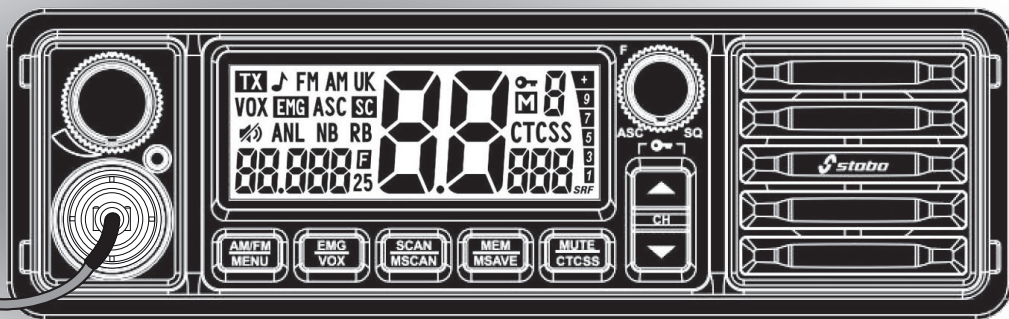


**ASC** Automatic Squelch Control

# **stabo**

xm 3002e VOX  
12/24V



Operating manual

## Intended use

The **stabo xm3002e VOX** is a CB mobile radio for installation in motor vehicles. Together with a suitable power supply unit, the device can also be used as a fixed station.

You have opted for a convenient, top-of-the-range appliance with numerous functions.

## Important information

### Safety notes

Wearers of a pacemaker are strongly recommended to first ask a doctor whether there are any fundamental objections to the use of a radio device and what rules of behaviour should be observed.

Never touch the antenna during transmission!

Before using the device in a vehicle, familiarise yourself with its functions and operation! Never allow yourself to be distracted from the traffic situation by operating the device or by radio calls!

Never transmit without an antenna connected!

Never open the housing of the radio or its accessories and do not carry out any modifications. Only allow qualified persons to carry out repairs.

Modifications or tampering with the radio will invalidate the operating licence and void your warranty!

## Important information

### Safety notes

Prevent children from playing with the radio, accessories or packaging material.

Do not use the radio if you discover damage to the housing or the antenna:

- Get in touch with a specialised workshop.

Protect your radio and accessories from moisture, heat, dust and strong vibrations.

Avoid operating temperatures below  $-10^{\circ}\text{C}$  or above  $+50^{\circ}\text{C}$ .



## Legal requirements

### **Operation of CB radio equipment:**

In Germany and Austria, this device can be used in the configurations d (only in Germany), EU and EC without registration and free of charge.

However, different regulations may apply in other countries: Find out about the current national regulations before using the device abroad! Observe the relevant regulations and any obligation to register. Otherwise you risk severe fines or even confiscation of your radio!

### **Installation of a transceiver in a vehicle:**

For almost all motor vehicles, the manufacturer specifies installation regulations for radios and antennas: therefore, ask your car dealer about the corresponding manufacturer's regulations for your vehicle model. It is essential that you observe these specifications during installation, otherwise the operating licence for your vehicle may be invalidated!

### **Use of two-way radio in vehicles:**

Since 1 July 2020 (StVO), the use of CB radios while driving in Germany is only permitted with a hands-free device or with the vehicle engine switched off. For operating in another country, please enquire about any possibly deviating regulations!

With the hands-free system (VOX) activated, the stabo xm3002e VOX fulfils the requirements from 01 July 2020 (StVO). However, only use your device if the traffic situation allows it.

## **WARNING !**

*Before using, be careful never to transmit without first having connected the antenna (connection "B" situated on the back panel of the equipment) or without having set the SWR (Standing Wave Ratio)! Failure to do so may result in destruction of the power amplifier, which is not covered by the guarantee.*

## **MULTI-NORMS TRANSCEIVER!**

*See function "F" on page 20 and the **Configuration** table on page 35.*

***The warranty of this transceiver is valid only in the country of purchase.***


|  |           |  |           |
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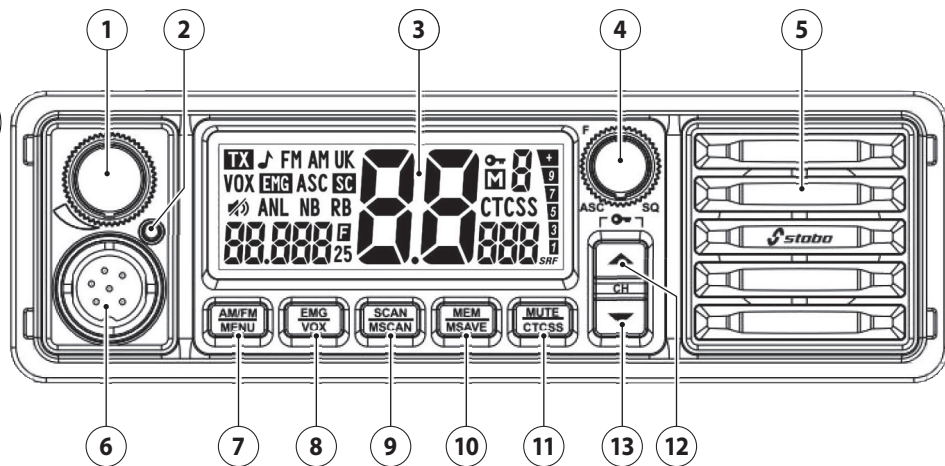
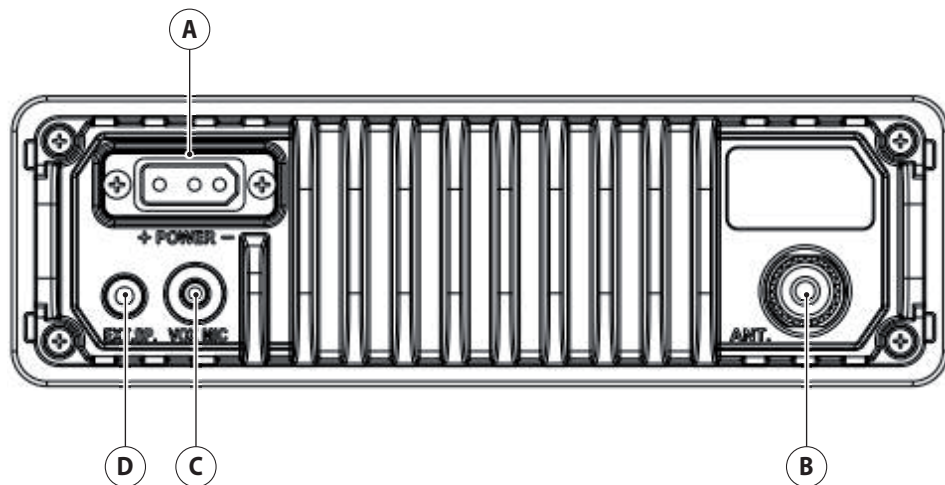
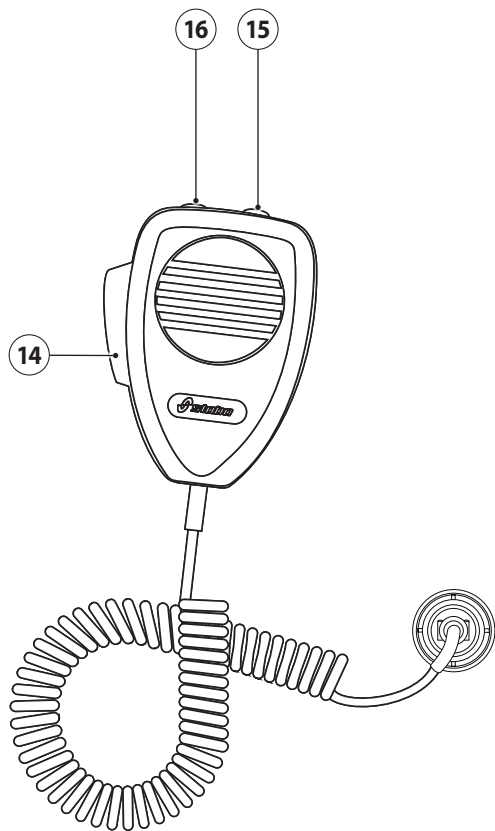
## stabo xm3002e VOX overview:

- 1) **[ON-OFF/VOLUME]**  
On/Off switch with volume control
- 2) **TX/RX Signal-LED**  
Lights up green while receiving (squelch open) and red while transmitting.
- 3) **Display**  
LCD
- 4) **[ASC/SQUELCH] ~ [F]**  
Automatic squelch (turning) ~ Function (press)
- 5) **Internal Speaker**
- 6) **Microphone socket (6)**  
6-pin type
- 7\*) **[AM/FM] ~ [MENU] ~ [M1]**  
Mode ~ User Menu ~ Memory 1
- 8\*) **[EMG] ~ [VOX] ~ [M2]**  
Emergency channels ~ VOX ~ Memory 2
- 9\*) **[SCAN] ~ [MSCAN] ~ [M3]**  
Scan ~ Memory Scan ~ Memory 3
- 10\*) **[MEM] ~ [MEM SAVE] ~ [M4]**  
Memory ~ Store channel ~ Memory 4
- 11\*) **[MUTE] ~ [CTCSS] ~ [M5]**  
Muting ~ CTCSS (FM only) ~ Memory 5
- 12\*) **[▲]**  
Channel/Value up ~ Scan direction up ~ Scrolling up
- 13\*) **[▼]**  
Channel/Value down ~ Scan direction down ~ Scrolling down

\* Buttons **7 - 13** are equipped with permanent white backlighting to enable safe operation of the device even in darkness.

- 14) **[PTT] Push-To-Talk**  
Transmit/Receive switchover
  - 15) **[UP]**  
Channel/Value up ~ Scan direction up ~ Scrolling up
  - 16) **[DN]**  
Channel/Value down ~ Scan direction down ~ Scrolling down
- A) **Power supply socket**  
(13.2 / 26.4 V)
  - B) **Antenna socket**  
(UHF-socket; PL-259)
  - C) **Optional VOX-microphone socket**  
(Phone plug 2.5 mm)
  - D) **External speaker socket**  
(8 Ω / Phone plug 3.5 mm)

|   |   |
|---|---|
| <b>12</b> + <b>13</b> simultaneously    | Key Lock on/off<br>When Key Lock ist activated  appears on the Display (3) |
| <b>4</b> , then press and hold <b>7</b> | Activating user menu  |



Welcome to a completely new generation of CB radios! The current stabo product line provides you with CB radios of the highest performance.

The stabo xm3002e VOX utilises the latest technology and promises the highest quality, making it a safe choice for users with professional requirements.

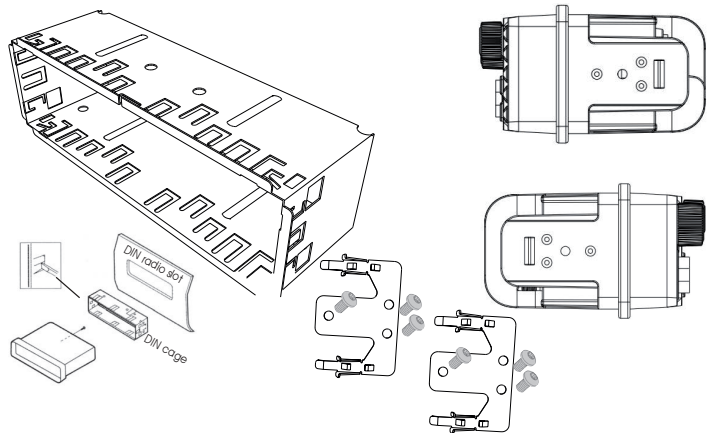
Please read the instructions carefully before installing and using this powerful device for the first time - thank you!

## A) INSTALLATION AND CONNECTIONS

### A.1) Installation in a vehicle into a DIN radio slot

Your stabo xm3002e VOX with front loudspeaker and the microphone socket on the front can be installed flush in a dashboard with a DIN radio slot using the installation frame supplied and the associated accessories.

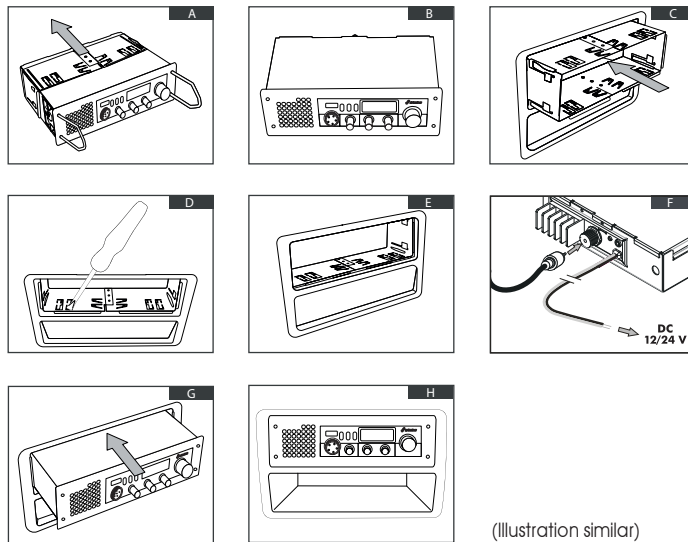
Contact your dealer to find out how you can install your radio elegantly recessed into the dashboard in this way.



### Installation stabo CB radio into the DIN slot



Before you start with step A, please read chapters A.4) Power supply and A.3) Antenna connection.



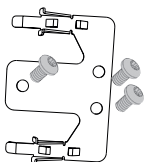
(Illustration similar)

## A.2) Installation in the vehicle with mounting bracket

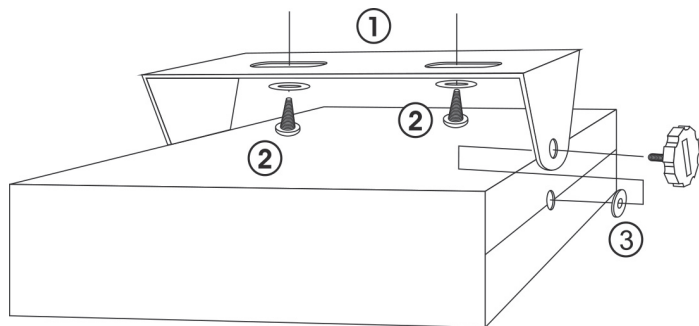
To install the device in a vehicle using the mounting bracket, the snap springs attached to the device must be removed. You will need a T9 TORX screwdriver to do this.

Loosen the three mounting screws on each side to remove the snap springs.

**Note:** Store the removed parts in a DIN frame for possible future use.



**a)** Choose a suitable installation location. This should allow convenient and, above all, safe operation, both when stationary and when travelling, and should not increase the risk of injury in the event of an accident.



**b)** All the supply cables and also the microphone cable must be laid in the vehicle in such a way that the driver is not impaired in any way while operating and steering the vehicle!

**c)** Ensure that all cables and connecting lines can be routed through the vehicle without any problems. Do not lay any cables near the vehicle heating system!

**d)** Fasten the **mounting bracket (1)** in a suitable place using the **self-tapping screws (2; Ø 3.2 mm)**, making sure that the fastening does not damage any cables inside the dashboard!

The mounting bracket should be attached in a position that ensures a firm, secure and vibration-free fit of the radio.

**e)** Insert the radio into the mobile holder so that the **plastic washers (3)** are fastened between the radio and the inside of the mounting bracket. They ensure that the radio can be easily swivelled to the best viewing angle in the holder.

**f)** For the microphone holder choose a place where you always have the microphone within reach and the connection cable to the radio does not interfere.

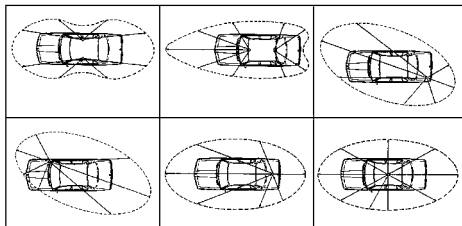
### A.3) Antenna connection

#### a) Choosing an antenna

The more powerful the antenna, the greater the range of the station.  
Make the appropriate choice according to the following recommendations:

#### b) Mobile antenna

- A mobile antenna is mounted on the part of the car with the largest metal surface, as far away as possible from the windscreen and rear lights.
- If a antenna for mobile phone is already fitted, the radio antenna should be mounted above it.
- There are tuned and tunable antennas: tuned antennas should only be mounted on a large metal surface, for example on the roof of the car or on the boot lid. Tunable antennas offer a wider frequency range and can also be used on a smaller metal surface.
- The **mounting bracket (1)** allows installation to many places on the vehicle. Ensure a short connection to ground (ref. **A.6) Adjusting the antenna to the lowest SWR**).
- If you need to drill a hole in the body for the antenna, the metal of the car body should be sanded so that the fastening nut of the antenna base has good contact to ground!
- Lay the coaxial cable to the antenna without kinks and not over sharp points (risk of short circuit!).
- Connect the antenna cable to the **antenna socket (B)**.



Radiation pattern depending on the antenna mounting location on the vehicle:

#### c) Fixed-station antenna

By using a fixed station antenna you can achieve the maximum range. When using an outdoor antenna, it is essential that you observe the relevant VDE regulations (lightning protection!), statics and building regulations!  
In this case, it is best to have the antenna system installed by a specialist! You will also find a selection of powerful fixed station antennas in the stabo selection of accessories.

### A.4) Power supply

Your stabo xm3002e VOX can be operated on either 12 or 24 V and is also protected against polarity reversal. Nevertheless, make sure that the voltage and polarity are correct before connecting!

If in doubt, ask your specialist workshop!

**In lorries or other commercial vehicles, the on-board voltage is usually 24 V. Here too, the device can be operated directly without an additional voltage converter!**

Once you have checked the voltage and polarity, proceed as follows:

a) Your radio is supplied with a power supply cable into which a 5A fuse is looped.

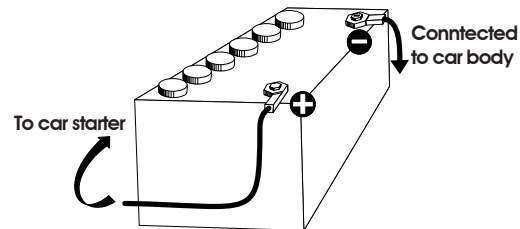
**ATTENTION: If the fuse in the power supply cable blows, find and eliminate the cause! Replace the blown fuse with a fuse only of the same value!**

b) The red wire of the power cable must be connected to the positive terminal (+12V/+24V) and the black wire to the negative terminal. If possible, the radio should be connected directly to the vehicle battery, as this is the point with the least interference from the vehicle's electrical system. The device can also be connected behind the ignition switch, e.g. to the fuse box. **All settings of the xm3002e VOX 12/24 are permanently stored; a connection to continuous positive is not necessary.**

c) Lay the power supply cable in the car so that it can only pick up a small amount of interference from the ignition system.

d) Connect the free ends of the power supply cable directly to the battery using the appropriate terminals: Red = positive terminal, black = negative terminal (ground). If you need to extend the power supply cable, only use a cable with at least the same or better a larger wire cross-section!

e) Connect the power supply cable to the **power supply socket (A)** of the device.



#### A.5) PREPARATIONS FOR THE FIRST START-UP (without transmitting)

- a) Connect the PTT handheld microphone to the **Microphone socket (6)** located on the front of your radio.
- b) Connect a CB antenna to the **antenna socket (B)** at the back of the radio.
- c) Switch on the radio:  
Turn **[ON-OFF/VOLUME] (1)** clockwise until you hear a 'click' sound.
- d) For maximum sensitivity turn **[ASC/SQUELCH] (4)** to the left stop for maximum sensitivity, then turn it back to the right until the ASC indicator goes out.
- e) Set the volume control **[ON-OFF/VOLUME] (1)** to a comfortable level.
- f) Switch to channel 20 by actuating the **[UP/DN] (15/16)** buttons on the microphone or **[▲/▼] (12/13)** at the front of the radio.

#### A.6) Adjusting the antenna to the lowest SWR (SWR = Standing Wave Ratio)

The setting can be made by using an external SWR measuring device. To do this, you will need a short (approx. 0.4 - max. 3.0 m) coaxial cable, which must be fitted with two PL-259 plugs.

**ATTENTION: The SWR of the connected antenna must be set when the radio is first used. The performance of the CB-radio depends very much to the care with which this procedure is carried out!**

**This adjustment procedure must also be repeated whenever you change the position of the antenna or after installing a different antenna!**

**ATTENTION: Before initial operation and after changing the antenna, you must set the antenna to the lowest standing wave ratio. The antenna should already be mounted in its final position and be able to radiate as freely as possible.**

##### a) SWR adjustment with an external SWR measuring device:

Connect the microphone to the **Microphone socket (6)** on the front of your radio.

An external SWR meter is looped into the antenna feed line between the radio and the antenna. Use a prefabricated coaxial cable for this purpose.

As there are different types of external SWR meters with different operating methods (see their operating instructions), here are just a few general hints:

- ▶ Switch to channel 20, the center of CB-radio frequency range, by actuating the **[UP/DN] (15/16)** buttons on the microphone or **[▲/▼] (12/13)** at the front of the radio.

- ▶ Check that the radio, SWR meter and antenna are properly connected.
- ▶ Calibrate the external SWR meter according to its operating instructions.
- ▶ Measure the SWR and adjust the antenna to the lowest SWR.  
**The lower the SWR, the better the antenna matching.**

An SWR value of '1' is ideal. Values between '1' and '1.8' are also acceptable.

**ATTENTION:** To minimise losses in the connection cables between the radio and the accessories, **stabo** recommends a cable length of less than 3 m.

**Your radio is now ready to operate.**

## B) OPERATING

### B.1) [ON-OFF/VOLUME]

- ▶ With [ON-OFF/VOLUME] (1) you can switch the device ON or OFF and adjust the volume.

Turn clockwise to switch on the CB radio and increase the volume. If 'KEY TONE' is activated, a signal tone is emitted as soon as the CB radio is switched on. The Display (3) briefly displays the **frequency band** and the **microphone type**.

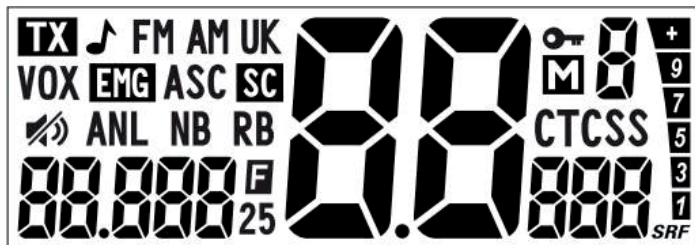
- ▶ Turning [ON-OFF/VOLUME] (1) anti-clockwise reduces the volume and finally switches the CB radio OFF.

### B.2) TX/RX Signal-LED

The TX/RX Signal-LED (2) above the Microphone socket (6) lights up green while receiving (squelch open) and red while transmitting.

### B.3) Display

Displays all functions. The six-level bar chart far right shows the rel. reception level resp. the rel. transmission power.



|  |  |
|--|--|
|  | Shows 'CHANNEL'-number                         |
|  | Alphanumeric display (frequency, menu, status) |

|  |  |
|--|--|
|  | Shows 'CTCSS'-number   |
|  | 'Transmitting'   |
|  | 'KEY TONE' activated   |
|  | FM mode  |
|  | AM mode  |
|  | Modulation type 'FM UK' selected; only if configuration UK is selected                             |
|  | 'VOX' function activated   |
|  | Priority channel (emergency) 19 or 9 activated   |
|  | Automatic Squelch Control activated  |
|  | Scan function activated  |
|  | Device muted   |
|  | ANL filter activated   |
|  | 'NOISEBLANKER' activated   |
|  | 'ROGER BEEP' activated   |
|  | User menu activated  |
|  | 'KEYLOCK' activated  |
|  | Function 'MEMORY' (Memory-Channels 1-5) activated  |
|  | Shows 'Memory channel' (1-5)   |
|  | 'CTCSS' activated  |
|  | Rel. reception level (RX)  |
|  | Rel. transmission power (TX)   |
|  | The six-level bar chart shows the rel. reception level (RX) resp. the rel. transmission power (TX) |

### B.4a) [ASC/SQUELCH] Automatic Squelch Control / Manual Squelch

You can use the [ASC/SQUELCH] (4) rotary selector to suppress noise on a free channel: The loudspeaker only switches to playback when the signal on the set channel is strong enough to exceed the threshold set with [ASC/SQUELCH] (4):

#### a) ASC: Automatic Squelch Control

No constant readjustment of the squelch, but permanently good listening quality!

- ▶ Turn [ASC/SQUELCH] (4) fully anti-clockwise, until the Display (3) shows 'SQ'.
- ▶ This function can be switched off by turning it clockwise; 'SQ' disappears from the Display (3) and the squelch can be adjusted manually.

#### b) Manual squelch

- ▶ The further you turn [ASC/SQUELCH] (4) to the right (clockwise), the stronger a signal must be to open the squelch.

Setting squelch to maximum response sensitivity:

- ▶ Set [ASC/SQUELCH] (4) to the left stop, select a free channel and turn [ASC/SQUELCH] (4) to the right until the noise just stops.

### B.4b) [F]

Briefly pressing this button only works in conjunction with the subsequent pressing of another button.

[F] (4) then [MENU] (7): User menu (key sequence)

- ▶ Briefly press [F] (4). The Display (3) shows **U**.
- ▶ Then long press [MENU] (7) to activate the **User menu**.

The individual menu functions are described in detail in a separate section later in this manual.

### B.5) Internal speaker

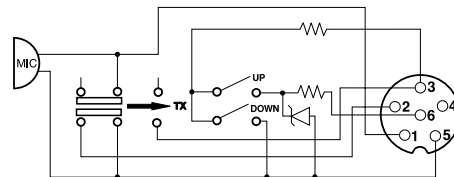
If an external speaker is connected to the **external speaker socket (D)**, the internal speaker is deactivated.

### B.6) Microphone socket (6 pin socket)

This socket is used to connect the supplied PTT handheld microphone. It is located on the front panel so that the device can be easily installed into a dashboard.

Pin assignment:

- 1 = Modulation
- 2 = RX
- 3 = TX - UP/DOWN
- 4 = VOL ACC
- 5 = Ground
- 6 = Supply voltage +



## B.7) [AM/FM] / [MENU] / [M1]

### [AM/FM] (Modulation mode; short press)

- ▶ Briefly press the **[AM/FM] button (4)** (repeatedly) to select the modulation type.

The selected modulation mode (FM / AM / UK) is displayed in the **Display (3)**.

**Please note:** You and the station you are speaking to must use the same modulation mode!

#### - AM (Amplitude Modulation):

For communication on uneven or built-up terrain over medium distances.

#### - FM (Frequency Modulation):

For communication in flat or open terrain over short distances; the preferred type of modulation.

#### In U configuration only:

- ▶ While in FM mode, a (repeatedly) short press of the **[F] (4)** key toggles between ENG resp. CEPT frequency bands.  
'UK' is displayed when ENG frequency band is selected.

### [MENU] User menu

**[F] (4)** then **[MENU] (7): User menu** (key sequence)

- ▶ Briefly press **[F] (4)**. The **Display (3)** shows **[F]**.
- ▶ Then long press **[MENU] (7)** to activate the **User menu**.

The individual menu functions are described in detail in a separate section later in this manual.

### [M1] Recall memory channel 1

**[MEM] (10)** then **[M1] (7)** (key sequence)

- ▶ Briefly press **[MEM] (10)**. When 'KEY TONE'-function is activated, a signal tone sounds and **[M]** is indicated in the **Display (3)**.  
The device is now operating in 'Memory Mode'.
- ▶ Briefly press **[M1] (7)** to recall **Memory Channel 1**.

## B.8) [EMG] / [VOX] / [M2]

### [EMG] (Recall EMG channel; short press)

- ▶ The preset EMG channel 1 is automatically tuned in as soon as you briefly press **[EMG] (8)**:

'EMG' is displayed. The preset EMG channel 1 is channel 9 and the mode (AM/FM) is set according to the frequency configuration used.

- ▶ Briefly pressing **[EMG] (8)** again tunes the preset EMG channel 2:

'EMG' is displayed. The preset EMG channel 2 is channel 19 and the mode (AM/FM) is set according to the frequency configuration used.

- ▶ To return to the last set channel, briefly press **[EMG] (8)** again.  
'EMG' disappears from the **Display (3)**.

The EMG function settings are made in the user menu.

### [EMG] (Store EMG channel; long press)

Any channel in AM or FM mode can be selected as EMG channel.

- ▶ Select the channel and the modulation mode (AM/FM).
- ▶ Short press **[F] (4)**, **[F]** appears in the **Display (3)**.
- ▶ Long press **[EMG] (8)**, 'EMG' flashes in the **Display (3)**.
- ▶ Use **[▲/▼] (12/13)** on the device or **[UP/DN] (15/16)** on the PTT handset microphone to choose either 'EMG 1' or 'EMG 2'.
- ▶ Short press **[PTT] (14)**, 'EMG' disappears from the **Display (3)**.

If the key tone function ('KEY TONE') is activated, a signal tone sounds.

### **[VOX] (VOX function; long press)**

The VOX function enables transmission without pressing the **[PTT] (14)** button on the PTT hand-held microphone. It is therefore sufficient to speak simply into the microphone connected to the **Microphone socket (6)** or an additional VOX microphone connected to the **VOX microphone connection socket (C)**.

When using an optional VOX microphone, the connected PTT handheld microphone is deactivated.

- ▶ Long press button **[VOX] (8)** to activate the VOX function.  
'VOX' appears in the **Display (3)**.
- ▶ Long press button **[VOX] (8)** again to deactivate the VOX function.  
'VOX' disappears from the **Display (3)**.

The VOX function settings are made in the user menu.

### **Notes on VOX mode**

Place the microphone at a maximum distance of 40 to 50 cm and avoid loud ambient noise to prevent unwanted transmissions.

The sensitivity setting depends on the volume of the voice, the positioning of the microphone and the ambient noise.

The correct setting of the squelch or switching on ASC is a precondition for the proper functioning of VOX function.

An open squelch or ASC blocks the VOX function during receive and the VOX indicator flashes.

After closing the squelch or ASC, VOX is reactivated after approx. one second. This prevents unwanted transmissions caused by the received signal.

**An activated VOX can only switch the device to „transmit“ if manual squelch or ASC are proper adjusted.**

### **[M2] Recall memory channel 2**

**[MEM] (10)** then **[M2] (8)** (key sequence)

- ▶ Briefly press **[MEM] (10)**. When 'KEY TONE'-function is activated, a signal tone sounds and **[M]** is indicated in the **Display (3)**.  
The device is now operating in 'Memory Mode'.
- ▶ Briefly press **[M2] (8)** to recall **Memory Channel 2**.

### **B.9) [SCAN] / [MSCAN] / [M3]**

#### **[SCAN] (short press)**

- ▶ Use **[ASC/SQUELCH] (4)** to set the squelch to the desired threshold value or activate ASC. The **RX indicator LED (2)** should no longer be green.

- ▶ Briefly press the **[SCAN] (9)** button to start a channel scan.

'SCN' appears in the **Display (3)**. All channels are scanned continuously. The scan stops when there is activity on one of the channels and the **RX indicator LED (2)** lights green.

- ▶ To change the scan direction, use **[▲/▼] (12/13)** on the device resp. **[UP/DN] (15/16)** on the PTT handset microphone.

- ▶ Short press button **[PTT] (14)** button to stop the scan.  
'SCN' disappears from the **Display (3)**.

#### **Memory Channel Scan**

**[F] (4)** then **[MSCAN] (9)** (key sequence)

This function starts a search that only includes the occupied memory channels (M1, M2, M3, M4, M5) and the two EMG channels (EMG 1, EMG 2).

- ▶ Briefly press **[F] (4)**. The **Display (3)** shows **[F]**.
- ▶ Then briefly press **[MSCAN] (9)** to activate the **Memory Channel Scan**.

**[M]**, **[M]** resp. 'EMG' are simultaneously indicated in the **Display (3)**. All programmed memory channels and the two EMG channels are scanned continuously. The **Memory Channel Scan** stops when there is activity on one of the scanned channels.

- ▶ To change the scan direction, use **[▲/▼] (12/13)** on the device resp. **[UP/DN] (15/16)** on the PTT handset microphone.

- ▶ Short press button **[PTT] (14)** button to stop the scan.  
'SCN' disappears from the **Display (3)**.

**Note:** MSCAN always includes both EMG channels.

### B.9) [SCAN] / [MSCAN] / [M3]

#### [M3] Recall memory channel 3

[MEM] (10) then [M3] (9) (key sequence)

- ▶ Briefly press [MEM] (10). When 'KEY TONE'-function is activated, a signal tone sounds and 'M' is indicated in the Display (3). The device is now operating in 'Memory Mode'.
- ▶ Briefly press [M3] (9) to recall **Memory Channel 3**.

### B.10) [MEM] / [MSAVE] / [M4]

Up to 5 channels can be saved together with all settings.

#### [MEM] Memory channel recall

- ▶ Briefly press [MEM] (10), the Display (3) shows 'M'.
- ▶ Briefly press [M1] (7), [M2] (8), [M3] (9), [M4] (10) or [M5] (11) for selecting the desired memory channel.

'M' vanishes in the Display (3) and the selected memory location '1', '2', '3', '4' resp. '5' is displayed.

If the key beep function ('KEY TONE') is activated, a signal tone sounds.

#### [MSAVE] To store a channel

[F] (4) then [MSAVE] (10) (key sequence)

- ▶ Briefly press [F] (4). The Display (3) shows 'F'.
- ▶ Briefly press [MSAVE] (10). 'M' flashes in the Display (3).
- ▶ Briefly press [M1] (7), [M2] (8), [M3] (9), [M4] (10) or [M5] (11), to save the current channel to the desired storage location.

The Display (3) shows the chosen memory '1', '2', '3', '4' resp. '5'. If the key beep function ('KEY TONE') is activated, a signal tone sounds.

Whenever this channel is selected, the corresponding memory location number will now also be displayed.

#### [M4] Recall memory channel 4



[MEM] (10) then [M4] (10) (key sequence)

- ▶ Briefly press [MEM] (10). When 'KEY TONE'-function is activated, a signal tone sounds and 'M' is indicated in the Display (3). The device is now operating in 'Memory Mode'.
- ▶ Briefly press [M4] (10) to recall **Memory Channel 4**.

## B.11) [MUTE] / [CTCSS] / [M5]

### [MUTE] Muting


If you need to make a phone call or are in an environment where the device must be muted so as not to cause a disturbance, you can activate the mute function: when this function is activated, the device will not turn on the loudspeaker even when it receives a signal.

- ▶ Briefly press [MUTE] (11), the Display (3) shows , the device is muted.
- ▶ Briefly press [MUTE] (11) again or [PTT] (14), to unmute.  vanishes from the Display (3).

### [CTCSS] Selective call; only for FM [F] (4) then [CTCSS] (11) (key sequence)

When the CTCSS function is activated, the received signal is only audible if the transmitting station also uses the CTCSS calling method and the same CTCSS setting.


All participating stations must use the same sub-tone setting!

- ▶ Briefly press [F] (4). The Display (3) shows .
- ▶ Long press [CTCSS] (11).
- ▶ In the now appearing submenu, use [▲/▼] (12/13) on the device resp. [UP/DN] (15/16) on the PTT handset microphone the desired CTCSS-Subtone.

| Nr. | Freq. (Hz) | Nr. | Freq. (Hz) | Nr. | Freq. (Hz) |
|-----|------------|-----|------------|-----|------------|
| oF  | OFF        | 13  | 103.5      | 26  | 162.2      |
| 01  | 67.0       | 14  | 107.2      | 27  | 167.9      |
| 02  | 71.9       | 15  | 110.9      | 28  | 173.8      |
| 03  | 74.4       | 16  | 114.8      | 29  | 179.9      |
| 04  | 77.0       | 17  | 118.8      | 30  | 186.2      |
| 05  | 79.7       | 18  | 123.0      | 31  | 192.8      |
| 06  | 82.5       | 19  | 127.3      | 32  | 203.5      |
| 07  | 85.4       | 20  | 131.8      | 33  | 210.7      |
| 08  | 88.5       | 21  | 136.5      | 34  | 218.1      |
| 09  | 91.5       | 22  | 141.3      | 35  | 225.7      |
| 10  | 94.8       | 23  | 146.2      | 36  | 233.6      |
| 11  | 97.4       | 24  | 151.4      | 37  | 241.8      |
| 12  | 100.0      | 25  | 156.7      | 38  | 250.3      |

- ▶ Briefly press [PTT] (14) or briefly press [F] (4) to save the setting. When 'CTCSS' is activated 'CTCSS' appears in the Display (3).

### [M5] Recall memory channel 5 [MEM] (10) then [M5] (11) (key sequence)

- ▶ Briefly press [MEM] (10). When 'KEY TONE'-function is activated, a signal tone sounds and  is indicated in the Display (3). The device is now operating in 'Memory Mode'.
- ▶ Briefly press [M5] (11) to recall Memory Channel 5.



### B.12 / 13) [▲/▼] Up/Down buttons on the device

- ▶ With [▲/▼] (12/13) on the device, you can select a higher [▲] (12) or lower channel [▼] (13) resp. set a higher [▲] (12) or lower [▼] (13) value and change the search direction while scan.

A short press of the button causes a change by one setting step, while a long press causes a continuous change in the selected direction.

**Note:** The buttons [UP/DN] (15/16) on the PTT hand-held microphone fulfil the same functions.

### B.14) [PTT] 'Push-To-Talk' key

- ▶ To transmit press and hold [PTT] (14),  appears in the Display (3), the TX/RX Signal-LED (2) lights red.
- ▶ To receive release [PTT] (14),  disappears from the Display (3), the TX/RX Signal-LED (2) is off.

### B.15 / 16) [UP/DN] Up/Down buttons on the PTT hand-held microphone

- ▶ With [▲/▼] (15/16) on the device, you can select a higher [▲] (15) or lower channel [▼] (16) resp. set a higher [▲] (15) or lower [▼] (16) value and change the search direction while scan.

A short press of the button causes a change by one setting step, while a long press causes a continuous change in the selected direction.

**Note:** The buttons [▲/▼] (12/13) on the device fulfil the same functions.

## C) ADDITIONAL FUNCTIONS

### C.1 FREQUENCY CONFIGURATION [ON-OFF/VOLUME] (1) + [F] (4)

The frequency configuration must be selected strictly according to the country of use. Do not use a different configuration! Some countries require a user licence.

(Possible configurations: EU; PL; d; EC; U; rU)

- ▶ Switch off the device with **[ON-OFF/VOLUME] (1)**.
- ▶ Press and hold button **[F] (4)** then switch on the device with **[ON-OFF/VOLUME] (1)**. The selected frequency configuration is displayed flashing in the **Display (3)**.
- ▶ Press (repeatedly) **[▲/▼] (12/13)** on the device or **[UP/DN] (15/16)** on the PTT handset microphone to change the frequency configuration.
- ▶ Press **[F] (4)** for about 1 second. The frequency configuration is displayed continuously and a signal tone confirms the setting.
- ▶ Switch off the device with **[ON-OFF/VOLUME] (1)** again.

The next time the device is switched on, the currently selected frequency configuration is used.

### C.2 CARRIER OFFSET 'rU'

Setting the -5 KHz carrier offset for the country standard 'rU'.

- ▶ Briefly press **[F] (4)**. **rU** appears in the **Display (3)**.
- ▶ Briefly press **[F] (4)** again. 'T5' (f5) is displayed in the **Display (3)**.











To return to the normal setting:

- ▶ Briefly press **[F] (4)** twice again until 'T0' (f.0) appears in the **Display (3)**.

The factory setting is 'T0' (f.0).

## D) USER MENU

10 **submenus** can be called up within the **user menu**:

|      |   |                                       |
|------|---|---------------------------------------|
| D.1  |  | Backgroundcolor Display               |
| D.2  |  | Display Brightness                    |
| D.3  |  | Key Tone                              |
| D.4  |  | 'Roger Beep'                          |
| D.5  |  | 'Noise Blanker'                       |
| D.6  |  | ANL Automatic Noise Limiter (AM only) |
| D.7  |  | ASC                                   |
| D.8  |  | VOX                                   |
| D.9  |  | TOT                                   |
| D.10 |  | Reset                                 |

To call up the **user menu**, please proceed as follows:

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

### D.1 Backgroundcolor Display

The color of the display backlight can be set as follows:



**Settable values:** '01' (orange) / '02' (green) / '03' (blue) / '04' (cyan) / '05' (yellow) / '06' (purple) / '07' (light cyan)

**Factory setting:** '01' (orange)

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** '**COL**' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

## D.2 **b r L** Display Brightness

The brightness of the display backlight can be set as follows:

**Settable values:** 'b F' (off) / '0 1' (dark) - '05' (very bright)

**Factory setting:** '03'

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** 'b r L' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

## D.3 **b P** Key Tone

Some operating procedures, such as changing channels, pressing buttons, etc., can be confirmed acoustically by an **Key tone**.

When the **Key tone** function is activated, 'BP' appears in the **Display (3)**.

The **Key tone** can be activated or deactivated as follows:

**Settable values:** '00' (Key Tone activated) / '0F' (Key Tone deactivated)

**Factory setting:** '00' (Key Tone activated)

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** 'b P' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

#### D.4 **rb** Roger Beep

A '**Roger Beep**' is emitted as soon as **[PTT] (14)** of the PTT hand microphone is released.

CB radio is a 'simplex' communication: it is not possible to speak and listen at the same time, as is the case with a telephone, for example. In the past, when you ended a call, you would say 'Roger' to signal to the other party that he or she could now speak. The word 'Roger' was replaced by a signal tone. This is where the name 'Roger Beep' comes from.

Proceed as follows to activate/deactivate the '**Roger Beep**' function:

**Settable values:** '**on**' (Roger Beep activated) / '**off**' (Roger Beep deactivated)

**Factory setting:** '**off**' (Roger Beep deactivated)

When the function is activated, '**rb**' appears in the **Display (3)**.

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** '**rb**' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

#### D.5 **nb** Noise Blanker

This filter reduces background noise and some reception interference. Particularly effective in case of impulse-type interference.

Proceed as follows to activate/deactivate the '**Noise Blanker**' function:

**Settable values:** '**on**' (Noise Blanker activated) / '**off**' (Noise Blanker deactivated)

**Factory setting:** '**off**' (Noise Blanker deactivated)

When the function is activated, '**NB**' appears in the **Display (3)**.

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** '**nb**' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

#### D.6 **ANL** ANL Automatic Noise Limiter

This filter reduces background noise and some reception interference.

**Note:** ANL is only effective in AM!

Proceed as follows to activate/deactivate the 'ANL Automatic Noise Limiter' function:

**Settable values:** '0n' (ANL Automatic Noise Limiter activated) / '0F' (ANL Automatic Noise Limiter deactivated)

**Factory setting:** '0F' (ANL Automatic Noise Limiter deactivated)

When the function is activated, 'ANL' appears in the **Display (3)**.

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** 'ANL' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

#### D.7 **RSC** Automatic Squelch Control

No constant readjustment of the squelch, but permanently good listening quality! Turn **[ASC/SQUELCH] (4)** fully anti-clockwise until the **Display (3)** shows 'SC'.

This function can be switched off by turning it clockwise; 'SC' disappears from the **Display (3)** and the squelch can be adjusted manually.

**Settable values:** '01' (threshold low) / '02' (threshold fair) / '03' (threshold high)

**Factory setting:** '02'

When the function is activated, 'ASC' appears in the **Display (3)**.

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** 'RSC' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

**F** vanishes in the **Display (3)**.

## D.8 VOX



The VOX function enables transmission without pressing the **[PTT] (14)** button on the PTT hand-held microphone. It is therefore sufficient to speak simply into the microphone connected to the **Microphone socket (6)** or an additional VOX microphone connected to the **VOX microphone connection socket (C)**.

When using an optional VOX microphone, the connected PTT handheld microphone is deactivated.


**Settable values:**  (threshold low) -  (threshold high)

**Factory setting:** 

When the function is activated, 'VOX' appears in the **Display (3)**.

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows .
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu**  is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

 vanishes in the **Display (3)**.



## D.9 TOT Time-Out-Timer

To protect the transmitter output stage from thermal overload, the device features an automatic transmission time limiter: if **[PTT] (14)** is pressed for longer than the set maximum transmission duration the **Display (3)** starts flashing, the transmission will be aborted and a signal tone sounds until you release **[PTT] (14)**.

**Settable values:**

 (off) /  (Transmission 1 Min. max.) -  (Transmission 5 Min. max.)

**Factory setting:**  (Transmission 3 Min. max.)

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows .
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu**  is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection. The currently set value of the **submenu** flashes in the **Display (3)**.
- ▶ Set the desired value using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press button **[MENU] (7)** again within 10 seconds to confirm the set value of the selected submenu. The currently set value of the submenu is now shown continuously on the **Display (3)**.

If no further setting is made within 10 seconds, the **submenu** is saved with the last set value and the **user menu** is exited.

 vanishes in the **Display (3)**.

#### D.10 **RESET**

Allows to reset all user parameters and user settings to factory settings.

To reset the device to factory settings, proceed as follows:

- ▶ Briefly press button **[F] (4)**. The **Display (3)** shows **F**.
- ▶ Press **[MENU] (7)** until the **user menu** and the last **submenu** accessed are displayed.
- ▶ The desired **submenu** '**RESET**' is selected using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button to confirm the selection.  
The preset value is always '**OFF**' (off).
- ▶ Set the value to '**OFF**' by using the buttons **[UP/DN] (15/16)** on the PTT handset microphone or **[▲/▼] (12/13)** on the device.
- ▶ Press the **[MENU] (7)** button within 10 seconds again to reset all user parameters and settings to factory settings

If no further setting is made within 10 seconds, the **user menu** is exited.

**F** vanishes in the **Display (3)**. No reset is performed.

## E) SPECIFICATION

### GENERAL

|                         |   |
|-------------------------|---|
| - Modulation modes      | AM / FM   |
| - Channels:             | 40 (80)   |
| - Frequency range:      | 26.565 - 27.99125 MHz   |
| - Antenna connection:   | 50 Ohm PL-259 (SO 239)  |
| - Betriebsspannung:     | 13.2 V / 26.4 V   |
| - Dimensions (in mm):   | 178 (W) x 50 (H) x 85,5 (D)   |
| - Weight:               | 658 kg  |
| - Supplied accessories: | PTT hand-held microphone (electret)<br>with cable, mounting bracket, screws,<br>DC cable with fuse. |

### TRANSMITTER

|                                  |                                     |
|----------------------------------|-------------------------------------|
| - Frequency stability:           | +/- 200 Hz                          |
| - RF power:                      | AM / FM: 4W                         |
| - Transmission interference:     | Better than -54 dBm (4 nW)          |
| - AF frequency response:         | 300 - 3000 Hz                       |
| - Adjacent channel interference: | > 20 $\mu$ W                        |
| - Microphone sensitivity:        | 3.0 mV                              |
| - Harmonic distortion:           | 2 %                                 |
| - Current consumption:           | < 2.5 A (13.2 V) / < 1.3 A (26.4 V) |

### RECEIVER

|                                |   |
|--------------------------------|---|
| - Sensitivity (at 20 dB SINAD) | AM: 0.79 $\mu$ V (-109 dBm)<br>FM: 0.39 $\mu$ V (-115 dBm)<br>ca. 2.5 W |
| - AF output power:             | 300 - 3000 Hz (AM/FM)   |
| - AF frequency response:       | 60 dB   |
| - Adjacent channel rejection:  | Min. 0.2 $\mu$ V (-120 dBm)<br>Max. 1.0 mV (-47 dBm)                    |
| - Squelch:                     | 60 dB   |
| - Image rejection:             | 70 dB   |
| - IF Rejection:                | 8 $\Omega$ / Phone plug 3.5 mm  |
| - External speaker:            | 160 - 500 mA (13.2 V) / 90 - 300 mA (26.4 V)                            |
| - Current consumption:         |   |

## F) TROUBLESHOOTING

### F.1) YOU CANNOT SEND OR CAN ONLY SEND IN POOR QUALITY

- ▶ Check the standing wave ratio of your antenna and the feed line for any interruptions or loose contacts!
- ▶ Check that the PTT handheld microphone is connected correctly and that there is no loose connection!
- ▶ Check whether the correct frequency band has been selected.

### F.2) YOU DO NOT RECEIVE A REPLY TO YOUR TRANSMISSION OR GENERALLY HAVE POOR RECEPTION

- ▶ Set **[ASC/SQUELCH] (4)** correctly!
- ▶ Check whether the correct frequency band has been selected.
- ▶ Check whether "CTCSS" has been activated or whether the other party has selected a different sub-tone.
- ▶ Set the playback volume with **[ON-OFF/VOLUME] (1)** to a suitable level.
- ▶ Check that the PTT handheld microphone is connected correctly and that there is no loose connection!
- ▶ Check the standing wave ratio of your antenna and the feed line for any interruptions or loose contacts!
- ▶ Make sure that you are using the same operating mode (AM / FM) as the other party!

### F.3) THE INDICATORS DO NOT LIGHT UP

- ▶ Check your power source: Is the power supply switched on?
- ▶ Check whether you may have swapped the connections for plus (= red) and minus (= black)! If this is the case, swap the connections!
- ▶ Check the fuses!

## G) HINTS FOR RADIO COMMUNICATIONS

For almost untroubled radio communication, you should take the following six tips to heart:

- ▶ After switching on the device, always listen first to check whether the set channel is actually occupied.
- ▶ To do this, open the squelch so that even weaker stations are not overheard.
- ▶ Start your own call only if the channel is actually free!
- ▶ Make short calls!
- ▶ After each call, listen carefully to hear whether a station answers. Only then repeat the call.
- ▶ Always allow a pause of a few seconds after a over from the other station before transmitting by yourself, so that other stations can also answer ('switchover break').

The following calling channels are recommended:

- CHANNEL 9 (AM) Trucker channel / EMG channel
- CHANNEL 19 (FM) Trucker channel / EMG channel

Deviations from this are possible.

### Evaluation of reception quality

To clearly tell the other party how strongly and clearly they are being received the digits of the R/S code are used. The R value stands for 'readability' and the S value for 'signal strength'.

#### R/S-Code:

##### R = Readability

- 1 Unreadable
- 2 Barely readable, occasional words distinguishable
- 3 Readable with considerable difficulty
- 4 Readable with practically no difficulty
- 5 Perfectly readable

##### S = Signal strength

- 1 Faint—signals barely perceptible
- 2 Very weak signals
- 3 Weak signals
- 4 Fair signals
- 5 Fairly good signals
- 6 Good signals
- 7 Moderately strong signals
- 8 Strong signals
- 9 Extremely strong signals

With poor connections or heavy interference, it is often difficult to transmit words which are hard to understand without errors, such as proper names and city names. This is where the use of the International Spelling Alphabet, which is also used in air traffic (ICAO) and by NATO, can help:

## H) GLOSSARY

### INTERNATIONAL PHONETIC ALPHABET

|                  |                   |                  |                  |
|------------------|-------------------|------------------|------------------|
| <b>A</b> Alpha   | <b>H</b> Hotel    | <b>O</b> Oscar   | <b>V</b> Victor  |
| <b>B</b> Bravo   | <b>I</b> India    | <b>P</b> Papa    | <b>W</b> Whiskey |
| <b>C</b> Charlie | <b>J</b> Juliett  | <b>Q</b> Quebec  | <b>X</b> X-ray   |
| <b>D</b> Delta   | <b>K</b> Kilo     | <b>R</b> Romeo   | <b>Y</b> Yankee  |
| <b>E</b> Echo    | <b>L</b> Lima     | <b>S</b> Sierra  | <b>Z</b> Zulu    |
| <b>F</b> Foxtrot | <b>M</b> Mike     | <b>T</b> Tango   |                  |
| <b>G</b> Golf    | <b>N</b> November | <b>U</b> Uniform |                  |

### TECHNICAL VOCABULARY

|     |                         |
|-----|-------------------------|
| AM  | : Amplitude Modulation  |
| CB  | : Citizen's Band        |
| CH  | : Channel               |
| CW  | : Continuous Wave       |
| DX  | : Long Distance Liaison |
| DW  | : Dual Watch            |
| FM  | : Frequency Modulation  |
| GMT | : Greenwich Meantime    |
| HF  | : High Frequency        |
| LF  | : Low Frequency         |
| LSB | : Lower Side Band       |
| RX  | : Receiving             |
| SSB | : Single Side Band      |
| SWR | : Standing Wave Ratio   |
| SWL | : Short Wave Listening  |
| SW  | : Short Wave            |
| TX  | : Transmitting          |
| UHF | : Ultra High Frequency  |
| USB | : Upper Side Band       |
| VHF | : Very High Frequency   |

#### **VEREINFACHTE EU-KONFORMITÄTSERKLÄRUNG**

Hiermit erklärt stabo Elektronik GmbH, dass die Funkanlage Typ

#### **stabo xm 3002e VOX 12/24 V**

der Richtlinie 2014/53/EU entspricht.

Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar:

[https://stabo.de/fileadmin/DoC/DoC\\_stabo\\_xm3002e\\_VOX.pdf](https://stabo.de/fileadmin/DoC/DoC_stabo_xm3002e_VOX.pdf)

#### **SIMPLIFIED EU DECLARATION OF CONFORMITY**

Hereby, stabo Elektronik GmbH declares that the radio equipment type

#### **stabo xm 3002e VOX 12/24 V**

is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:  
[https://stabo.de/fileadmin/DoC/DoC\\_stabo\\_xm3002e\\_VOX.pdf](https://stabo.de/fileadmin/DoC/DoC_stabo_xm3002e_VOX.pdf)

#### **MANUFACTURER WARRANTY**

As the manufacturer of this **stabo xm 3002e VOX 12/24 V** device, we, the company

**stabo Elektronik GmbH · Münchwiese 16 · 31137 Hildesheim/Germany**

offer an independent guarantee to the consumer on all items purchased from us in accordance with the following guarantee conditions. We expressly point out that your statutory rights to rectification of material defects are not restricted by this.

**I.** The warranty period is two years from the date of purchase. The warranty is extended by 3 years to 5 years if a President antenna is used. The warranty is only valid in the European Union.

**II.** During the warranty period, appliances that are defective due to material or manufacturing faults will be repaired or replaced. The choice of repair or replacement is at our discretion. Replaced devices or components thereof shall become our property. Warranty services do not result in an extension of the original warranty, nor do they initiate a new warranty period.

**III.** Warranty claims must be asserted within the warranty period as soon as they become known, presenting the proof of purchase.

**IV.** Warranty claims are not accepted for damage caused by improper use, which may also take the form of misuse

- environmental influences such as overvoltage, moisture, heat, dust, etc.,
- non-observance of the applicable safety precautions,
- non-observance of the operating manual,
- use of external force,
- tampering with the device and making unauthorised attempts to repair it,
- shipping in an unsuitable manner, e.g. unsuitable packaging material, inappropriate packaging,
- consumables (battery packs, batteries)

Hildesheim/Germany, in August 2025



**CHANNEL-FREQUENCY-TABLE EU / EC / U (CEPT)**

| Channel | Frequency  | Channel | Frequency  |
|---------|------------|---------|------------|
| 1       | 26.965 MHz | 21      | 27.215 MHz |
| 2       | 26.975 MHz | 22      | 27.225 MHz |
| 3       | 26.985 MHz | 23      | 27.255 MHz |
| 4       | 27.005 MHz | 24      | 27.235 MHz |
| 5       | 27.015 MHz | 25      | 27.245 MHz |
| 6       | 27.025 MHz | 26      | 27.265 MHz |
| 7       | 27.035 MHz | 27      | 27.275 MHz |
| 8       | 27.055 MHz | 28      | 27.285 MHz |
| 9       | 27.065 MHz | 29      | 27.295 MHz |
| 10      | 27.075 MHz | 30      | 27.305 MHz |
| 11      | 27.085 MHz | 31      | 27.315 MHz |
| 12      | 27.105 MHz | 32      | 27.325 MHz |
| 13      | 27.115 MHz | 33      | 27.335 MHz |
| 14      | 27.125 MHz | 34      | 27.345 MHz |
| 15      | 27.135 MHz | 35      | 27.355 MHz |
| 16      | 27.155 MHz | 36      | 27.365 MHz |
| 17      | 27.165 MHz | 37      | 27.375 MHz |
| 18      | 27.175 MHz | 38      | 27.385 MHz |
| 19      | 27.185 MHz | 39      | 27.395 MHz |
| 20      | 27.205 MHz | 40      | 27.405 MHz |

**CHANNEL-FREQUENCY-TABLE U (ENG)**

| Channel | Frequency    | Channel | Frequency    |
|---------|--------------|---------|--------------|
| 1       | 27.60125 MHz | 21      | 27.80125 MHz |
| 2       | 27.61125 MHz | 22      | 27.81125 MHz |
| 3       | 27.62125 MHz | 23      | 27.82125 MHz |
| 4       | 27.63125 MHz | 24      | 27.83125 MHz |
| 5       | 27.64125 MHz | 25      | 27.84125 MHz |
| 6       | 27.65125 MHz | 26      | 27.85125 MHz |
| 7       | 27.66125 MHz | 27      | 27.86125 MHz |
| 8       | 27.67125 MHz | 28      | 27.87125 MHz |
| 9       | 27.68125 MHz | 29      | 27.88125 MHz |
| 10      | 27.69125 MHz | 30      | 27.89125 MHz |
| 11      | 27.70125 MHz | 31      | 27.90125 MHz |
| 12      | 27.71125 MHz | 32      | 27.91125 MHz |
| 13      | 27.72125 MHz | 33      | 27.92125 MHz |
| 14      | 27.73125 MHz | 34      | 27.93125 MHz |
| 15      | 27.74125 MHz | 35      | 27.94125 MHz |
| 16      | 27.75125 MHz | 36      | 27.95125 MHz |
| 17      | 27.76125 MHz | 37      | 27.96125 MHz |
| 18      | 27.77125 MHz | 38      | 27.97125 MHz |
| 19      | 27.78125 MHz | 39      | 27.98125 MHz |
| 20      | 27.79125 MHz | 40      | 27.99125 MHz |

CHANNEL-FREQUENCY-TABLE d

| Channel | Frequency  | Channel | Frequency  |
|---------|------------|---------|------------|
| 1       | 26.965 MHz | 21      | 27.215 MHz |
| 2       | 26.975 MHz | 22      | 27.225 MHz |
| 3       | 26.985 MHz | 23      | 27.255 MHz |
| 4       | 27.005 MHz | 24      | 27.235 MHz |
| 5       | 27.015 MHz | 25      | 27.245 MHz |
| 6       | 27.025 MHz | 26      | 27.265 MHz |
| 7       | 27.035 MHz | 27      | 27.275 MHz |
| 8       | 27.055 MHz | 28      | 27.285 MHz |
| 9       | 27.065 MHz | 29      | 27.295 MHz |
| 10      | 27.075 MHz | 30      | 27.305 MHz |
| 11      | 27.085 MHz | 31      | 27.315 MHz |
| 12      | 27.105 MHz | 32      | 27.325 MHz |
| 13      | 27.115 MHz | 33      | 27.335 MHz |
| 14      | 27.125 MHz | 34      | 27.345 MHz |
| 15      | 27.135 MHz | 35      | 27.355 MHz |
| 16      | 27.155 MHz | 36      | 27.365 MHz |
| 17      | 27.165 MHz | 37      | 27.375 MHz |
| 18      | 27.175 MHz | 38      | 27.385 MHz |
| 19      | 27.185 MHz | 39      | 27.395 MHz |
| 20      | 27.205 MHz | 40      | 27.405 MHz |

CHANNEL-FREQUENCY-TABLE d

| Channel | Frequency  | Channel | Frequency  |
|---------|------------|---------|------------|
| 41      | 26.565 MHz | 61      | 26.765 MHz |
| 42      | 26.575 MHz | 62      | 26.775 MHz |
| 43      | 26.585 MHz | 63      | 26.785 MHz |
| 44      | 26.595 MHz | 64      | 26.795 MHz |
| 45      | 26.605 MHz | 65      | 26.805 MHz |
| 46      | 26.615 MHz | 66      | 26.815 MHz |
| 47      | 26.625 MHz | 67      | 26.825 MHz |
| 48      | 26.635 MHz | 68      | 26.835 MHz |
| 49      | 26.645 MHz | 69      | 26.845 MHz |
| 50      | 26.655 MHz | 70      | 26.855 MHz |
| 51      | 26.665 MHz | 71      | 26.865 MHz |
| 52      | 26.675 MHz | 72      | 26.875 MHz |
| 53      | 26.685 MHz | 73      | 26.885 MHz |
| 54      | 26.695 MHz | 74      | 26.895 MHz |
| 55      | 26.705 MHz | 75      | 26.905 MHz |
| 56      | 26.715 MHz | 76      | 26.915 MHz |
| 57      | 26.725 MHz | 77      | 26.925 MHz |
| 58      | 26.735 MHz | 78      | 26.935 MHz |
| 59      | 26.745 MHz | 79      | 26.945 MHz |
| 60      | 26.755 MHz | 80      | 26.955 MHz |

## CHANNEL-/FREQUENCY-TABLE PL

| Channel | Frequency  | Channel | Frequency  |
|---------|------------|---------|------------|
| 1       | 26.960 MHz | 21      | 27.210 MHz |
| 2       | 26.970 MHz | 22      | 27.220 MHz |
| 3       | 26.980 MHz | 23      | 27.250 MHz |
| 4       | 27.000 MHz | 24      | 27.230 MHz |
| 5       | 27.010 MHz | 25      | 27.240 MHz |
| 6       | 27.020 MHz | 26      | 27.260 MHz |
| 7       | 27.030 MHz | 27      | 27.270 MHz |
| 8       | 27.050 MHz | 28      | 27.280 MHz |
| 9       | 27.060 MHz | 29      | 27.290 MHz |
| 10      | 27.070 MHz | 30      | 27.300 MHz |
| 11      | 27.080 MHz | 31      | 27.310 MHz |
| 12      | 27.100 MHz | 32      | 27.320 MHz |
| 13      | 27.110 MHz | 33      | 27.330 MHz |
| 14      | 27.120 MHz | 34      | 27.340 MHz |
| 15      | 27.130 MHz | 35      | 27.350 MHz |
| 16      | 27.150 MHz | 36      | 27.360 MHz |
| 17      | 27.160 MHz | 37      | 27.370 MHz |
| 18      | 27.170 MHz | 38      | 27.380 MHz |
| 19      | 27.180 MHz | 39      | 27.390 MHz |
| 20      | 27.200 MHz | 40      | 27.400 MHz |

## CONFIGURATIONS

| N° | Code      | Frequency           | FM Channel                        | AM Channel                        | Country  | CH 19 | CH 9 |
|----|-----------|---------------------|-----------------------------------|-----------------------------------|--|-------|------|
| 1  | <i>EU</i> | 26.965 ~ 27.405     | 40 Ch (4W)                        | 40 Ch (4W)                        | AT, BE, BG, CH, CY, DK, EE, ES, FI, FR, GR, HR, HU, IE, IS, IT, LT, LU, LV, NL, NO, PT, RO, SE, SI | AM    | AM   |
| 2  | <i>PL</i> | 26.960 ~ 27.400     | -5 KHz 40 Ch (4W)                 | -5 KHz 40 Ch (4W)                 | PL   | AM    | AM   |
| 3  | <i>d</i>  | 26.565 ~ 27.405     | 80 Ch (4W)                        | 40 Ch (4W)                        | CZ, DE, SK   | FM    | AM   |
| 4  | <i>EC</i> | 26.965 ~ 27.405     | 40 Ch (4W)                        | -                                 | MT   | FM    | FM   |
| 5  | <i>U</i>  | 26.965 ~ 27.405     | 40 Ch (4W)                        | 40 Ch (4W)                        | UK   | FM    | FM   |
|    |           | 27.60125 ~ 27.99125 | ENG 40 Ch (4W)                    | -                                 |  | FM    | FM   |
| 6  | <i>rU</i> | 26.960 ~ 27.405     | 40 Ch (4W)<br>0/-5 kHz switchable | 40 Ch (4W)<br>0/-5 kHz switchable | RU T0 = PL, T5 = EU  | AM    | AM   |

**Note:** In U configuration: [AM/FM] (4) allows to select the ENG or CEPT frequency band. "UK" is displayed when the ENG frequency band is selected. When the CEPT frequency band is selected, "UK" disappears from the display.

The frequency band and transmission power of your radio need to match the configuration authorised in the country in which it is used.

### Countries with specific restrictions (Licence/Register)

|                       | AT | BE | BG | CH | CY | CZ | DE | DK | EE | ES | FI | FR | GB | GR | HR | HU | IE | IS | IT | LT | LU | LV | MT | NL | NO | PL | PT | RO | SE | SI | SK |  |
|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Licence <sup>1</sup>  |    |    |    |    |    |    |    |    |    |    |    |    |    | ①  |    |    |    |    | ①  |    |    |    | ①  |    |    |    |    |    |    |    |    |  |
| Register <sup>2</sup> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ①  |    |    |    |    |  |
| AM                    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ①  |    |    |    |    |    |    |    |  |
| BLU / SSB             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ①  |    |    |    |    |    |    |    |  |

UK



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The use of texts from this manual, including extracts, requires the consent of the publisher in all cases and generally is prohibited.

## Are there any difficulties in getting the new device up and running?



High-quality electronic devices are very complex: small causes sometimes have a big effect! However, many problems can be solved quickly and easily over the phone. Therefore, please do not send your new device back straight away!

# STOP

Use the stabo service team telephone support instead! Our technicians are very familiar with the devices and will like to assist you with practical tips and expert advice!

You can call us from monday to thursday from 09:00 to 12:00 on +49 5121 762032.

Please have the device and the operating instructions ready for the dialogue with our technician.