"/>	WORK	<input checked="" type="checkbox"/>	OFF
<input type="radio"/>	ATIS	<input checked="" type="checkbox"/>	
<input type="radio"/>	PREFA	<input checked="" type="checkbox"/>	
<input type="radio"/>	PREFB	<input checked="" type="checkbox"/>	
<input type="radio"/>	SUBC	<input checked="" type="checkbox"/>	
<input type="radio"/>	CTCSS ON	<input checked="" type="checkbox"/>	
<input type="radio"/>	SCODE	<input checked="" type="checkbox"/>	
<input type="radio"/>	SCRM	<input checked="" type="checkbox"/>	
<input type="radio"/>	BAND	<input checked="" type="checkbox"/>	25 kHz
<input type="radio"/>	GROUP	<input checked="" type="checkbox"/>	SEL
<input type="radio"/>	ALIVE BEEP	<input checked="" type="checkbox"/>	OFF
<input type="radio"/>	CH NAME	<input checked="" type="checkbox"/>	

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General information

1 Introduction

This manual describes the installation and operation of the Service Tool software for the SAILOR Portable Radio series.

The Service Tool facilitates the individual configuration of all SAILOR Portable Radio series products as well as any future radio software updates which may be released.

The manual contains:

- Detailed description of the operation and facilities.
- An installation section detailing the installation and configuration of the Service Tool software.
- Ordering and trouble shooting section.

Operation - VHF

2 Operation Guide for a VHF

This chapter is the operator's guide for the SAILOR Portable Radio series Service Tool software. The software will identify and configure all different SAILOR Portable Radio models. Features that are not supported in the particular radio as well as functions/parameters, which are not available for alteration, will be shown on a shaded background.

2.1 Connecting to the VHF

This connection procedure shall be followed each time the Service Tool is used.

1. The radio is connected to the service PC by first plugging the service cable (USB end) into a free USB slot on the service PC. Then screw the service cable onto the radio top connector, which – under normal conditions - is used for attaching accessories.



Figure 1 - Simple connection between service PC and radio.

2. Turn on the radio. This is all needed to perform radio configuration.
3. After having done the required radio configuration changes in service mode, disconnect the cable from the radio. The radio needs to be switched off and on before it can be used with the new settings.

2.2 Start up page

The SAILOR Portable Radio Service Tool is initiated from the **Start** menu.

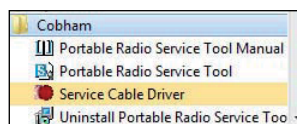


Figure 2 - SAILOR Portable Radio Service Tool is initiated from the Cobham entry in the Start menu. Here it is also possible to bring up the manual.

The tool can also be started by clicking on the "SAILOR Portable Radio Service Tool"-icon, located at the PC-desktop after installation.

The startup window will appear on the service PC screen.

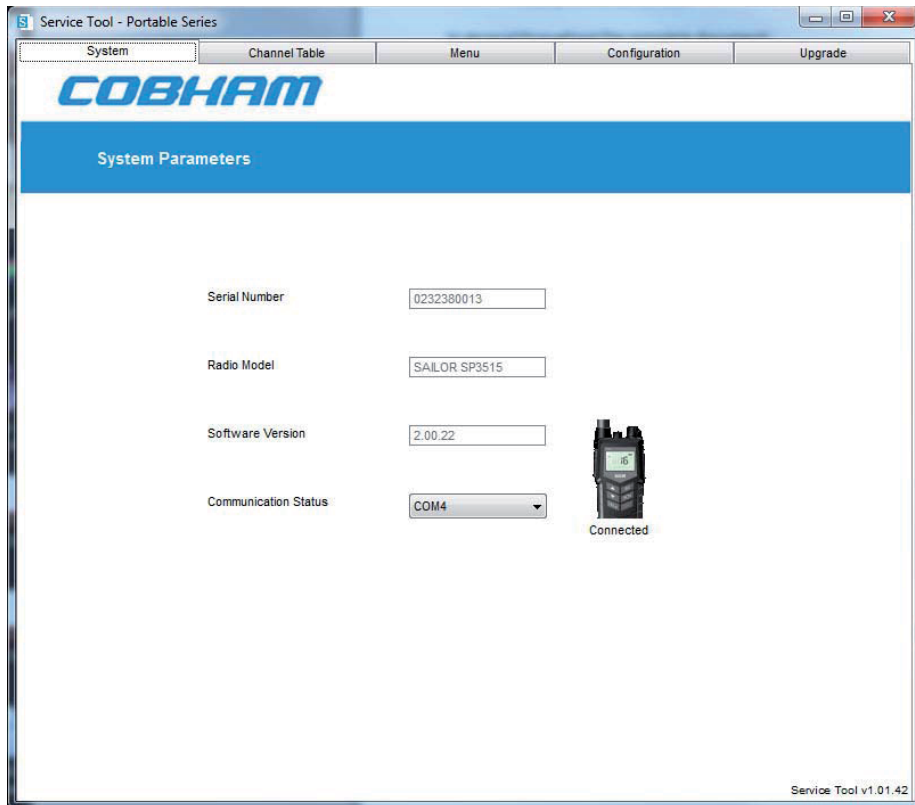


Figure 3 - SAILOR Portable Radio Service Tool start-up screen.

To get access to the radio, it is necessary to select the appropriate COM port (see under “Service cable” in the installation section). When the appropriate COM port is selected the start-up page (System tab) appears with the basic radio identity information (**Serial number**, **Radio model** and **Software version**) as read out from the radio.

Note | The selected COM port is recognized as the default selection next time the program is invoked.



Figur 4 - Once connection between the Service Tool and the radio has been established thus activating the radio in service mode, this will be indicated in the radio display by reading “SERVICE”.

Note | To have the radio revert to operational mode again it must be switched off and back on.

Warning | Once the Service Tool has connected to the radio and all parameters are available, the radio should not be turned off until all configurations have been done. If the radio is turned off while information is saved to the radio, configuration data might be lost.

2.3 Channel configuration

Channels available in the radio are handled from the **Channel Table** tab. A number of channel tables, representing the channel area modes, **Int**, **Ca**, **Us**, etc. are configurable under their individual tabs.

ChNo	Ch	Ch(A)	Ch(B)	ChName	TX Freq.	RX Freq.	Duplex	High	PriCh	PrefA	PrefB	S Code	Scrm	Subtone	CTCSS	ATIS	ScnTag	CallCh	Band	CkTune
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156050000	160650000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156100000	160700000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156150000	160750000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156200000	160800000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156250000	160850000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156300000	156300000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156350000	160950000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156400000	156400000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156450000	156450000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156500000	156500000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156550000	156550000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156600000	156600000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156650000	156650000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156700000	156700000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156750000	156750000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156800000	156800000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156850000	156850000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
18	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156900000	161500000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		156950000	161550000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157000000	161600000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
21	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157050000	161650000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
22	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157100000	161700000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
23	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157150000	161750000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
24	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157200000	161800000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		157250000	161850000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>

Figure 5 - Channel configurations for a channel table in a SAILOR SP3515 radio.
All channel tables are represented in the same way.

The channel configuration features may vary depending on the SAILOR Portable Radio series model under configuration. As appears from figure 5 some of the fields carry a shaded background indicating that these fields are read-only fields, i.e. field values cannot be altered.

For example receive and transmit frequencies of the standard maritime channels cannot be altered.

Other configurable features which are relevant for one radio model (e.g. scrambler and/or CTCSS) and not for another, may not appear for the latter when the Service Tool is connected to this model.

2.3.1 Channel definitions

Each predefined channel table tab is divided into two sections, the upper section covering the standard channel set for the type of radio connected and the lower section which covers up to 40 configurable private channels (refer to Figure 6).

Note

The max. 40 private channels possible in total are shared among all channel tables, e.g. 15 private channels programmed for Int. channel table leaves the possibility for up to 25 private channels to be programmed solely for e.g. the US channel set.

The **Alt** channel table is a full channel table which can be customized in the same way as the private channels.

2.3.2 Channel properties

Each channel is specified in a single line by checking the appropriate parameter boxes:

ChNo	Ch	Ch(A)	Ch(B)	ChName	TX Freq.	RX Freq.	Duplex	High	PriCh	PrefA	PrefB	S Code	Scrm	Subtone	CTCSS	ATIS	ScnTag	CallCh	Band	ChTune
80	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		157025000	161625000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>

Figure 6 - Configurable channel properties.

Only private channels or channels in the Alt channel table have full flexibility.

The following describes the available configuration options:

Configuration	Description
ChNo	Numbers from 0 to 254. Naming may start with a letter (P, L, F or W). A total of 3 characters are allowed ¹ .
Ch	If this box is checked the channel will be available in the radio in the selected channel table with the corresponding channel designator (in Figure 6 this means that a channel with designator 80 will be available in the radio) ² . Note: The three check boxes can be used independ-ently. The radio configured as shown in Figure 6 will therefore have all channels 80, 80 _A and 80 _B made available to the user.
Ch(A)	If this box is checked an original duplex channel is made available as a simplex channel (this is often used in U.S. or Canadian channels). The transmit (TX) frequency of the duplex channel is used for the simplex frequency (in Figure 6 this means that a channel with designator 80 _A will be available in the radio) ³ .
Ch(B)	If this box is checked the channel is made available as receive only (TX block). In Figure 6 this means that a channel with designator 80 _B will be available in the radio ² .
ChName	The channel name must contain a maximum of 9 characters, use only capital letters, digits and spaces. Note: The channel name appears in the service line in the display.
TX Freq.	The receive frequency (in Hz). Frequencies in the range 148-174 MHz can be used ¹ .
RX Freq.	The receive frequency (in Hz). Frequencies in the range 148-174 MHz can be used ¹ . Note: For simplex channels either RX Freq or TX Freq must be defined. For duplex channels both frequencies are required. This option is only available for private channels and channels in the Alt channel table. Frequencies entered are checked to be valid on each entry. The frequencies must be entered with a channel resolution of 25 kHz for a wideband radio configuration, and 12.5 kHz for a narrowband configuration (SP3515 only). The check will be done according to the BAND selection under the Menu tab. Once entered and validated, no further checking will be done on the frequencies.
Duplex	If this box is checked the channel is defined as a duplex channel. The frequency defined in RX Freq will be used for receiving, and the frequency defined in TX Freq is used for transmission ¹ .
High	This box is checked to allow high transmission power on the channel. Otherwise only low power will be possible. For definition of high power and low power, please refer to the radio type specific manuals ² .
PriCh	If a channel is selected as the priority channel, this channel (typically 16) will be used as the priority channel in Dual watch or priority scanning mode.
PrefA	If this box is checked the channel is marked as one of two preferred working channels (quick select). Only one channel can have this mark ⁴ .
PrefB	If this box is checked the channel is marked as one of two preferred working channels (quick select). Only one channel can have this mark ⁴ .
¹ This parameter will be common for the 40 private channels in all channel modes. ² Available as individual settings for all channels. ³ Available as individual settings for all channels except the 40 private channels. ⁴ Common for all channel modes.	

Configuration	Description
S Code (except SP3510/20/40)	A scrambler code can be applied to each channel. A selection between 1-5 default scrambling codes can be made, and one custom (CC) scramble code defined under the Configuration tab. Selecting OFF will define no scrambling code on that channel ⁴ .
Scrm. (except SP3510/20/40)	On private channels or channels from the Alt channel table, it is possible to define scrambling as the default setting (check box). On maritime channels default will always be no scrambling ¹ .
Subtone (except SP3510/20/40)	A subtone for Continuous Tone Coded Squelch Systems (CTCSS) can be applied to each channel. A selection between 1-38 sub-tones can be made. Selecting OFF will define no sub-tone for that channel ⁴ .
CTCSS (except SP3510/20/40)	On private channels or channels from the Alt channel table, it is possible to define CTCSS as the default setting (check box). On maritime channels default will always be no CTCSS ¹ .
ATIS	This option is used to define if ATIS should be transmitted or not on a specific private channel otherwise defined with a channel table (e.g. Bi) where ATIS transmission is required in general ⁴ .
ScnTag	Defines the channel to be part of the memory scan table ⁴ .
CallCh	The call channel can be defined to be any channel that is available in the channel table. Only one call channel can be programmed ⁴ .
Band (except SP3510/20/40)	On private channels and on channels in the Alt channel table, the bandwidth can be set individually (12.5 kHz - narrow band, or 25 kHz wide band), independently of the global bandwidth mode (see Section 2.4).
ClkTune	This option shall be handled only by authorized persons. If persistent receive noise or carrier is recognized on a channel in the particular working environment, this box can be checked as an experiment to solve the problem. If no positive effect is experienced, the noise is received from an external source ⁴ . Note: A confirmation is requested each time this box is changed.
¹ This parameter will be common for the 40 private channels in all channel modes. ² Available as individual settings for all channels. ³ Available as individual settings for all channels except the 40 private channels. ⁴ Common for all channel modes.	

Some of the options described above will only work in combination with the correct general settings under the **Configuration** tab.

2.3.3 Saving channel properties

All changes made under the **Channel Table** tab will be memorized in the service tool program until they are saved or overwritten, even when changing parameters in other configuration tabs.

When channels have been configured according to the requirements, they should be stored in the radio. Click on the **Store Channels** button to store the new channel configuration in the radio.



Figure 7 - These two buttons are used to reload the radio configuration to the Service Tool application, or storing the channel configuration in the radio.

If the **Reload Channels** button is clicked, the channel configuration is read from the radio into the Service Tool with the risk of losing unsaved changes.

Note | All channel tables under the Channel Table tab will be stored/re-loaded by these operations.

2.4 User menu configuration

The SAILOR Portable Radio Series provides a configuration menu facility available to the operator. This menu can be customized to the operators preference by means of this Service Tool. Click the **Menu** tab to access menu configuration.

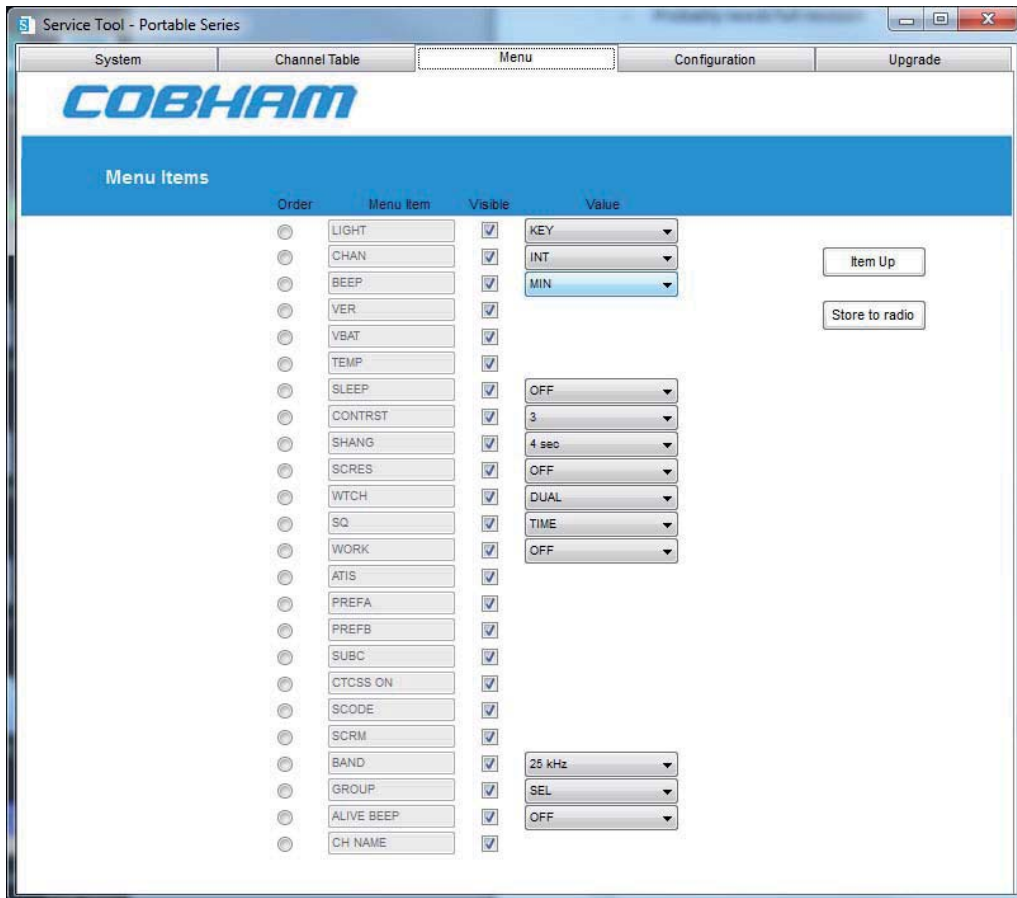


Figure 8 - The Menu configuration page.

The **Menu** configuration page is organized as shown in Figure 8. It displays all menu items supported by the radio model and version. On initial display the page will show the current settings in the radio. Only items applicable to the present radio type will be visible/editable.



Figure 9 - Menu controls.

The following operations that can be made on a **Menu Item** (see Figure 9):

Visible	If this box is checked the menu item will appear in the radio in Configuration mode.
Value	The value preset for an item is selected amongst the possible values in the pull down menu. If the value is pre-set and the menu is not enabled, the operator will not be able to change the setting.
Order	The order of appearance for menu items in the radio Configuration mode can be defined. Select Order next to the menu item to promote, and click Item Up to move the menu item one position up. The top menu item will be the first to display in configuration mode.

Click on **Store to radio** to store menu configurations in the radio.

Please refer to the Operation Manual for the appropriate SAILOR Portable Radio Series model, for details on available menu functions.

2.5 Radio configurations

Under the **Configuration** tab it is possible to change the behaviour of the radio. These settings are related to the working environment (region settings, accessory use, etc.) and are configurable via the Service Tool only.

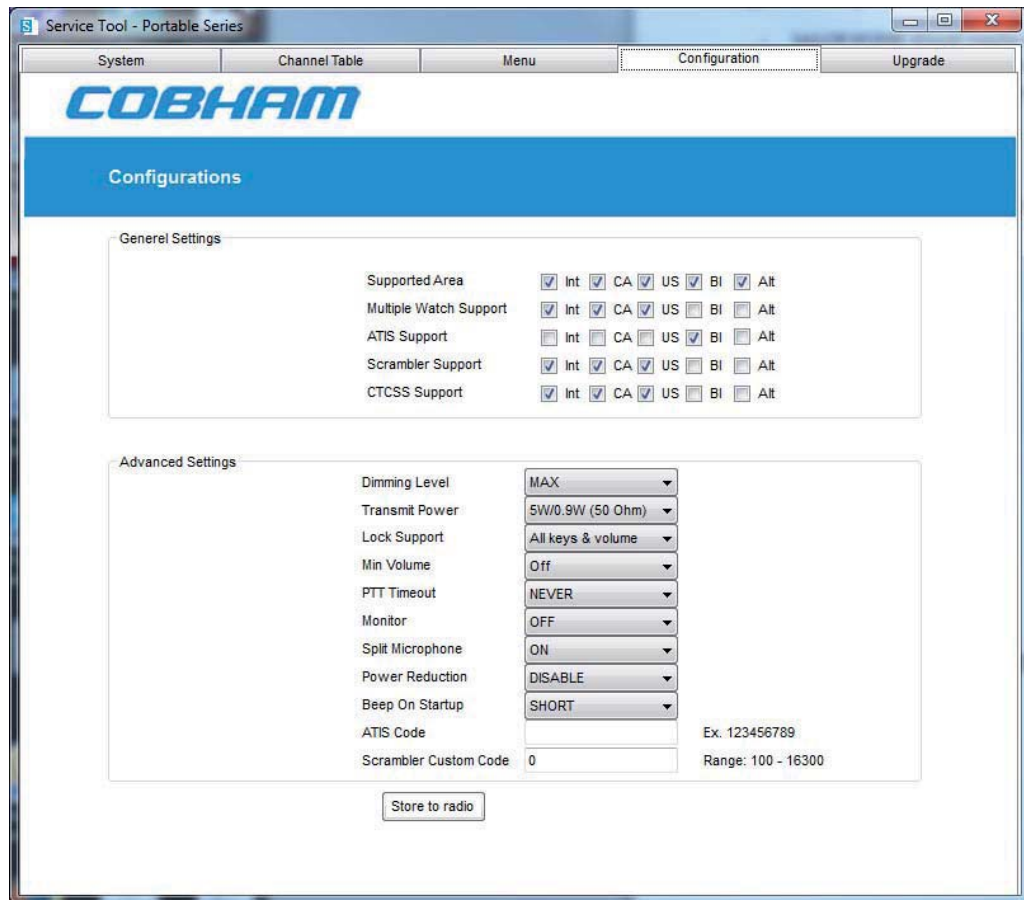


Figure 10 - Radio configurations.

2.5.1 General Settings

In this section the regional allowances are defined for the general use of this radio. The radio can be configured to allow various features for different regional modes (**Int**, **CA**, **US**, **BI** and **Alt**):

Settings	Description
Supported Area	If a box is checked it is possible to operate the appropriate channel table with the parameters defined under the Channel Table tab.
Multiple Watch Support	If this option is selected it will be possible to use multiple watch (Dual/Trippl watch or scanning) in that particular channel mode.
ATIS Support	If this option is selected it will be possible to operate with ATIS in that particular channel mode. The ATIS code can be programmed, either from the radios configuration mode (once) or on this page (see Advanced Settings below).
Scrambler Support (except SP3510/20/40)	If this option is selected it will be possible to use scrambler in that particular channel mode.
CTCSS Support (except SP3510/20/40)	If this option is selected it will be possible to use CTCSS in that particular channel mode.

2.5.2 Advanced Settings

The settings in this section are related to the individual user or work environment. Changing these settings should always be handled with care as the radio might act different than expected, and may include a security risk for the operator if not properly notified.

Settings	Description
Dimming Level	The default dimming level can be set in this position. If OFF is selected the display will remain unlit.
Transmit Power	The maximum transmission power can be defined using this setting. For further information see the servicetool.
Lock Support	<p>This parameter relates to the state where the radio is in its locked key state. It is possible to enable/disable the following functions:</p> <p>White keys: 16/C and the volume control can be operated in key lock state⁵.</p> <p>All keys: 16/C key is covered by the key lock function.</p> <p>White keys & volume : Volume control is covered by the key lock function.</p> <p>All keys & volume: 16/C and the volume control is covered by the key lock state.</p> <p>Note: PTT can always be operated in the key lock state.</p>
Min Volume	<p>This function sets minimum volume when volume knob is covered by Lock Support.</p> <p>OFF: Volume level is locked to the level prior to lock.</p> <p>1-9: The minimum volume level when volume knob is locked.</p>
PTT Timeout	<p>A timeout value for automatic de-activation of the PTT button can be set up using this parameter. If activated the PTT button shall be re-invoked after the timeout period has elapsed.</p> <p>NEVER: Function is disabled.</p> <p><Timeout value>: The requested timeout value can be selected amongst the available selections.</p>
Monitor	<p>This function is used when accessory (headset, fist mike, etc.) is connected to the radio. It controls the audio output devices.</p> <p>OFF: Received signal is only audible in the connected accessory.</p> <p>ON: Received signal is also audible in the transceiver speaker (monitor).</p>
Split Microphone	<p>This function is used when accessory (headset, fist mike, etc.) is connected to the radio. It controls the audio input devices.</p> <p>OFF: If this option is de-activated, the external accessory microphone is selected as audio input device regardless of which PTT button (transceiver or accessory) is pressed in the system.</p> <p>ON: If this option is set, the external accessory microphone is selected as audio input device when the external PTT button is pressed, and the transceiver microphone is used as audio input device when the transceiver PTT button is pressed.</p>

Settings	Description
Power Reduction	<p>The radio can automatically reduce transmitter power if the battery voltage drops below critical level, or if the power amplifier has reached critical high temperature. The radio display will inform the operator if transmitter power has been reduced.</p> <p>ENABLE: Transmitter power may be reduced to protect e.g. battery life.</p> <p>DISABLE: Transmitter power reduction under critical conditions is disabled. If this mode is selected the radio will continue normally on full power, with the result of a reaching potential empty battery state sooner, where no transmission is possible.</p> <p>Note: The transmit power reduction function is reset each time PTT is released.</p>
Beep On Startup	<p>At start up the radio can be configured to sound a long lasting tone, which can be used to adjust the volume level before use. The start up tone is available in both transceiver speaker and external accessory speakers at power up.</p> <p>LONG: Long tone at start up enabled.</p> <p>SHORT: Short tone at start-up (shorter start-up time).</p>
ATIS Code	<p>The ATIS code can be entered or changed in this field. The ATIS code is used in areas where transmission of an identification string is required.</p>
Scrambler Custom Code (except SP3510/20/40)	<p>If the scrambler option is used, it is possible to select amongst 5 default scrambler codes, and a custom code. The custom code is defined as a number between 100 and 16300 (best audible result is achieved using number codes between 1800 and 5500). One or more radios with identical custom codes can use this code as a unique scrambling key.</p>

Click on **Store to radio** to store configurations to the radio.

2.6 Radio upgrades

SAILOR Portable Radio radios can be upgraded. Upgrading is an option to consider if:

- A number of radios should be configured as a copy of an existing radio (clone).
- A radio needs to be re-configured to factory defaults.
- A radio needs to be upgraded to the newest software version.

These upgrade options are accessible via the **Upgrade** tab.

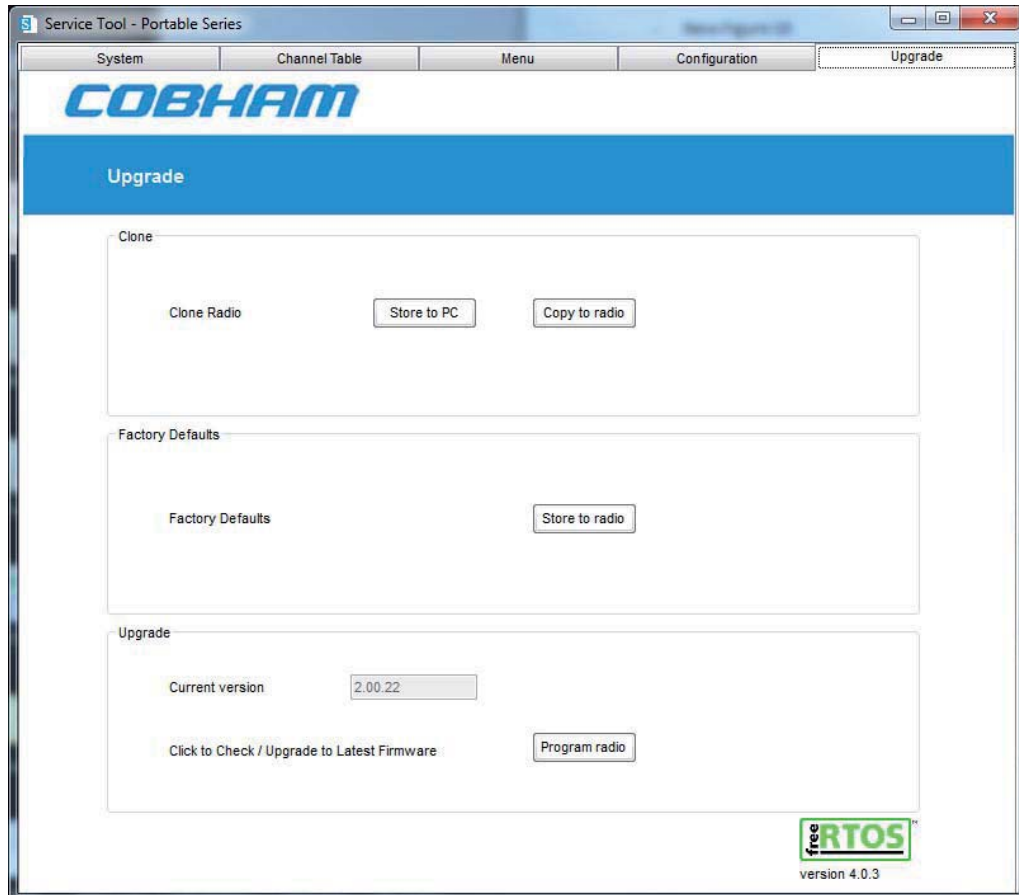


Figure 11 - Upgrade or configuration copy control page.

Note Check if a new update for the complete Service Tool Package is available before upgrading the radio.

2.6.1 Clones

The clone functionality is a method to unify a large number of radios. A **master** radio configuration is created using the Service Tool.

- Assure all changes have been saved to the radio.
- The **Upgrade** page is brought up.
- Click on **Store to PC** to save the complete radio configuration to a single file.

Note | The file should be stored on a user defined location from where SAILOR Portable Radio radio configurations are administered.

To copy the saved radio configuration to other radios, disconnect the master radio, make the cable connection to a new radio, and turn the new radio on.

- Click on **Copy to radio** to select and copy a configuration file to the new radio.

Note | It is not necessary to connect to the radio via the System tab if invoking the clone function.

The cloning will only be successful between radios of the same types. Furthermore the cloning will only be successful if the radios contain identical software releases. The clone function will inform if any problems occur. Any inconsistency listed shall be resolved before proceeding with cloning.

2.6.2 Factory defaults

If a radio, for any reason, needs to be configured with factory defaults, click the **Store to radio** button. The radio will be configured with the factory defaults as specified with the software release in the radio.

Note | All advanced settings including e.g. ATIS identity will be reset.

2.6.3 Software Upgrade

It is possible to upgrade the radio software if a new image exists. SAILOR Portable Radio service notes will state if a software upgrade is recommended for the product.

The current radio software version is shown in the **Current Version** box.

Click **Program radio** to do the software upgrade.

Note | Factory defaults will automatically be applied after software upgrade.

Operation - UHF

3 Operation guide for a UHF

This chapter is the operator's guide for the SAILOR Portable Radio series Service Tool software. The software will identify and configure all different SAILOR Portable Radio models. Features that are not supported in the particular radio as well as functions/parameters, which are not available for alteration, will be shown on a shaded background.

3.1 Connecting to the UHF

See section 2.1 (VHF).

3.2 Start up page

See section 2.2 (VHF).

3.3 Channel configuration

Channels available in the radio are handled from the **Channel Table** tab.

ChNo	Ch	Ch(B)	ChName	TX Freq.	RX Freq.	Duplex	High	PriCh	P0	P1	P2	S Code	Scrm	Subtone	CTCSS	ScnTag	Band	ClkTune
A	<input checked="" type="checkbox"/>	<input type="checkbox"/>		467525000	467525000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
B	<input checked="" type="checkbox"/>	<input type="checkbox"/>		467550000	467550000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
C	<input checked="" type="checkbox"/>	<input type="checkbox"/>		467575000	467575000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
D	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457525000	457525000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
E	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457550000	457550000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
F	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457575000	457575000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
G	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457525000	467525000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
H	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457550000	467550000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
J	<input checked="" type="checkbox"/>	<input type="checkbox"/>		457575000	467575000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>
16	<input type="checkbox"/>	<input type="checkbox"/>		0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>

Figure 12 - Channel configurations for a channel table in a SAILOR SP3550 radio.
All channel tables are represented in the same way.

As appears from figure 12 some of the fields carry a shaded background indicating that these fields are read-only fields, i.e. field values cannot be altered.

For example receive and transmit frequencies of the standard maritime channels cannot be altered.

3.3.1 Channel definitions

Each predefined channel table tab is divided into two sections, the upper section covering the standard channel set for the type of radio connected and the lower section which covers configurable private channels (refer to Figure 12).

3.3.2 Channel properties

Each channel is specified in a single line by checking the appropriate parameter boxes:

ChNo	Ch	Ch(B)	ChName	TX Freq.	RX Freq.	Duplex	High	PriCh	P0	P1	P2	S Code	Scrm	Subtone	CTCSS	ScnTag	Band	ChTune
G	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		457525000	467525000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Off	<input type="checkbox"/>	Off	<input type="checkbox"/>	<input type="checkbox"/>	25	<input type="checkbox"/>

Figure 13 - Configurable channel properties.

The following describes the available configuration options:

Configuration	Description
ChNo	Numbers from 0 to 254. Naming may start with a letter. (A total of 3 characters are allowed ¹).
Ch	If this box is checked the channel will be available in the radio in the selected channel table with the corresponding channel designator (in Figure 13 this means that a channel with designator “G” will be available in the radio) ² .
Ch(B)	If this box is checked the channel is made available as receive only (TX block). In Figure 13 this means that a channel with designator “G _B ” will be available in the radio ² . Note: The two above mentioned check boxes can be used independently. The radio configured as shown in Figure 13 will therefore have all channels “G” and “G _B ” made available to the user.
ChName	The channel name must contain a maximum of 9 characters, use only capital letters, digits and spaces. Note: The channel name appears in the service line on the display.
TX Freq.	The receive frequency (in Hz). Frequencies in the range 440-470 MHz can be used ¹ .
RX Freq.	The receive frequency (in Hz). Frequencies in the range 440-470 MHz can be used ¹ . Note: For simplex channels either RX Freq. or TX Freq. must be defined. For duplex channels both frequencies are required. Frequencies entered are checked to be valid on each entry. The frequencies must be entered with channel resolution of 25 kHz for a wideband radio configuration, and 12.5 kHz for a narrowband configuration. The check will be done according to the BAND selection under the Menu tab. Once entered and validated, no further checking will be done on the frequencies.
Duplex	If this box is checked the channel is defined as a duplex channel. The frequency defined in RX Freq will be used for receiving, and the frequency defined in TX Freq is used for transmission ¹ .
High	This box is checked to allow high transmission power on the channel. Otherwise only low power will be possible. For definition of high power and low power, please refer to the radio type specific manuals ² .
PriCh	If a channel is selected as the priority channel, this channel (typically 16) will be used as the priority channel in Dual watch or priority scanning mode.
P0	If this box is checked the channel is marked as one of three preferred working channels (quick select). Only one channel can have this mark.
P1	If this box is checked the channel is marked as one of three preferred working channels (quick select). Only one channel can have this mark.
¹ This parameter will be available to the private channels.	
² Available as individual settings for all channels.	

Configuration	Description
P2	If this box is checked the channel is marked as one of three preferred working channels (quick select). Only one channel can have this mark.
S Code	A scrambler code can be applied to each channel. A selection between 1-5 default scrambling codes can be made, and one custom (CC) scramble code defined under the Configuration tab. Selecting OFF will define no scrambling code on that channel.
Scrm.	On private channels, it is possible to define scrambling as the default setting (check box). On maritime channels default will always be no scrambling.
Subtone	A subtone for Continuous Tone Coded Squelch Systems (CTCSS) can be applied to each channel. A selection between 1-38 sub-tones can be made. Selecting OFF will define no sub-tone for that channel.
CTCSS	On private channels or channels from the channel table, it is possible to define CTCSS as the default setting (check box). On maritime channels default will always be no CTCSS.
ScnTag	Defines the channel to be part of the memory scan table.
Band	On programmable channels the bandwidth can be set individually (12.5 kHz - narrow band, or 25 kHz wide band), independently of the global bandwidth mode (see also Section 3.4).
ClkTune	This option shall be handled only by authorized persons. If persistent receive noise or carrier is recognized on a channel in the particular working environment, this box can be checked as an experiment to solve the problem. If no positive effect is experienced, the noise is received from an external source. Note: A confirmation is requested each time this box is changed.

Some of the options described above will only work in combination with the correct general settings under the **Configuration** tab.

3.3.3 Saving channel properties

All changes made under the **Channel Table** tab will be memorized in the service tool program until they are saved or overwritten, even when changing parameters in other configuration tabs.

When channels have been configured according to the requirements, they should be stored in the radio. Click on the **Store Channels** button to store the new channel configuration in the radio.

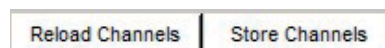


Figure 14 - These two buttons are used to reload the radio configuration to the Service Tool application, or storing the channel configuration in the radio.

If the **Reload Channels** button is clicked, the channel configuration is read from the radio into the Service Tool with the risk of losing unsaved changes.

3.4 User menu configuration

The SAILOR Portable Radio Series provides a configuration menu facility available to the operator. This menu can be customized to the operators preference by means of this Service Tool. Click the **Menu** tab to access menu configuration.

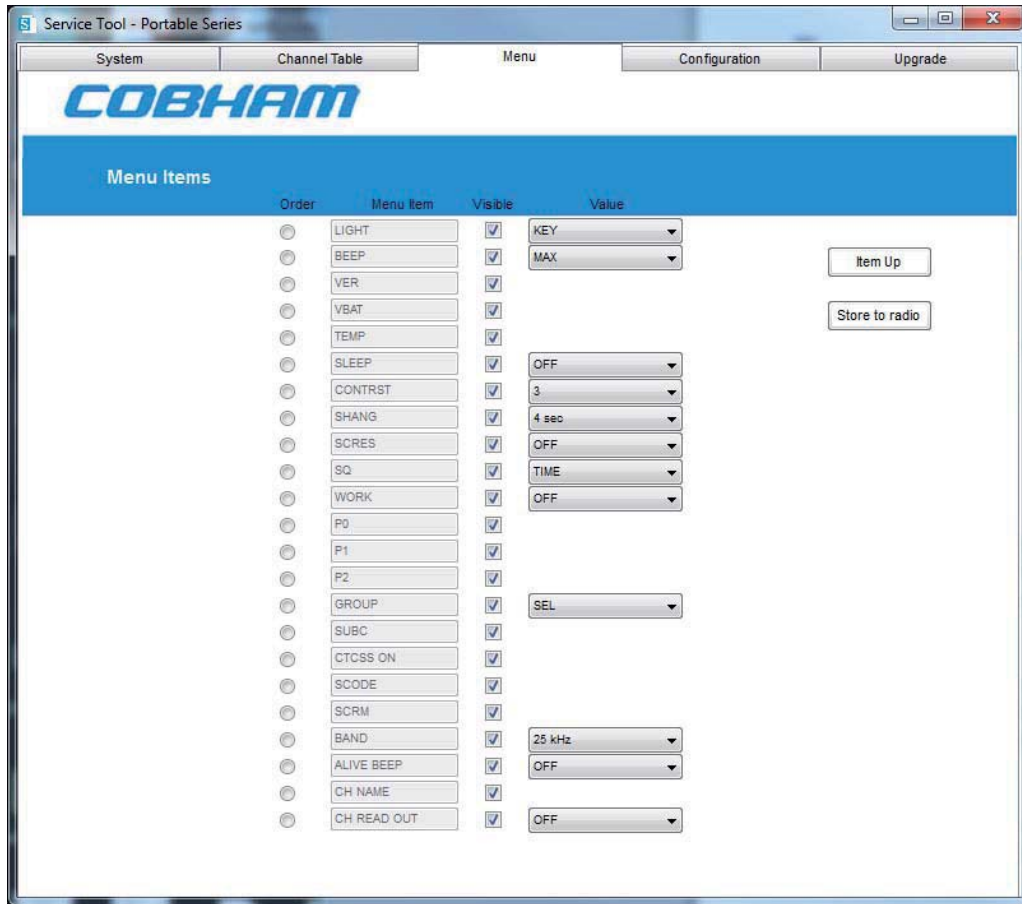


Figure 15 - The Menu configuration page.

The **Menu** configuration page is organized as shown in Figure 15. It displays all menu items supported by the radio model and version. On initial display the page will show the current settings in the radio. Only items applicable to the present radio type will be visible/editable.

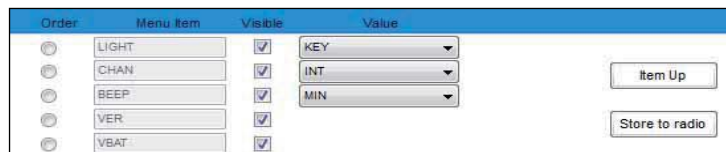


Figure 16 - Menu controls.

The following operations that can be made on a Menu Item (see Figure 16):

Visible	If this box is checked the menu item will appear in the radio in Configuration mode.
Value	The value preset for an item is selected amongst the possible values in the pull down menu. If the value is pre-set and the menu is not enabled, the operator will not be able to change the setting.
Order	The order of appearance for menu items in the radio Configuration mode can be defined. Select Order next to the menu item to promote, and click Item Up to move the menu item one position up. The top menu item will be the first to display in configuration mode.

Click on **Store to radio** to store menu configurations in the radio.

Please refer to the Operation Manual for the appropriate SAILOR Portable Radio Series model, for details on available menu functions.

3.5 Radio configurations

Under the **Configuration** tab it is possible to change the behaviour of the radio. These settings are related to the working environment (accessory use, etc.) and are configurable via the Service Tool only.

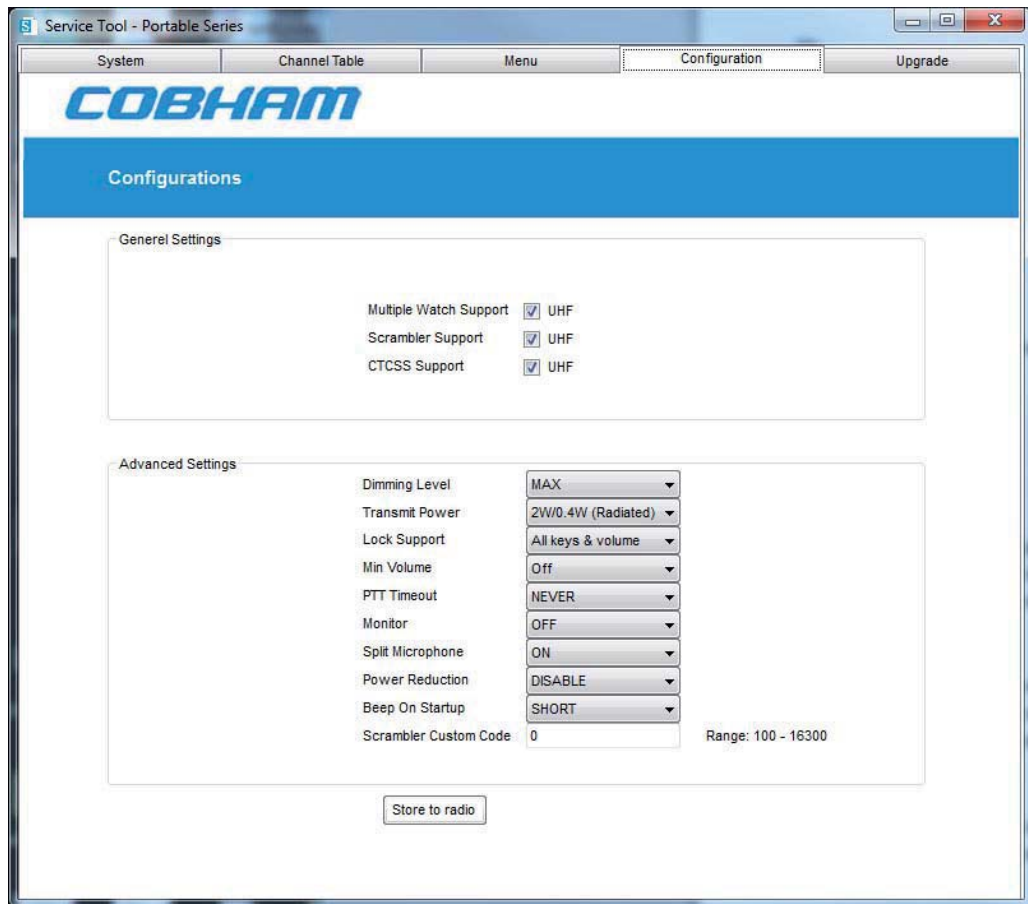


Figure 17 - Radio configurations.

3.5.1 General Settings

In this section the allowances are defined for the general use of this radio.

Settings	Description
MultipleWatchSupport	If this option is selected it will be possible to use multiple watch (Dual/Trippl watch or scanning).
Scrambler Support	If this option is selected it will be possible to use scrambler.
CTCSS Support	If this option is selected it will be possible to use CTCSS.

3.5.2 Advanced Settings

The settings in this section are related to the individual user or work environment. Changing these settings should always be handled with care as the radio might act different than expected, and may include a security risk for the operator if not properly notified.

Settings	Description
Dimming Level	The default dimming level can be set in this position. If OFF is selected the display will remain unlit.
Transmit Power	The maximum transmission power can be defined using this setting. For further information see the servicetool. 5 W: The output power is defined as 5 W output in high power mode, and 1 W in low power setting. 2 W: The output power is defined as 2 W output in high power mode, and 1 W in low power setting.
Lock Support	This parameter relates to the state where the radio is in its locked key state. It is possible to enable/disable the following functions: Keys (not D): D/P0 and the volume control can be operated in key lock state. All keys: D/P0 is covered by the key lock function. Keys (not D) & volume: Volume control is covered by the key lock function. All keys & volume: D/P0 and the volume control is covered by the key lock state. Note: PTT can always be operated in the key lock state.
Min Volume	This function sets minimum volume when volume knob is covered by Lock Support . OFF: Volume level is locked to the level prior to lock. 1-9: The minimum volume level when volume knob is locked.
PTT Timeout	A timeout value for automatic de-activation of the PTT button can be set up using this parameter. If activated the PTT button shall be re-invoked after the timeout period has elapsed. NEVER: Function is disabled. < Timeout value >: The requested timeout value can be selected amongst the available selections.
Monitor	This function is used when accessory (headset, fist mike, etc.) is connected to the radio. It controls the audio output devices. OFF: Received signal is only audible in the connected accessory. ON: Received signal is also audible in the transceiver speaker (monitor). Please note that the channel in this situation will not be announced in the speaker of the radio although the channel read-out feature is enabled.

Settings	Description
Split Microphone	<p>This function is used when accessory (headset, fist mike, etc.) is connected to the radio. It controls the audio input devices.</p> <p>OFF: If this option is de-activated, the external accessory microphone is selected as audio input device regardless of which PTT button (transceiver or accessory) is pressed in the system.</p> <p>ON: If this option is set, the external accessory microphone is selected as audio input device when the external PTT button is pressed, and the transceiver microphone is used as audio input device when the transceiver PTT button is pressed.</p>
Power Reduction	<p>The radio can automatically reduce transmitter power if the battery voltage drops below critical level, or if the power amplifier has reached critical high temperature. The radio display will inform the operator if transmitter power has been reduced.</p> <p>ENABLE: Transmitter power may be reduced to protect e.g. battery life.</p> <p>DISABLE: Transmitter power reduction under critical conditions is disabled. If this mode is selected the radio will continue normally on full power, with the result of a reaching potential empty battery state sooner, where no transmission is possible.</p> <p>NOTE: The transmit power reduction function is reset each time PTT is released.</p>
Scrambler Custom Code	<p>If the scrambler option is used, it is possible to select amongst 5 default scrambler codes, and a custom code. The custom code is defined as a number between 100 and 16300 (best audible result is achieved using number codes between 1800 and 5500). One or more radios with identical custom codes can use this code as a unique scrambling key.</p>

Click on **Store to radio** to store configurations to the radio.

3.6 Radio upgrades

See section 2.6 (VHF).

Installation

This chapter will describe the flow for installing and configuring the required components on a service PC to get the service tool up and running.

4.1 Before installation

Before any installation is commenced, the latest software distribution should be acquired from www.cobham.com/satcom. The following are relevant downloads:

- This manual (PDF document)
- Sample SAILOR Portable Radio Service Tool Package (zip-file). This package contains:
 - Latest radio software for all Portable Radio products
 - Service Tool software
 - Default configuration files for all radio models.
 - Latest Service Software manual
 - Driver for the USB defined COM ports

The downloaded file is un-zipped and stored on the service PC's hard disk.

4.2 System requirements

The PC used for the installation should have the following minimum capabilities:

- Operating system: Windows 7
- Platform: X86 compatible
- Screen with minimum 1024*768 resolution
- 20 MB free hard disk space
- 256MB RAM
- USB 1.1
- .Net 2.0 framework (part of installation package)

4.3 Service software

The service software is installed on the service PC by using the downloaded **SAILOR Portable Radio Service Tool Package**. Be sure the folder is un-zipped and stored locally on the service PC.

Double click on the **setup.exe** icon from the un-zipped folder and follow the instructions, to update the system.

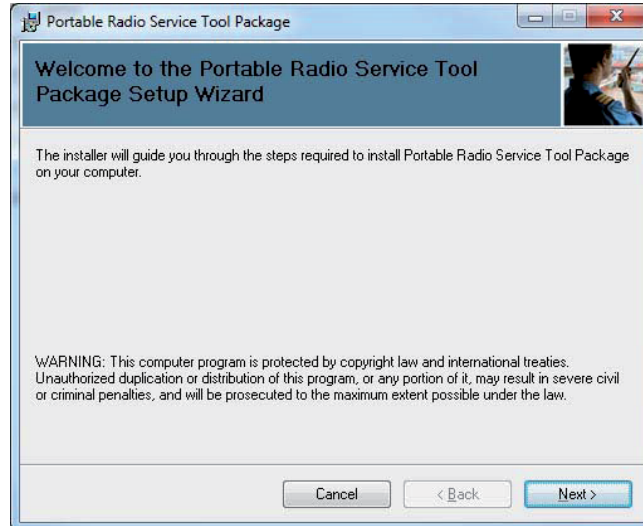


Figure 18 - Install wizard for the service tool.

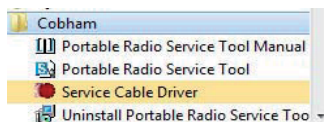
The installer program removes old installations before a new version is installed. Therefore it is not recommended to store personal set-up files in the selected install directory.

The software installation procedure should be executed whenever any upgrades are recommended in the Thrane & Thrane service note.

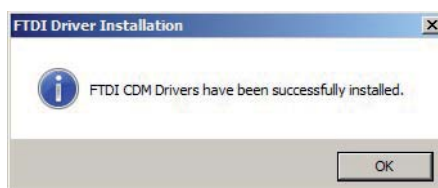
4.4 Service cable

Before the service cable is connected for the first time, the driver for the service cable should be installed. The following procedure is **only required prior to the first time** the service cable is used:

1. From **Start->Cobham**, run the **Service Cable Driver**.



2. The driver will now be installed on the Service PC.



After installation the service cable (USB end) is plugged into a free USB slot on the service PC. The PC should now be able to identify a new USB device.



The PC sets up a virtual COM port, which later is to be used by the Service Tool.

NOTE: The COM port assigned may differ between installations depending on which other COM ports are – or have been – in use on a particular computer.

4.4.1 Ordering information

The service cable can be ordered as shown....

Part number	Description	Driver
403500-958	Service cable for SAILOR SP35xx	www.cobham.com/satcom

From www.cobham.com/satcom all registered distributors can download:

- Latest software release and configurations
- Latest manual

There are no other media for distribution of these products.

Trouble shooting

Symptom	Possible Error	Solution
No connection to radio.	Radio is not switched on.	Turn on the radio and ensure the service cable is firmly attached.
	COM port is not configured correct.	1) Check the system settings on your computer to verify which COM port number is defined for the service cable. 2) Ensure that the COM port selected on the front page is the same as identified above.
Radio does not start up correct after configuration.	Test mode.	Disconnect service cable and power cycle radio.
Radio configuration wrong after a software update.	Incompatible configuration files.	Either try to perform a software upgrade or a default configuration.
Radio upgrade failed, and the Service Tool can not communicate with the radio.	Program is erased in radio.	Switch the radio on while the buttons SQ and 16/C is pressed (the radio will go into boot mode).
	The service cable was probably disconnected, or radio switched off during the upgrade process.	In the Service Tool, select the appropriate COM port under the System tab (don't wait for connection). Select upgrade tab and re-program radio. If the problem persists, restart Service Tool and repeat procedure.

