OPERATION MANUAL

SB5006 Service Tool

Thrane & Thrane

Introduction

The SB5006 is a service tool used for maintenance and configuration of the VHF 5000 equipment. The tool provides a standardized HTML based access from a PC to configuration areas in the VHF radio and peripheral devices.

Note: The tool can be used for VHF 5000 series equipment only.

The service tool is delivered with the following components:

- The SB5006 Service box (part no.: 8050060007)
- A crossed Ethernet cable (part no.: 77.154)
- A SPARC II connection cable (part no.: 56.111)

Before using the service tool for the first time, it is strongly recommended to read this manual and familiarize with the terms used in it

Notice: There may be some minor differences in the graphic layout of the product in the manual compared to the actual physical unit.

Abbreviations used in this Manual

ATIS	Automatic Transmitter Identification System
BI	Channel mode when sailing on European rivers
CU	Control Unit
DSC	Digital Selective Calling
LAN	Local Area Network
MMSI	Maritime Mobile Service Identification
RX	Receive/r
TX	Transmit/ter

Please note

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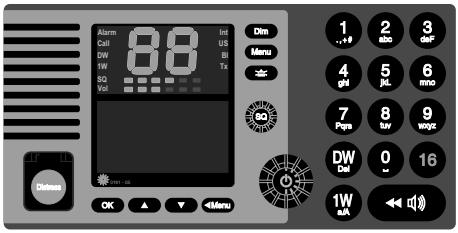
Contents

1 The Devices that are Subject to Configuration and Maintenance with the SB5006 Service Tool

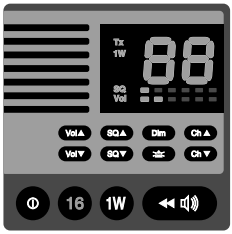
This service tool is equally well suited for use in the workshop, as well as for on-board configuration and maintenance of the VHF 5000 series products.
With the SB5006 it is possible to configure the devices described in the following:

VHF 5000 series radio



- Updating to new software versions.
  A single file containing everything is distributed.
- Configuration
  - Change MMSI number
  - Change ATIS code (inland waters only)
  - Program channel mode for specific regions (International, US, BI)
  - Configure AUX relays
  - Programming of private channels
  - Program contact list
- Workshop Service/Maintenance
  - Program scan behaviour
  - Program serial number after repair
  - Simplex or duplex profiling after repair

CU5000 remote control unit



- The remote unit CU may be updated with new software.

SB5006 Service tool

- The Service tool itself can be updated with:
  - New software
- The service tool may be configured with:
  - New IP address
  - Subnet address
  - Default gateway address
  - Ethernet speed
  - IP assignment method
  - SPARC II communication settings
  - (Logical name settings)

2 Physical Connection

The SB5006 is physically connected to the VHF equipment via the SPARC II bus. The VHF radio is powering all components – including the SB5006 - via the SPARC II bus connection, and must always be powered when operating the service tool.

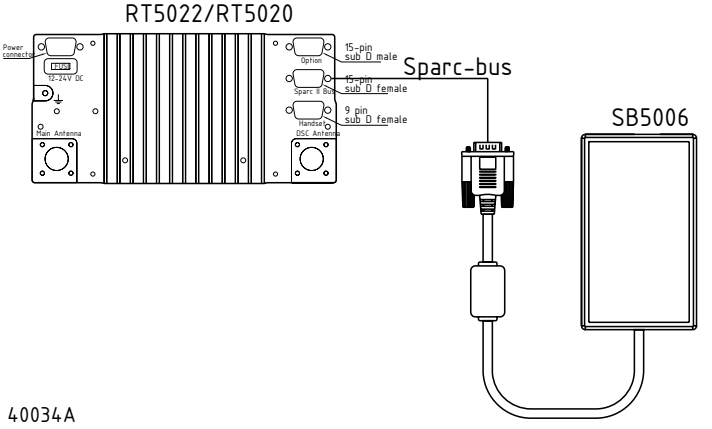


Figure 2.1: The SB5006 service tool is connected to the VHF 5000 Series radio directly with the SPARC II cable (15 pin Sub-D) delivered with the SB5006 service tool.

The SB5006 may be connected directly to the SPARC II bus connector at the rear of the VHF (see Figure 2.1).

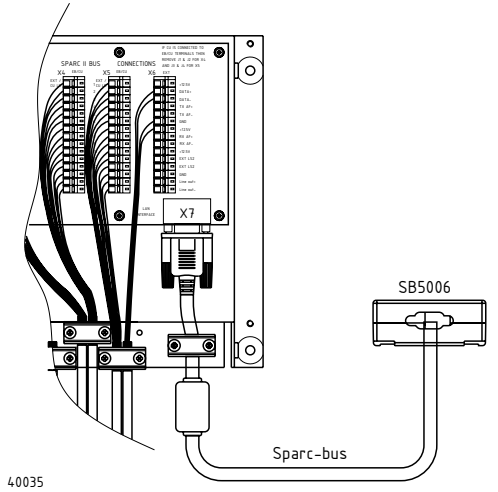


Figure 2.2: The SB5006 service tool is connected to the VHF 5000 series in a fixed installation using the connection box instead.

Alternatively the SPARC II bus is accessible at connector X7 in the connection box, if installed (see Figure 2.2).

Note: Before connecting the SB5006 to the VHF system, power down the VHF radio.

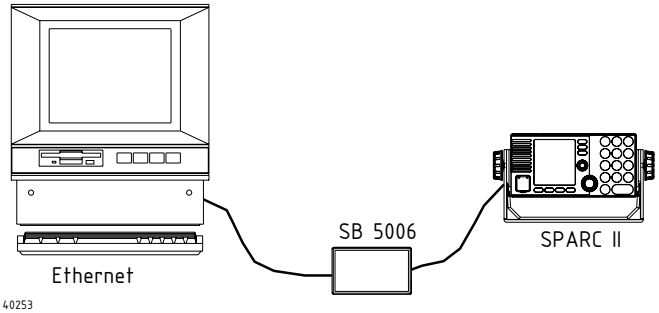


Figure 2.3: A fully connected system with the service tool.

The connection of SB5006 to the service PC is done using the crossed Ethernet cable (delivered with the SB5006).

2.1 Physical Connection for CU5000 Software upload

Software upload to a CU5000 in an installation requires data connection to a particular CU5000 being established exclusively, i.e. the SPARC II bus data lines for all other units on the bus must be disconnected during this upload process. This includes the VHF itself, the AP4365/AP1003 Alarm panel, if installed and a second CU5000, if installed (this second CU5000 may simply be switched off during the upload process). See also fig. 2.4

Note: Remember to restore connection, after the uploads have been made and verify system operation.

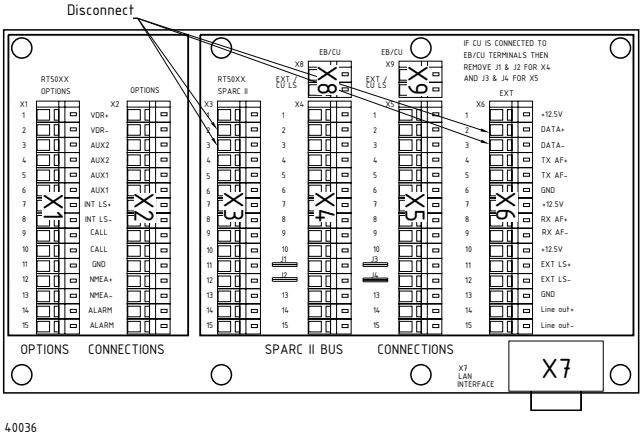


Figure 2.4: Inside view of the CB5009 connection box. Lift/disconnect the lines DATA+ and DATA- (X3 pin 2 and 3) in the terminal connecting any device not being part of the update e.g the VHF radio and the optional Alarm Panel, as indicated.

2.2 Alternative Connection

In fixed installations where only an extension box (EB5008) is used a cable may be made up to provide access to the SPARC II bus through the EB5008 X2 terminals (refer to Tabel 1). This cable is not part of the SB5006 service toolkit.

VHF SPARC-II connector 15-pin D-sub female	Signal Designation	Cable p/n 56.114	Extension box terminals
Pin1	12.5VDC+	Red/White	X2-1
Pin 2	DATA_+	Yellow	X2-2
Pin 3	DATA_-	Yellow/Black	X2-3
Pin 6	GND	Orange/Red	X2-6
Pin 7	12.5VDC+	Orange/White	X2-7
Pin 10	12.5VDC+	Black/White	X2-10
Pin 13	GND	Black	X2-13

Tabel 1: If you do not have access to a 15 pole D-Sub SPARC II connector in the installation, a cable can be created to get access to the terminals in the extension box. The table shows only the necessary connections.

SPARC II cable P/N 56.114 may be used for this purpose cutting back wires not used (refer also to Tabel 1).

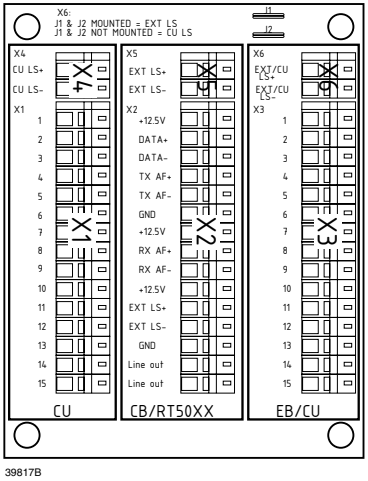


Figure 2.5: Inside view of EB5008 extension box

3 Using the Service Interface

Once the cable connections between the VHF equipment, the SB5006 Service tool and the PC has been established, call up the HTML browser and type the IP address defined for the Service tool (factory set default http://169.254.86.86 or lanbox) in the address field. The Service Interface index page should appear (see Figure 3.1).

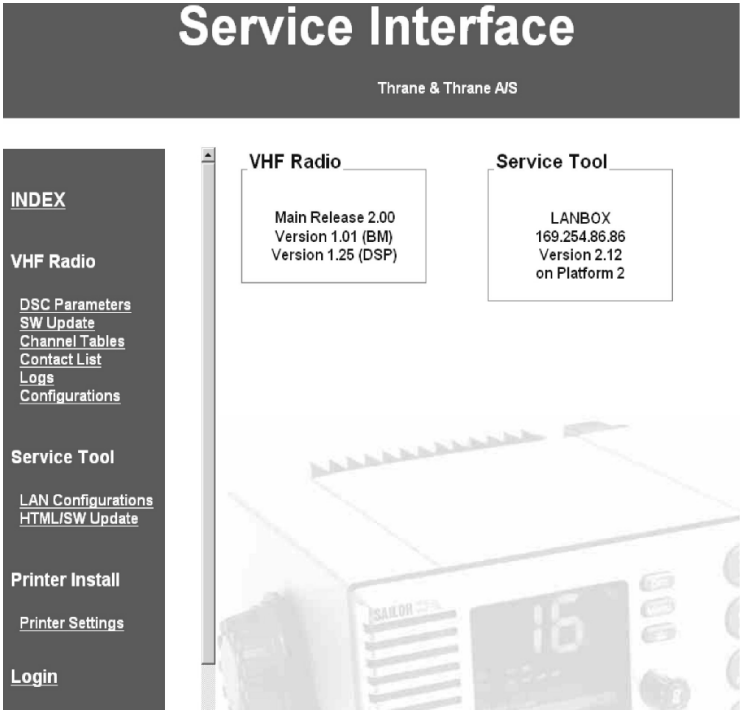


Figure 3.1: The index page is the common link for the service tool user interface. The index page is the menu list in the left area, always available regardless of the page loaded.

The page shown is the front page that will always be displayed when “lanbox” or numeric IP address is entered in the browser address field, or when the system reboots after a software upload.

The “VHF Radio” field contains the following information of the VHF 5000 series radio:

- Line 1 – Software Main Release version
- Line 2 – Boot monitor version (only pre-programmable from factory)
- Line 3 – DSP code version (sub-version of the main release)

This information is also available from the menu system in the radio. If the version information does not appear in the “VHF Radio” field after 20 seconds, the connection may have been lost. Please refer to Appendix – Troubleshooting.

The “Service Tool” field contains the following information of the SB5006:

- Line 1 – Current logical name
- Line 2 – Current IP address
- Line 3 and 4 – Software version

The service tool user interface is created as a collection of individual HTML pages managed by a HTTP server in the SB5006 service tool. The HTML pages that form the service tool user interface are distributed between the SB5006 service tool memory and the VHF radio memory.

The pages residing in the service tool are general pages. These pages can always be reached even if the data connection to the VHF radio is lost.

Pages that are used for direct configuring of the VHF are physically placed in the VHF memory. This is to ensure the pages always match the current version of the radio software.

No other components in the system (e.g. CUs) hold HTML service pages.

Selecting a page by clicking one of the available buttons/links on the current page, will request the page from its physical location, request any parameter values that correspond to the page, and display the page in the browser.

The physical communication interface between the SB5006 and the VHF radio is 9600 Baud (some pages may take a while to load). While the page and values are fetched from the radio the activity is indicated in the bottom of the browser window.

Note: It is recommended to wait for the currently requested page to appear, before another page is request.

Figure 3.2: Activity indicators

4 Use Scenarios

This section describes the users interactions required to configure the VHF 5000 series system.

4.1 Configuration Level

The SB5006 service tool is only required for dealers/service workshops that are required to do service and/or configuration of VHF 5000 series systems. The service tool is not compatible with other Sailor VHF products (such as VHF2000, VHF3000 and VHF4000 series).

4.1.1 Setting DSC Parameters

Selecting the **DSC Parameters** menu item on the left side of the index page will bring up the following page:

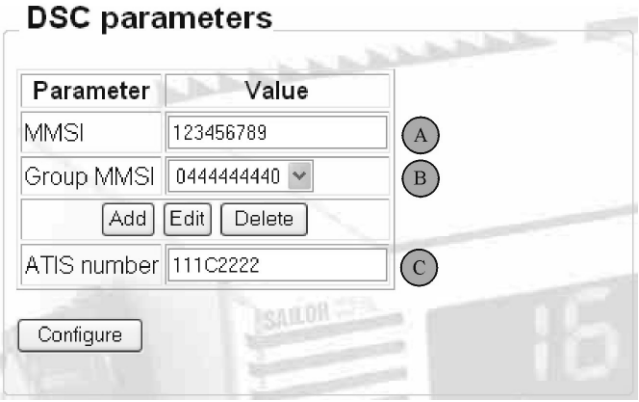


Figure 4.1: DSC relevant parameters.

A - The MMSI number can be changed any time just by entering a new number in the MMSI field. The following values are valid for MMSI number entry:

- Enter the 9-digit MMSI number.
- Enter a 10-digit MMSI number, where the 10th digit is a sub-address digit that can be used to distinguish between multiple radios on the same vessel (range: 0-9).
- Clear the MMSI by removing all digits. Allows the user to program a new MMSI number one time only from the radio front.

B - Up to 10 MMSI group numbers can be programmed (added, edited or deleted) from the Group MMSI section. The radio will respond to group calls addressed to one of these numbers.

C - For radios configured to inland waters (BI) operation, an ATIS code must be applied. The ATIS number is entered or cleared by simply typing or deleting it from the ATIS number field.

Example: A Dutch (MID-number 244) ship with call sign SP1234, should be programmed with the following number (letter digit must be capital):

244P1234

4.1.2 Software upload

If new software releases are made available from Thrane & Thrane for the VHF 5000 series system, such a software file will be made available for download from the Thrane & Thrane extranet.

To perform the software update the downloaded software file must be stored on the PC connected to SB5006.

Click the **Update software** menu item in the left area of the index page.

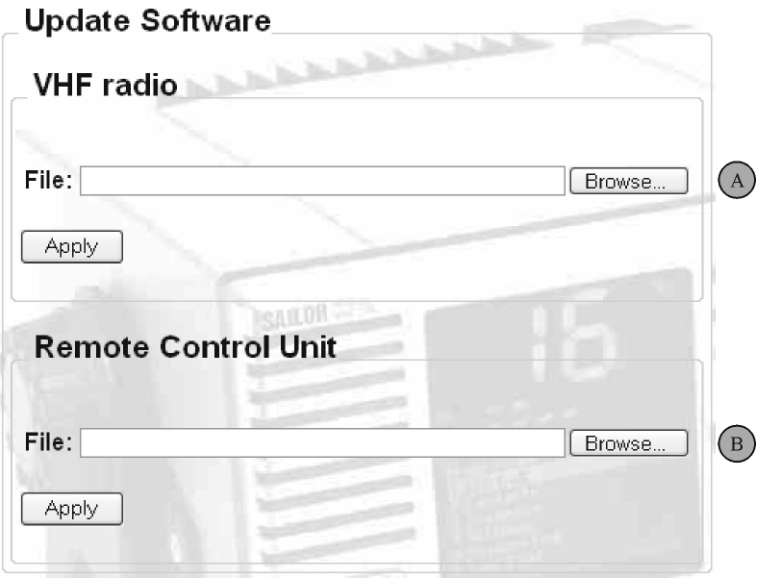


Figure 4.2: The Update Software page is physically located in the SB5006.

A – The VHF software file is simply programmed by clicking the **browse** button, select the acquired file and click on **Apply.**

Note: Any CU5000 in the system must be turned off during VHF software upload.

During the software upload sequence the VHF radio will indicate the software upload progression by a pattern in the VHF channel display (Figure 4.3).

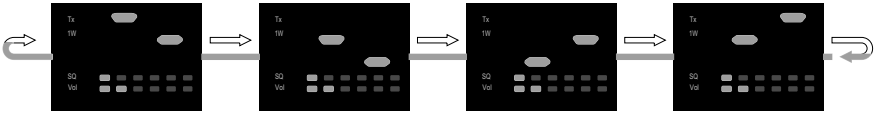


Figure 4.3: Indication of correct software update process.

The volume and squelch indicators are used as progress status bars for the upload.

After correct upload of the software file, the radio will re-boot automatically. The new software version should show on the index page, and it is strongly recommended that this be checked to verify correct and successful upload.

If, for any reason the software upload process is interrupted, the VHF radio will indicate the upload failure by the following pattern in the channel display:

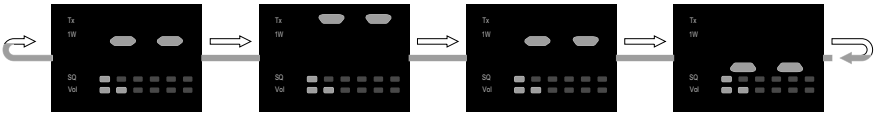


Figure 4.4: Display indication showing the VHF has not been programmed. Error indicating programming has failed.

In this situation simply repeat the upload procedure described above.
Hint: Leave browser open while powering off/on. Wait for a while and press only on SW Update link. Continue with software update.

B – The service tool is prepared for upload of the software to the CUs also. The CU software cannot be uploaded in a fully connected and operational system. Its is necessary to ensure that the data connection is established solely between the SB5006 and the CU5000 subject to software upload before the upload is performed (see description in section “Physical connection for CU5000 software update”).

1. Power off the VHF radio
2. Make the necessary connections and disconnections as indicated in Figure 2.4.
3. Power on the VHF Radio
4. Power on the CU5000 to update
5. The CU5000 will indicate its missing connection to the radio with the following in the channel display:

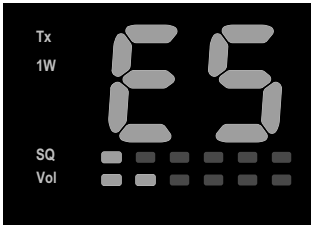


Figure 4.5: CU Error-SPARC indication, which is expected and correct if disconnected from the radio.

6. The upload procedure to be followed is the same as for the VHF file upload. **Browse** for the applicable CU file on your PC and click on **Apply**.
7. During the upload process the following is indicated in the CU display:

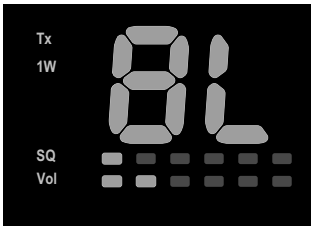


Figure 4.6: CU Boot-Load indication.

8. After a few seconds (~20) the software is uploaded and the display will return to the ES indication (when upload succeeded).

The CU software version is not displayed on any HTML service pages, but can be verified via the following procedure:

1. Turn off the CU.
2. Hold down Dim and Ch ▲ while turning the CU on (pressing ⏻).
3. The SW version is shown in the display (as long as ⏻ is pressed).

Note: Remember to restore all physical data connections in the connection box after all uploads have been successfully applied.

4.1.3 Channel Tables and private Channels

The pre-programmed channel regions in the radio - international, US, inland waters (BI) and Canadian areas - may be enabled from the service tool user interface (see operation manual for channel list). From factory only the channel mode for International and US is enabled.

If an extended set of channels is required for a specific region, this must be configured using the **Channel Tables** menu from the index page.

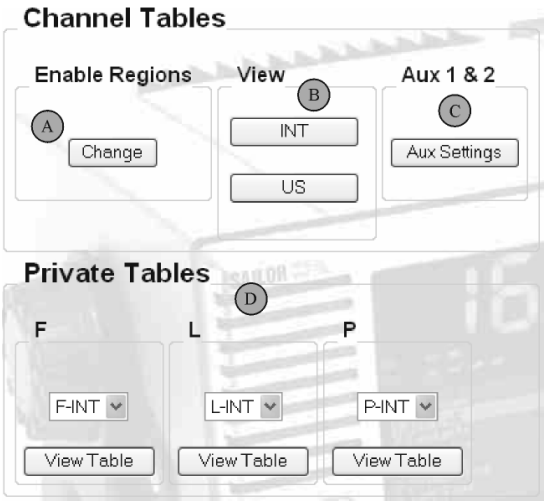


Figure 4.7: All changes in channels and channel settings are initiated from this page.

A - Clicking the **Change** button in the “Enable Regions” field will bring up the following window:

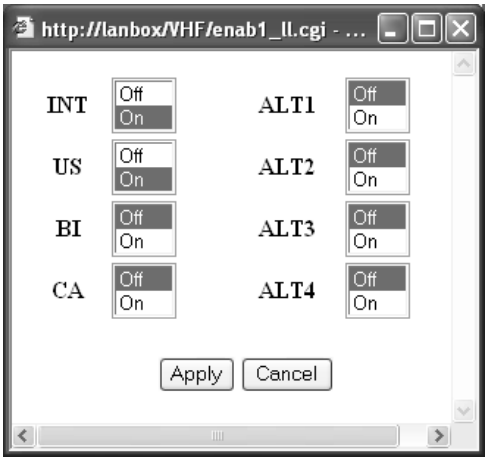


Figure 4.8: Select region(s) and click on Apply to enable the selected channel regions in the product.

It is possible to enable the 4 pre-programmed channel tables for selection from the VHF Radio menu. Another up to four unspecified channel tables (default denoted ALT1-4) may be defined for use in special regions not covered in part or whole by the pre-defined standard tables. Having enabled one or more channel tables (regions) this/these will appear in the Channel Table page “View” field (see Figure 4.7).
B – The channels and their properties for a specific region can be viewed by clicking on one

of available buttons appearing in this area.

The 4 alternative channel tables are empty by default and one or more must be programmed as required. In the Channel Table page “View” field click the button corresponding to the table enabled, which will call up the window in Figure 4.9.

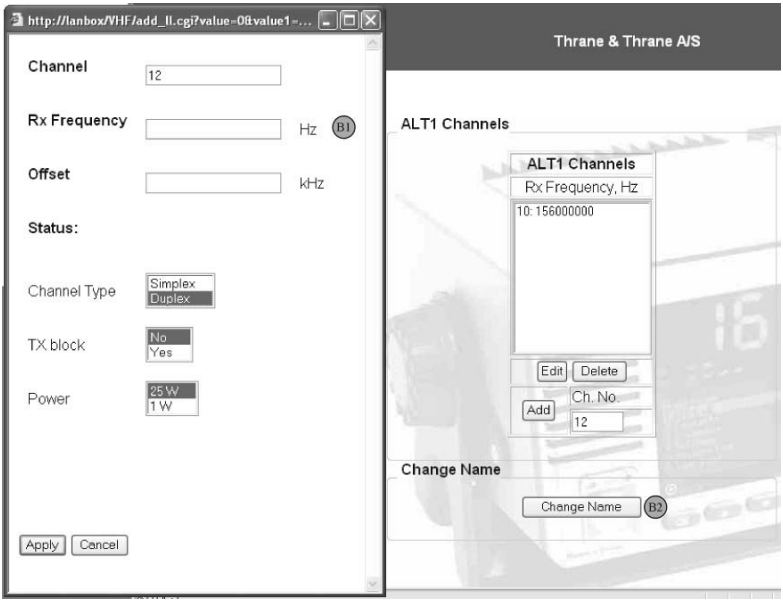


Figure 4.9: Example of defining one of the alternative (ALT1-4) channel tables. The channel number 10 is already defined and the duplex channel number 12 is about to be defined.

B1 - Only legally licensed channel frequencies may be entered. The VHF radio will only accept frequencies that are multiples of 12.5 kHz (frequency snaps to next multiple of 12.5kHz).

- **Channel** – The channel number indicated on the front for that channel (0-99).
- **Rx Frequency** – Is the channel’s receive frequency specified in Hz.
- **Offset** – If a duplex channel is required, the offset between the Rx and Tx frequency is defined (as a positive value in kHz) in this field. Tx frequency + **Offset** = Rx Frequency. The standard duplex offset is 4,600 kHz.
- **Channel Type** – Simplex (ship-ship) or duplex (shore-ship) channel.
- **TX block** – Selecting Yes in this field will make transmission impossible on that channel.
- **Power** – If 1W is selected transmission will only be possible with output power <1W.

Invalid combinations of channels and offset can be entered, but the radio will not be able to set up channels outside the legally licensed band, and will subsequently display an error (E is shown in VHF channel display).
B2 - It is possible to change the appearance name for the alternative channel tables with the use of the **Change Name** button.

C (Figure 4.7) – For each channel that can be selected (shared amongst any country mode)

two relays can be controlled. The relay terminals are available from the option connector. The relay operation can be individually attached to channels. Clicking the “Aux Settings” button will show the following window:

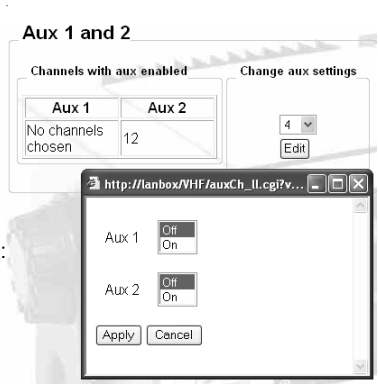


Figure 4.10: Example: Relay AUX2 will activate when ever channel 12 is selected on the VHF radio. The operator is about to edit settings for channel 4.

D (Figure 4.7**)** – Private channels (3 x10) can be defined for each country mode (appearing as F, L or P channels).

Note: If a special private channel is required to be available in e.g. international and US mode, that channel has to be programmed in both international region and US region.

The same possibilities and restrictions for frequency entry as described for optional channel tables apply for private channels. Only difference is that AUX relay settings are handled locally for private channels.

Selecting a private channel table from one of the enabled regions (click **View Table** in Figure 4.7) will bring up the window shown in Figure 4.11.

Note: The radio is pre-configured from factory with 10 weather channels in US mode (programmed on P0-P9), and with 3 weather channels in Canadian mode (P0-P2). This reduces the number of free private channels accordingly for these two channel regions.

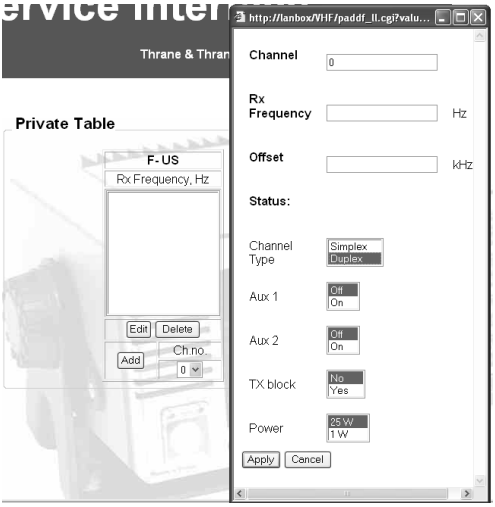


Figure 4.11: The private channel F0 for US mode is about to be defined in this figure.

4.1.4 Contact List

The contact list is activated from the index page. All features described is also available from the VHF Contact list menu.

The **Contact List** menu item will bring up the page where phone book entries can be individually programmed. How to make a complete copy of a phone book from one radio to another, is described in the Save/Load Config section.

Up to 200 entries can be stored in the contact list.

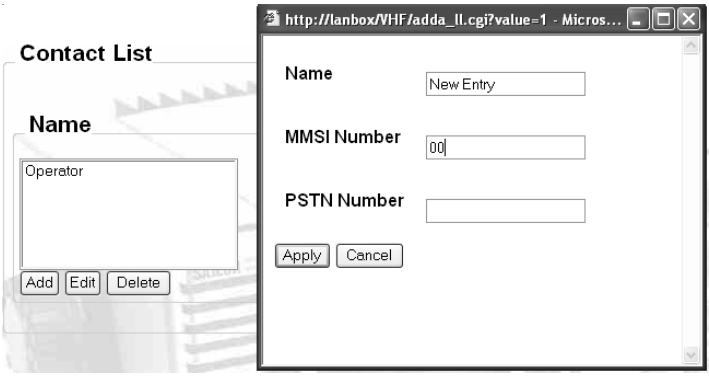


Figure 4.12: This example shows a contact list with a single entry, and a new contact is about to be entered.

Avoid characters or spaces in any of the MMSI or PSTN number fields. Such are not accepted.

4.1.5 Logs

System Logs can be read out on the graphic display on the radio. The logs are also available from the service tool user interface (click on the **Logs** menu on the index page), where they can be read out, stored and reset/deleted. The required log is selected in the list of logs, and the **Load log** button is clicked. The selected log is read out on the bottom of the page along with the available actions applicable to that log.

An example of a log is shown below. The action that may be taken on this log is to delete/ reset all counters. Logs can only be reset using the service tool.

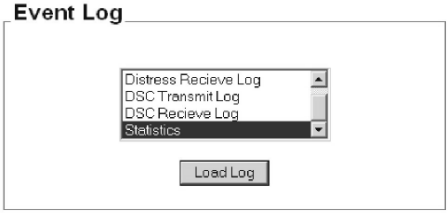


Figure 4.13: Example of a log: Statistics log.

4.1.6 Radio Configurations

The SB5006/VHF 5000 series software allows for easy duplication of configuration data and settings from one VHF 5000 series radio to another.

The configuration is f.ex. set up on one radio. Using the SB5006 tool, configuration for that radio can now be saved in a file on the service PC. Consequently, this file can now be used to copy the radios configuration data to another VHF 5000 series radio.

This configuration management is initiated from **Configurations** on the index page:

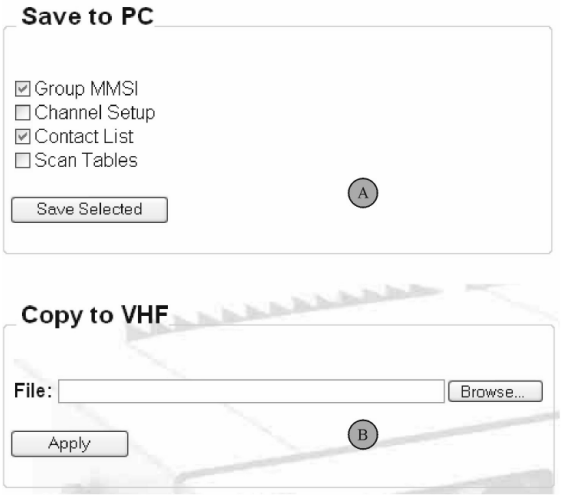


Figure 4.14 :Configuration management page.

A – To save configuration from an RT5022/RT5020 to a file on the PC first decide what shall be saved. It is possible to select 4 categories of configuration parameters to be saved:

- **Group MMSI** – All group MMSI numbers
- **Channel Setup** – All that can be configured from the Channel Table page, such as private channels, etc.
- **Contact list** – All entries in the phone book.
- **Scan Tables** – The programmed scan tables

Check the categories needed and these will be saved in a single file upon save. Click on **Save Selected**, and you will be prompted for a filename on your PC to store the parameters.

B – To update an RT5022/RT5020 with configurations saved in a file, simply browse for the file on the service PC, and click on **Apply**. When configuration has been copied to the VHF, we recommend the radio is power cycled before it is used with the new set-up.

4.1.7 LAN Configuration

Clicking the **LAN Configuration** menu in the index page will lead to the configuration page shown below.

The settings on this page are supporting most PCs used for service. Changing the settings is mostly used to gain logical connection to the LAN board in installations where special Ethernet requirements apply.
As the nature of the requirements may vary in different situations no recommendations are given in this section. Please refer to the logical connection chapter.

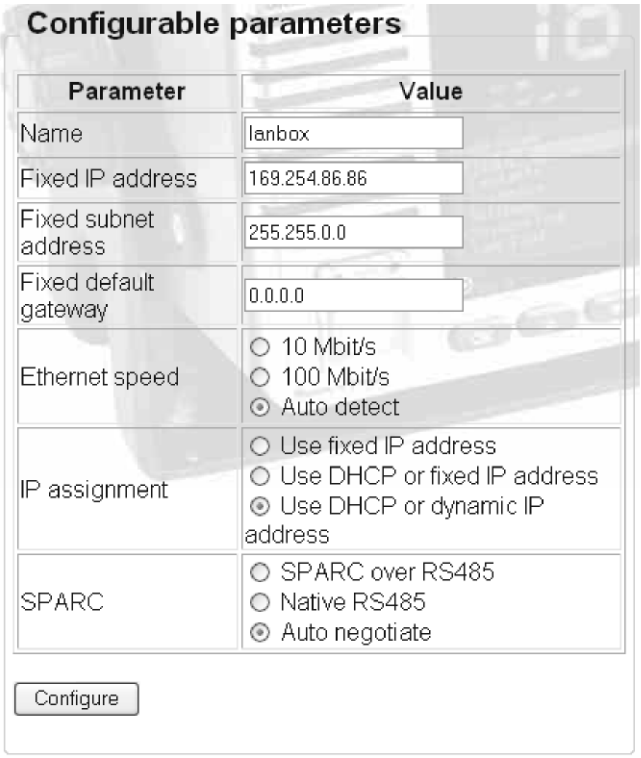


Figure 4.15: Default settings for the SB5006 service tool.

A – For normal use the **Auto negotiate** bullet should be checked.

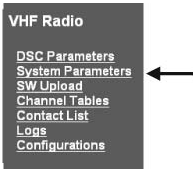
4.2 Service Level

This level defines a restricted area for setting of system parameters that is usually only required following specific repair actions applied to the VHF radio or if special setting of certain system parameters is required. Accessing the restricted area subsequently allowing for the possible changing of the system parameters, should be done only after careful considerations.

All data, configurations and settings that exist in the radio reside in the base band control board FLASH memory. If the base band control board has been replaced with a new board in the radio it is necessary to re-establish the radio identity. Having re-established the radio identity it is further necessary to review/configure data described in the section “Configuration level”.

The **System Parameters** page is password protected. Click on the **Login** menu item on the index page. Type the password and click on **login**.

Figure 4.16: Login page. Gain access to extended settings.



The **System Parameters** menu item is now added under the VHF Radio group:

The password for the SB5006 service tool is:

S5000ACC

4.2.1 System Parameters

Clicking the new **System Parameters** item will bring up the following page:

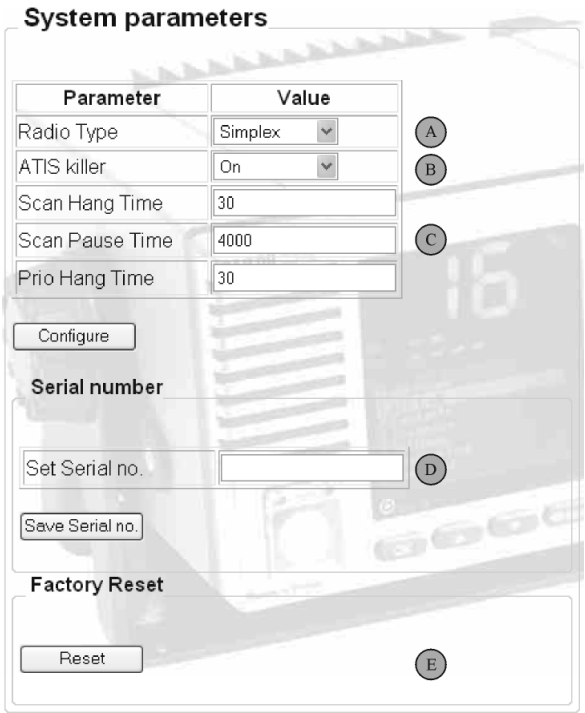


Figure 4.17: Content of the system parameter page.

A – The radio type can be either Simplex (RT5022) or Duplex (RT5020 – with built in duplex filter).

B – The ATIS killer is used in Inland Waters channel mode. If ATIS killer is ON the ATIS code will be muted in the speakers. If the ATIS killer is set to OFF, the ATIS code will be heard and can be used for decoding purposes in external equipment.

C – The settings that are controlled with these three parameters are related to scanning only (default settings are displayed in the Figure).

- **Scan Hang Time**. The time the scanning algorithm will stay on a channel (different from the priority channel) after the carrier has disappeared. Range: 30-5,000 (ms).
- **Scan Pause Time**. The time the scanning algorithm remains on a channel (different from the priority channel) with an active signal, before moving to the next channel in the scan table. Range: 1,000-20,000 (ms).
- **Priority Hang time.** The time the scanning algorithm will stay on the priority channel after the carrier has disappeared. Range: 30-5,000 (ms).

Items **A**, **B** and **C** are updated when entered by clicking the **Configure** button.

D – The unit serial number is entered and saved clicking the **Save Serial no**. button.

Note: The serial number is only programmable once, and must be programmed to the same number as labelled on the radio. The serial number will eventually be used to enable add-on software features in the future.

If the serial number has been programmed the field turns into a read-only field.

E – If, for any reason, a VHF radio needs clean-up in the configuration area, **a click on the button in the Factory reset field followed by acceptance of the erasure will erase all configuration data to the factory default values**, except for the serial number that cannot be erased. That is:

- DSC parameters, including MMSI number
- System parameters
- Channel settings, including configured weather channels
- Contact list
- Logs and statistics

4.3 Printer Configuration on an LB5007 LAN Box

The RT5022/RT5020 supports a printer to be connected for printing of DSC logs. Please refer to the Sailor VHF 5000 series workshop manual for installation details.

The printer configuration procedure is presented in this manual because the internal software and hardware of the SB5006 and LB5007 is identical. This means you should connect the service computer into the LB5007 Ethernet connection while configuring the printer server.

Bring up the printer configuration page clicking the **Printer Setting** link on the index page.

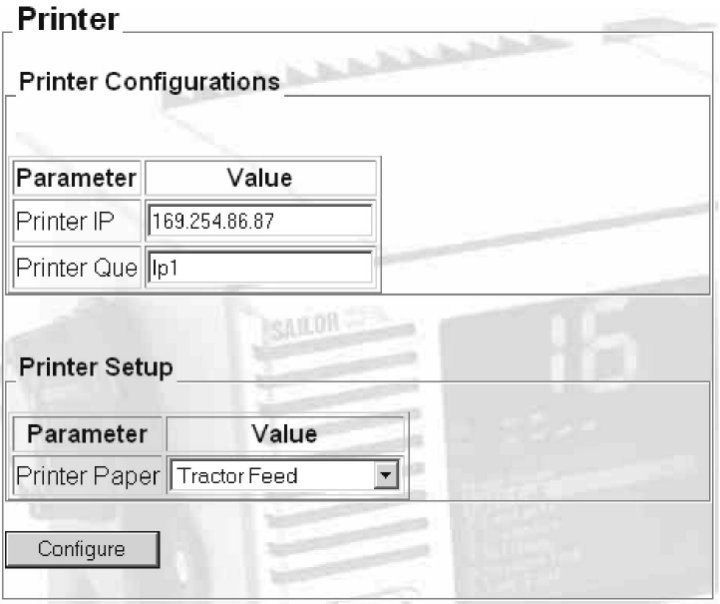


Figure 4.18: Printer configuration

The LB5007 need to be configured with the following:

- **The printer server IP address** – Refer to the printer server manual on how to find this address.
- **The printer queue name** – Please refer to the printer server documentation.
- **The paper type** – Tractor feed or single sheet.

After configuration disconnect the service PC connection and connect the printer server with LB5007. Power up the system and execute a printer test.

NOTE: Programming the SB5006 service tool with these printer values has no effect.

5 Appendix – Troubleshooting

This appendix provides an overview of considerations and set-ups when would probably be required to do only once, or if any problems are experienced with the service tool.

5.1 Preparing the Service PC

Any PC (stationary or labtop) can be used. with an net card. The PC should be operating with a Windows 98® Service pack 1 or later (e.g. Windows NT®, Windows XP®). The SB5006, at the moment, is only verified to work with Internet Explorer 6.00. It may be necessary to allow pop-ups in case the browser is set up to block pop-ups.

To speed up name resolving on the network when using fixed addresses in systems without DHCP name servers, add the assigned IP address and the logical name to the following file (Windows XP® example): C:\WINDOWS\system32\drivers\etc\hosts.

Using a text editor (e.g. Notepad), the following line is added at the bottom of the file:

169.254.86.86 lanbox

If neither the default name nor the default IP address is used for the SB5006, the line is changed accordingly.

5.2 Connecting the PC

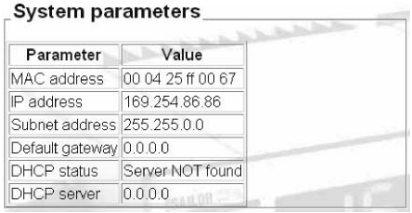
The connection between the PC and the SB5006 must be done using the crossed Ethernet cable. Alternatively, if operating in an office environment, an Ethernet HUB can be used, in which case the HUB does the terminal-terminal crossing inside.

Note: The SB5006 service tool is not qualified to operate directly on the internet, so do not plug it into an open internet connection. The router to the internet would probably not allow this anyway.

5.3 Logical Connection

When the physical connection has been established the logical connection can be established. Depending on the network environment it may be necessary to configure either the PC local area network or the SB5006 LAN configuration.

Figure 5.1 displays the default system parameters.


System parameters

Parameter	Value
MAC address	00 04 25 ff 00 67
IP address	169.254.86.86
Subnet address	255.255.0.0
Default gateway	0.0.0.0
DHCP status	Server NOT found
DHCP server	0.0.0.0

Figure 5.1: The current parameters are shown on the LAN Configuration page (click the LAN Configuration link in the index page).

The IP adress can be changed to fit any other local network. When changing the IP address the connection from the PC to the service tool may be lost. The IP address can be read out from the VHF radio via menu **4.6.2.3.**

The network settings on the computer must be set to same logical net as the Service tool. The node number must be set differently from the Service tool. The subnet mask must be the same.

If full flexibility to service a VHF 5000 series system on multiple different networks is required it might be worthwhile installing a separate net card in the PC. Alternatively a USB to Ethernet converter will provide unique access possibilities to SB5006, without considering changing the setup on the PC from time to time.

5.3.1 How can I see or change the PC IP Address?

Example 1

The following example shows a typical user with a PC used as a combined tool in the office, and in out of office service situations. The PC is configured with a single PC card. The browser is set up using auto-detection of IP address resolving with a proxy-server when operating in the office environment. The browser settings will need to be changed as described in the following:

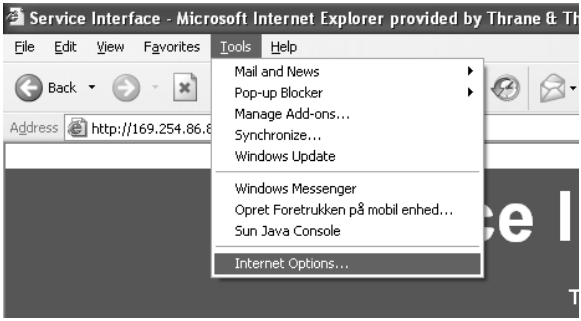


Figure 5.2: Change the browser internet settings.

1. Go into the Internet Options in the browser Tools menu (Figure 5.2).
2. Click the Connections banner (Figure 5.3).
3. Click on LAN settings. The window in Figure 5.4 shows up.

Figure 5.3: Internet options window.

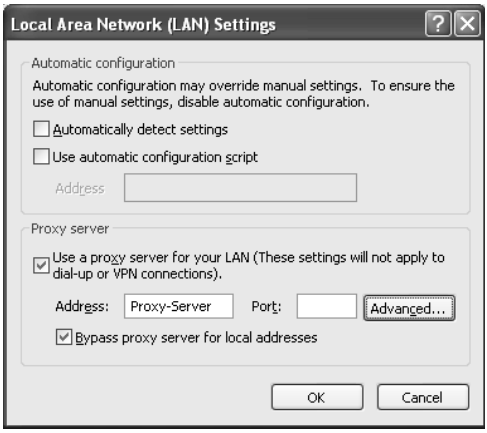


Figure 5.4: LAN Settings window.

4. You can now – if you are solely in connection with SB5006 – un-check the Use proxy server field as shown in Figure 5.5.
5. Or – if you need to co-exist on your office LAN, tell the browser not to use proxy server when the SB5006 is addressed (see Figure 5.6).

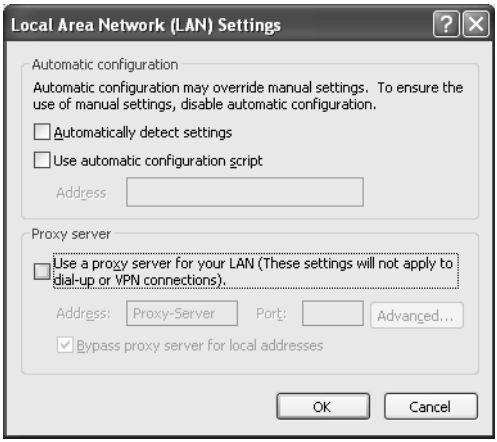


Figure 5.5: Disabling the use of a proxy server.

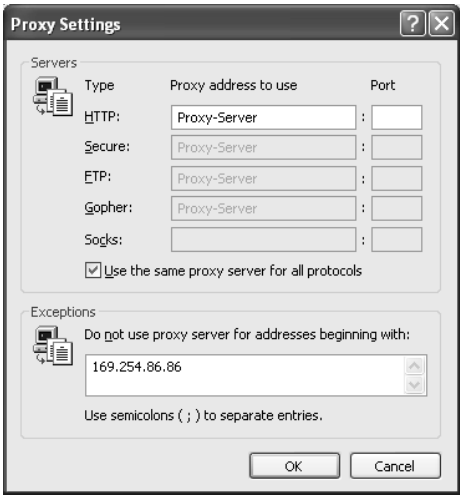


Figure 5.6: Use proxy server, unless the default IP address of the SB5006 service tool is requested.

Example 2

The following example description fits a PC with Windows XP installed, and using a USB to Ethernet converter. The principle will be the same for any other net cards configured.

A PC stores the IP address in the Network Neighbourhood settings. To see the PC IP address, right click on the Network Neighbourhood icon on the desktop. Select Property.

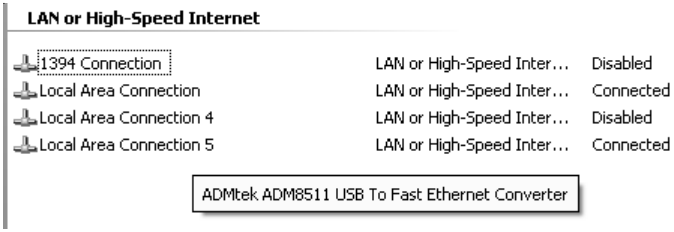


Figure 5.7: The network neighbourhood property form. The USB to Ethernet converter is assigned to Local Area Connection 5.

Double click on the LAN Connection 5, and in the window click the Properties button. The following window appears.

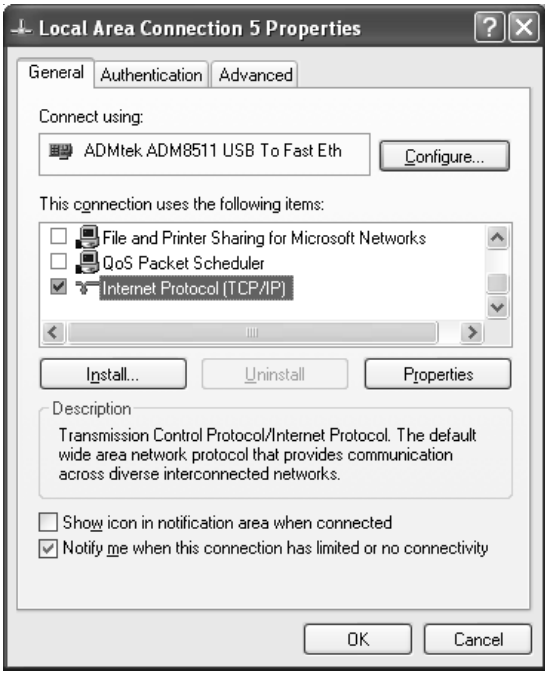


Figure 5.8: Property window for the logical connection LAN-connection 2.

Scroll down the list of network components and select the TCP/IP protocol associated with the card.

Property is selected and the following entries can be made in the form:

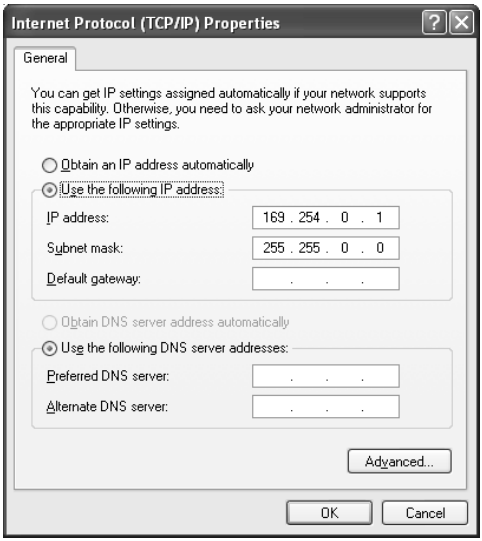


Figure 5.9: A fixed IP address and the subnet mask is entered in this simple system, operating solely as a point to point connection between the service PC and SB5006 service tool.

The computer and SB5006 should now be on the same logical net.

5.3.2 What do I do if the VHF Radio remains in Boot Monitor?

If, for any reason, you need to power off the radio in the boot monitor mode (VHF channel display as in Figure 4.4), and if you are not able to remove main power from the radio, it might be necessary to press the ON/OFF button for a long time without you being able to see any power-off indicators on the screen.

5.4 Service Tool Software update

If a new software release is made available from Thrane & Thrane to support the SB5006 service tool, this may be downloaded as a file from the T&T extranet.

Before initiating the upload process of the software file to the SB5006, the applicable software file must be stored on the service PC harddrive.

Click on the **HTML/SW Update Service Tool** menu on the index page. The following page will appear:

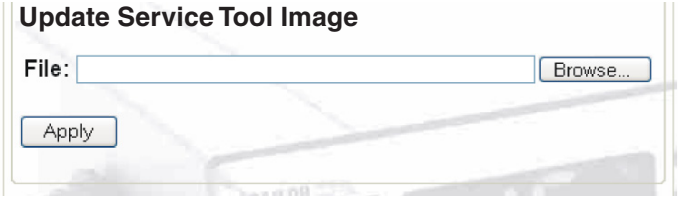


Figure 5.10 SB5006 software upload page. Single pages are also updated via this page.

The file is selected from the **Browse** button and **Apply** is clicked. There will be no indication on the LAN card or on the VHF display, while LAN software update is on-going. Only the progress bar at the bottom of the browser indicates the update.

The software update will take approximately 3 minutes, and will terminate on the index page. The build version is checked in the LAN Box field on the index page.

5.4.1 LAN HTML upload

Typically, all service pages will be bundled as a complete file system. The file system will be released as a directory containing the HTML pages and a programming tool. Programming a complete file system is easiest done using the following procedure:

The released HTML file system directory must be saved on the service PC. Now start the file explorer on the PC and enter the HTML directory. Search for the '*put_all_lanbox*' batch file, double-click the icon, and wait until the command file has executed.

Start the web browser and type 'lanbox' at the address line. The index page should now appear.

Note: The SB5006 software file and the corresponding HTML files are released together. It is a must the HTML page upload is performed each time the service tool has been updated with new software.

6 Known Bugs and Limitations in the Service Tool

This is note applies to the release of Service tools (SB5006) labelled:

LANBOX
169.254.86.86
Version⟨2.XX⟩
on Platform 2

Figure 6.1: Service tool name, IP address and Software version/build.

and the VHF software version:

Main Release ⟨2.XX⟩
Version 1.01 (BM)
Version 1.25 (DSP)

Figure 6.2: VHF 5000 series main release, boot monitor version and DSP version.

This note describes the findings for the versions listed above with RT5022/RT5020 VHF radio.
We strongly recommend the products being updated with the newest software available.

In the following the user experience that are seen during different scenarios is listed.

6.1 Physical Connection Issues

Issue	Description	Symptom	Workaround
Ethernet connection	The PC LAN card and the service tool LAN plug are both designed as computers	No connection acquired to service tool from PC (pages are not shown in browser)	Ensure that a crossed (terminal-to-terminal) Ethernet cable is used, if directly connected to a PC (no HUB)
SPARC II connection	The Service tool is supplied from the radio via SPARC II cable	No connection acquired to service tool from PC (pages are not shown in browser)	Plug in SPARC II cable between the VHF radio and the service tool. Power up VHF radio

6.2 Logical Connection Problems

The items described in this section might relate to the immaturity of the service tool software release.

Issue	Description	Symptom	Workaround
Service tool can loose its configuration data	It has been observed that the Service tool on its own can change parts of its MAC address.	The expected MAC address can change (see also Figur 34). The tool has the risk of temporarily or permanently being excluded from the PC	Cycle power to the VHF radio. Otherwise none.
	It has been observed that the service tool on its own can change its logical name	The service tool will not respond to “lanbox” or whatever configured	Change the name back to the required
Service tool can loose HTML pages	File system bug	It has been observed the Service tool occasionally can loose pages	Update HTML pages in SB5006. Contact technical service.

6.3 Use configuration scenarios

Issue	Description	Symptom	Workaround
VHF Software upload	Failure during VHF SW upload	During upload the radio can end up in boot monitor (two aligned horizontal lines moving up and down)	Perform a new software update.
			If not working cycle power to the VHF radio prior to SW upload
	Boot monitor locks SB5006	If software upload fails the SB5006 can lock when requesting pages in VHF	Leave browser open while powering off/on. Wait for a while and press only on SW Update link. Continue with software update
CU SW upload	CU upload fails and the CU can remain in the boot monitor state.	The CU software upload cannot be re-initiated using the normal procedure.	CU5000 can only be software uploaded using the following procedure: 1. Turn off the system 2. Initiate CU SW upload 3. Turn on CU5000 (before upload page times out - 15 seconds) Or: 1. Turn off system 2. Turn on CU in boot loader (power on while pressing [mute alarm] and [ch down]) 3. Initiate CU SW Upload (while CU boot monitor still is waiting for SW – 45 seconds)
SB5006 software upload	An error is encountered in the SB5006 boot monitor	If software upload to the SB5006 fails for any reason, the SB5006 is damaged	No workaround. Worst case: New card necessary.
	Inconsistency between Service tool software and service tool HTML pages is possible due to a two step programming method	Malfunction of service tool	Ensure the service tool software is updated along with the corresponding service tool HTML pages (released as a whole)