

# stabo xm 4060e

Art.-Nr. 30042

## **Operating instructions**

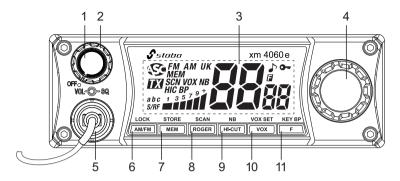




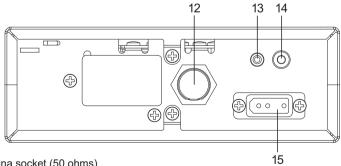
### Important!

Prior to using the device for the first time, carefully and completely read through all operating instructions. Keep these operating instructions in a safe place; it contains important hints for operating the device.

#### Control elements and connections



- 1 Volume control (VOL) and ON/OFF switch
- 2 Squelch (SQ) and A(utomatic) S(quelch) C(ontrol) on/off
- 3 LC-Display
- 4 Channel selection knob
- 5 Microphone socket (6-pin)
- 6 short key stroke: AM/FM (type of modulation) long key stroke: LOCK (key lock function on/off)
- 7 short key stroke: MEM (direct access to the priority channel) long key stroke: STORÈ (storing a priority channel)
- 8 short key stroke: ROGER (Roger Beep on/off) long key stroke: SCAN (all-channel-scan mode on/off)
- 9 short key stroke: HI-CUT (hi-cut filter on/off) long key stroke: NB (noise blanker on/off)
- 10 short keystroke: VOX (VOX function on/off) long key stroke: VOX SET (entering VOX mode settings: adjusting by channel selection knob or the up/down keys on the microphone)
- 11 short key stroke: F (entering channel table selection: adjusting by channel selection knob or the up/down keys on the microphone) long key stroke: KEY BP (key beep tone on/off)



- 12 Antenna socket (50 ohms)
- 13 Socket for external VOX microphone
- 14 Connection for external loudspeaker (3 watts, 4 16 ohms)
- **15** DC connection (13.2 volts)

## **LC-display**





Channel

Configuration

### Indication (when aktivated)

Automatic Squelch Control ASC

**TX** Transmitting TX

 FM
 FM Mode

 AM
 AM Mode

UK MPT 1382 Mode IndicationMEM Priority Channel MEMSCN Scan Mode SCN

**VOX** VOX Mode /VOX Adjust Mode

**NB** Noise Blanker NB

HIC HI-CUT
BP Beep Tone

Roger Beep

Key Lock

Configuration select mode

S/RF 1357 Signal strength and RF Power Meter

## **Product description**

Welcome to the fascinating world of CB radio and congratulations on having purchased the CB radio set stabo xm 4060e. You have made a decision in favour of a comfortable high-end radio set which can either be used for mobile operation in your car or as stationary radio set at home – a radio set which provides numerous extra functions.

#### **Features**

#### Six switchable frequency tables

EU 40 FM channels/4 watts, 40 AM channels/4 watts

PL 40 FM channels/4 watts, 40 AM channels/4 watts with -5 kHz offset

d 80 FM channels/4 watts, 40 AM channels/4 watts

EC 40 FM channels/4 watts

U 40 channels AM/FM/4 watts (CEPT) + 40 FM channels/4 watts (MPT 1382)

In 27 FM channels FM/4 watts, 27 AM channels/4 watts

multifunction LCD indicating the signal strength (S value), the relative transmitting power as well as the different operation modes

integrated VOX function with Anti-VOX

scan function for all channels (SCAN)

switchable Noise Blanker (NB)

automatic noise limiter (ANL)

switchable **sound filter** (*HI-CUT*)

switchable roger beep (ROGER)

switchable beep tone (KEY BP)

key lock function (LOCK)

direct access to priority channel (MEM)

clear, penetrating FM and AM modulation

## Scope of delivery

CB radio set stabo xm 4060e

Mounting bracket

Electret microphone with up/down function

User manual

## Important information



#### Safety warnings

- Persons with cardiac pacemakers are strongly advised to ask a doctor whether he has basically concerns against the use of a radio set and/or which rules of conduct are to be observed.
- Never touch the antenna during the transmission!
- Prior to using the radio set in a vehicle, make yourself in any case familiar with its functions and their operation! Never allow yourself to be distracted by operating the radio set or by radio communications from the current traffic situation!
- Never transmit without having an antenna connected!
- Never open the housing of a radio set or its accessories and do not carry out any modification. Ensure that any repair is carried out exclusively by qualified personnel. Modifications of or interventions in the radio set automatically lead to an expiry of the type approval, moreover it voids all warranty claims!
- Prevent children from playing with the radio set, accessories, batteries or the packing material.
- Do not operate the radio set, if you detect any damage of the housing or the antenna. Contact a qualified workshop.
- Protect your radio set and the accessories against moistness, heat, dust and strong vibrations. Avoid operating temperatures below -10°C or above +50°C.



## Legal requirements

**Operating CB radio sets:** In Germany, this radio set is free of charge and can be operated with channel configuration d, EU, EC and In without any registration. However, different provisions may apply in other countries: Prior to using the radio set abroad, find out more about the current national provisions! Be sure to observe the relevant provisions as well as any possible obligation to register – otherwise, you may be risking significant fines or even the confiscation of your radio set!

**Installing a radio set in a vehicle:** The manufacturer has specified instructions for the installation of radio sets and antennas in nearly all types of vehicle: Thus, contact your automobile dealer for the corresponding manufacturer specifications belonging to your car model. In any case, you should observe these specifications when installing the radio set, since the type approval of your vehicle can expire otherwise!

**Using voice radio in a vehicle**: While the driver of a vehicle is allowed to use mobile phones only using a hands-free kit or when the vehicle engine is switched off, an express exception to this rule is provided for radio sets in the German Motor Vehicle Traffic Regulations (Prior to making trips abroad, find out more about different provisions which may apply!). However, you should only use your radio set, if the traffic situation permits (please refer also to the safety instructions)!

#### Installation of the radio set

#### Usage as stationary radio set

If you want to use the stabo xm 4060e as stationary radio set, you are in need of a particular power supply unit for radio sets (optional) with an output voltage of 13.8 V, a continuous current of 3 A and an electronically stabilized voltage. Your approved dealer will be happy to advise you when selecting an appropriate power supply unit.

### Usage in a vehicle

If you want to use the stabo xm 4060e as mobile radio set, make sure to observe the given specifications of the vehicle manufacturer when installing the radio set! Position the radio set such that neither the movement nor the field of view of the driver/front-seat passenger is restricted. Make sure to provide a rigid, reliable and almost vibrationless mounting of the radio set. Even in the event of a possible accident it must not present any risk for injury for the vehicle occupants. Before you fix the mounting bracket using the tapping screws, make sure not to damage any lines in the vehicle! Furthermore, make sure not to bend any cables or connecting lines and not to install them on sharp edges or along vehicle components which get hot.

Choose a place for the microphone attachment such that the microphone is always within reach. Remember that its microphone cord must not interfere with the control elements of the vehicle. If the space for installing the radio set is so very restricted that the loudspeaker radiation at the bottom of the radio set is impaired, we recommend you to install an external mobile speaker (optional). This speaker is connected to the EXT.SP jack situated at the back side of the radio set. When connecting the external speaker, the internal loudspeaker is automatically deactivated.

#### **Power supply**

Your radio set is supplied with a nominal voltage of 13.2 V. By all means, make sure that the used polarity is correct, since a reverse polarity could damage your radio set (in spite of the integrated reverse polarity protection)!

The nominal supply voltage amounts to 13.2 V and must not exceed 15 V in any case. The negative pole is connected to ground (= chassis) as for almost all modern vehicles.

Prior to connecting the radio set, check polarity and voltage: If the vehicle is older, the positive pole can e.g. also be connected to ground. Some commercial vehicles are supplied with a voltage of 24 V instead of 12 V. If in doubt, please check with a specialist workshop!

## Connection to the vehicle's battery

Your radio set is provided with a power supply cable into which a 2 A fuse is connected. Unless otherwise provided in the manufacturer's specifications, connect the radio set using the red cable to terminal 30 (permanent plus) or terminal 15r (radio connection). Connect the black cable (negative pole) to ground using the shortest possible route.

Lay the power supply cable in the car such that the interferences resulting from the ignition system are as small as possible.



**Notes:** With a burnt-out fuse: First determine and eliminate the cause and insert a new 2 A fuse afterwards!

Always switch the radio set off before leaving the vehicle for optimizing the battery life!

## Microphone jack

Connect the supplied microphone to the microphone jack at the left front side of the radio set. Make sure that the recess on the plug is oriented downwards. A packet radio modem (TNC) can also be connected to this jack.

### Connection of an external loudspeaker (optional)

At the back side, the radio set is equipped with a jack for connecting an external loudspeaker with 4-16 ohms impedance. For improving the fidelity of reproduction, a loudspeaker can be connected using a 3.5 mm mono jack plug. Make sure to provide a rigid, reliable and almost vibrationless mounting of the loudspeaker, too. Even in the event of a possible accident, it must not present any risk for injury for the vehicle occupants.

## Choosing and connecting an antenna



Attention: Transmitting without having an antenna connected would result in a destruction of your radio set!

The antenna is an important component of the radio equipment and has a major impact on the reach of the radio set. Depending on the intended usage of the radio set, different antenna types are available – your specialist dealer will be happy to advise you!

#### Antennas for stationary radio sets

When using a stationary antenna, the maximum range of your radio set is achieved. However when installing outside antennas, various provisions (antenna grounding, German VDE) have to be observed: We recommend you to have the antenna system installed by an expert!

#### Mobile antennas

A distinction is made between tuned and tunable mobile antennas.

Tuned antennas should only be mounted on a great metallic surface (e.g. on the roof of the vehicle or the trunk lid) assuring a short connection to ground. For an antenna which must be fixed by drilling a hole into the car body, the body sheet must be thoroughly smoothed until metallically bright for assuring a good ground connection. Furthermore, make sure not to bend any cables or connecting lines and not to install them on sharp edges or along vehicle components which get hot. Connect the antenna cable to the jack.

Tunable antennas are to be adjusted to the output resistance of the transmitter (50 ohms). The actual characteristic antenna impedance depends on its length and on its environment of installation. For this reason, the manufacturer can only provide you with a roughly tuned antenna. Normally it is designed such that there is always enough scope left for adjusting it to the given conditions. In practical operation, this means that a new antenna is usually too long.

For adjusting the antenna, connect a VSWR resistance bridge (e.g. President TOS-1, article no. 50004) into the circuit between the radio set and the antenna. Set the radio set to FM modulation to work always with a constant transmitting power when measuring. Adapt the antenna according to the manufacturer is information such that the VSWR on your preferred channel or one of the median channels approximates to 1: A value of 2.0 is still acceptable. (For mobile operation, it does not make much sense to adjust a value of 1:1 by all means, since this value is modified again due to different environments, cable modifications etc.) Regularly check the antenna adjustment: An unfavourable value points to connector and cable problems!

## **Operation/functions**

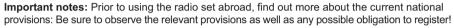
The operation of the xm 4060e is almost self-explanatory. After having established all connections, switch your CB radio set on by using the inner control/switch (**VOL**) which is also used for setting the volume. The display should be lit now and a channel should appear on the display. If the display does not light up, please check the power supply and the fuse. A noise should be audible in the loudspeaker. Turn the outer control (**SQ/ASC**) until a noise can be heard.

Please note that ASC is switched on when the squelch control is set to its leftmost position. ASC appears on the display and the radio set is muted.

#### Channel configuration

#### Frequency tables/channel configurations

The xm 4060e is equipped with six switchable frequency tables: Select the corresponding channel configuration depending on the country in which your radio set shall be operated (factory setting: EU). In Germany, this radio set is free of charge and can be operated with channel configuration d, EU, EC and In without any registration.



#### Channels

- EU 40 FM/4 W, 40 AM/4 W free of licence and charges in BE, CH, CY, DK, EE, IS, IT, LT, LU, NO, PT, SE individual licence/charges required: ES, IT
- PL 40 FM/4 W, 40 AM/4 W with -5kHz offset only allowed in PL
- d 80 FM/4 W, 40 AM/4 W free of licence and charges in DE, CZ
- EC 40 FM/4 W free use in all CEPT-countries, in some countries individual licence is required
- U 40 AM/FM/4 W (CEPT) + 40 FM/4 W (MPT 1382) only allowed in GB 27 FM/4 W, 27 AM/4 W allowed in IN

#### Changing the frequency table/channel configuration

- 1. Switch the radio set off.
- 2. Hold the **F** key pressed and switch on the radio set anew. *F* and the formerly selected channel configuration flash now on the display.
- Use the channel selection knob (or the up/down keys on the microphone) to select one of the six configurations
- 4. Press the **F** key for a second until the display stops flashing.
- 5. Switch the radio set off and on again.

The new channel configuration is now indicated at the bottom right of the display and the radio set is ready for operation using the new channel configuration.

#### Channel selection

Use the channel selection knob or the up/down keys on the microphone to adjust the requested channel you wish to use for receiving/transmitting. The channel is shown on the display.

#### Volume control (VOL)

The volume is set using the inner knob **(VOL)** of the double potentiometer which is also used for switching on the radio set. When the receive signal is lacking and the squelch function is deactivated, the noise should be audible very well in FM modulation. In FM the received speech signal is always a bit quieter than the noise without signal. After having set the volume, the squelch function should be activated.

#### Sauelch/SQ

The xm 4060e features a function for noise suppression (squelch) suppressing the reproduction, if the signal is lacking or too weak. Use the **SQL/ASC** control to adjust the signal level at which the function is activated.

The **SQ/ASC** control is the outer knob of the double potentiometer. By turning the knob to the left, the signal level is reduced, by turning the knob to the right, the signal level is increased. With constantly varying conditions of reception, as for example during mobile operation, a frequent adjustment of this level can be necessary.

### (A)utomatic (S)quelch (C)ontrol

The ASC function is a patented function elaborated by the President Electronics SA France group. This function evaluates the so-called signal-to-noise ratio (ratio between the useful signal and the interfering signal). The useful signal is only forwarded to the loudspeaker, if it is worth being received, i.e. it is almost free from noise. Thus, a permanent readjustment, as for the squelch function depending on the field strength, is not necessary. This is of benefit to a safe participation in the street traffic when driving. The ASC function can be used for AM and FM mode and is activated if the squelch control is set to the leftmost position. Furthermore, ASC appears on the display.

#### Choosing the type of modulation (AM/FM)

Using any channel configuration (except EC) you can either operate your radio set in FM or in AM modulation. Frequency-modulated signals (FM) are less sensitive to interferences resulting from the ignition system etc. than amplitude-modulated signals (AM). The decision, which type of modulation is your preferred one, depends on your radio contact partners and on your and/or the legal requirements.

If your loudspeaker emits an unintelligible, distorted signal, you should try receiving the signal using a different type of modulation. You can change the type of modulation by a short key stroke on the **AM/FM** key.

#### Receiving

When the radio set is switched on, it is ready-to-receive, unless the set is transmitting.



**Transmitting (Attention: Never transmit without having an antenna connected!)**Before starting the transmission, listen to make sure that the channel is free and that there is no "doubling" with a different radio station! Please note that the radio station needs a certain time to carry out its start-up sequence: Thus, you should wait for a second before speaking.

For transmitting, you just have to press the **PTT** button (push-to talk button) on the left side of your microphone and to speak with normal voice level into the microphone while holding the key pressed. Don't speak too loud such that the sound of your voice is natural for your radio contact partner. (Simply give it a try and ask for a modulation report afterwards.)

#### VOX function

The VOX function allows transmitting by speaking into the microphone without pressing the **PTT** button. The use of an optional VOX mike (connected to the back side of the radio set) disables the original microphone.

Activate/deactivate the VOX function by a short key stroke on **VOX**, *VOX* appears/disappears on the display.

#### VOX settings (VOX SET)

First you activate the VOX function (short keystroke) and then (with a long key stroke on **VOX SET)** you enter the setting mode. Three settings are available: sensitivity, Anti-VOX and delay time. You adjust the requested values by rotating the channel selection knob (or the up/downkeys on the microphone), and with a short keystroke on **VOX** you change to the next setting.

The **sensitivity** allows adjusting the response sensitivity of the microphone (original mike or optional VOX mike), means the threshold at which the VOX switches over to transmit mode. 9 levels are available: from 1 (high) to 9 (low); the selected level is indicated on the display.

The **Anti-VOX** function is used to avoid that the VOX switches over to transmit mode caused by RX signals or surrounding noise. The level is adjustable from 0 (off) to 9 (low level); the selected Anti-VOX level is indicated on the display.

The **Delay time** allows avoiding the sudden cut of the transmission by adding a short "break" at the end of speaking. The delay is adjustable from 1 (short delay) to 9 (long delay); the selected delay time is indicated on the display.

With a long key stroke on **VOX** you guit the VOX settings mode.

#### Storing a Priority Channel (STORE)

Select the requested channel and the requested type of modulation and store these settings by a long key stroke on **STORE**.

#### Direct access to the Priority Channel (MEM)

By a short key stroke on **MEM**, the radio set changes from the current channel to the stored priority channel.

#### All-channel-scan function (SCAN)

For using the all-channel-scan function ASC must be switched off. Adjust the **SQ** control such that the background noise just disappears. The scan function is activated with a long key stroke on **SCAN**, *SCN* appears on the display. Scanning will stop as soon as a signal which is worth being received is available on a channel; when broadcasting has finished, scanning starts again. The direction of scan can be changed by rotating the channel selecting knob.

Scanning stops with another long key stroke on SCAN, SCN disappears on the display.

#### Roger beep function (ROGER)

Tone signal at the end of a transmission: signals to your radio partner that the message is finished and the channel is free to transmit an answer. The roger beep function is switched on/off by a short key stroke on **ROGER**, papears/disappears on the display.

#### **Key beep function (KEY BP)**

Every key stroke is confirmed by a beep tone. The key beep function is activated/deactivated by a long key stroke on **KEY BP**, *BP* appears/disappears on the display.

#### **Key Lock function (LOCK)**

As a protection against faulty operation you can lock the keyboard: with a long key stroke on **LOCK** you activate the key lock, •• is appears on the display. With another long key stroke on **LOCK** you deactivate the key lock function, •• is no longer displayed.

#### Receiver low-pass filter (HI-CUT)

The stabo xm 4060e is equipped with a receiver low-pass filter. When the reception quality is poor due to background noise, this filter is able to improve the subjective hearing quality by filtering high frequencies occurring above all in background noise. HI-CUT is activated/deactivated by a short key stroke on **HI-CUT**, *HIC* appears/disappears on the display.

#### Noise Blanker (NB)

The circuit is used for blanking interferences (above all impulse interferences as e.g. interferences of the ignition system), it is functioning in AM and FM mode. NB is activated/deactivated by a long key stroke on **NB**, *NB* appears/disappears on the display.

#### S-meter

During reception, the strength of the received signal is shown by means of a bar display. This is the so called S-meter. With a voltage of 50  $\mu$ V (microvolts) at the receiver input **S9** is indicated. Reception of signals as of S5 should be perfect and without any problems.

#### Power display

When pressing the **PTT** button on your microphone, the display shows the relative transmitting power instead of the S-value. Depending on the modulation, more or less bars are shown in AM mode.



## **Disposal instruction**

Electric and electronic devices are not to be thrown into the domestic waste.

Deliver devices that are out of order/used with a corresponding collecting point for electronic scrap. For further information please contact your municipal waste disposal company or your local authorities.

## Assignment of the 6-pin microphone socket

Pin 1 Modulation

Pin 2 not connected

Pin 3 TX + channel selection keys

Pin 4 RX audio signals for

President microphone LIBERTY

Pin 5 Ground

Pin 6 Power supply

## Technical data

#### General

Channels: 80 (40)
Operation modes: AM/FM

Frequency range: 26.565 MHz to 27.99125 MHz

Antenna impedance: 50 ohms Supply voltage: 13.2 V DC

Dimensions (WxHxD): 160,5 x 55 x 159,5 mm

Weight: approx. 1 kg

#### **Transmitter**

Stability of frequency: +/- 100 Hz
Transmitting power: 4 W AM / 4 W FM
Spurious radiation: <4 nW / < -54 dBm
Adjacent channel power: <20 nW / < -17 dBm

Microphone sensitivity: < 5 mV
Degree of AM modulation: 85% nominal
FM hub max. +/- 2 kHz

Frequency response: 300 Hz - 3 kHz in AM/FM

Distortion factor: 1.0 % Power consumption: 1.9 A max.

#### Receiver

Sensitivity for 20 dB SINAD: 0.4 µV / - 115 dBm (AM/FM)

Adjacent channel selection: 63 dB Image frequency rejection: 65 dB IF rejection: 85 dB Intermodulation suppression: > 48 dB

Sqelch sensitivity:  $0.2 \mu V / - 120 \text{ dBm min.}$ 10 mV / - 47 dBm max.

AF output power: 2.9 W max.

Distortion factor: 2%

Frequency response: 300 Hz - 3 kHz in AM/FM Power consumption: 300 mA, 1000 mA max.

#### **Troubleshooting**

#### Your CB radio set does not transmit at all or transmission power is poor:

With the push-to-talk button activated, TX should be lit and your radio set should start transmission. By releasing the button once again, the indicator should go out and your radio set should again switch over to reception mode.

Check the standing wave ratio of your antenna as well as the cable with regard to possible interruptions or loose contacts!

## Your radio set does not receive any response to your transmission or reception is poor:

Correctly adjust the SQ control!

Adjust the **VOL** control to an appropriate playback volume.

Check the standing wave ratio of your antenna as well as the cable with regard to possible interruptions or loose contacts!

Make sure that you are using the same modulation mode (AM or FM) as your contact partner!

#### The displays do not light up:

Check whether your power supply unit is switched on.

Check the connections for proper wiring: plus pole (= RED) and negative pole (= BLACK)! Exchange the connections if they are mixed up.

#### Tips on radio communication

After switching on the radio set, always listen first whether the set channel is free (To do so, deactivate the squelch function such that you are also able to hear weaker radio stations.)! Start your own call only if the channel is absolutely free.

Transmit nothing but short calls! After each call carefully listen to a station possibly answering your call. Repeat your call only after having carefully listened.

After each transmission of your contact partner wait for several seconds before answering in order to give further radio stations the chance to participate in the radio communication ("change-over delay").

## International phonetic alphabet

When the radio contact is weak or intense interferences occur, it is quite often difficult to understand everything perfectly, as e.g. proper names or geographical names.

In this case, you can fall back on the international alphabet which is also applied in air traffic (ICAO) and NATO communications:

Α	Alpha	F	Foxtrott	Κ	Kilo	Ρ	Papa	U	Uniform	Ζ	Zulu
В	Bravo	G	Golf	L	Lima	Q	Quebec	V	Victor		
С	Charlie	Н	Hotel	Μ	Mike	R	Romeo	W	Whiskey		
D	Delta	-	India	Ν	November	S	Sierra	Χ	X-ray		
Ε	Echo	J	Juliett	0	Oscar	Τ	Tango	Υ	Yankee		

## **Evaluating the reception quality**

For informing the respective contact partner clearly on the strength and quality of reception, the numbers of the R/S code are used. The R-value is used for comprehensibility (readability) and the S-value (signal strength) for signal strength and/or volume of the contact partner.

#### R = readability

- 1 not readable, incomprehensible
- 2 temporarily or partially readable
- 3 difficult to read
- 4 readable, comprehensible
- 5 easy to read

#### S = signal strength

The S-value (= signal strength) can be read on the S-meter.

#### CB Language

Typically a special slang is used in CB radio. Some special terms originate, for instance, from amateur radio or the professional radio communication, other expressions stand for periphrases or abbreviations:

Advertising Flashing lights of police car

Back off Slow down
Basement Channel 1

Base station A CB set in fixed location

Bear Policeman
Bear bite Speeding fine
Bear cage Police station
Big slab Motorway
Big 10-4 Absolutely

Bleeding Signal from an adjacent channel interfering with the transmission

Blocking the channel Pressing the PTT switch without talking

Blue boys Police

Break Used to ask permission to join a conversation

Breaker A CBer wishing to join a channel

Clean and green Clear of police

Cleaner channel Channel with less interference

Coming in loud and proud Good reception

Doughnut Tyre

Down and gone Turning CB off

Down one Go to a lower channel

Do you copy? Understand?

DX Long distance

Eighty eights Love and kisses

Eve ball CBers meeting together

Good buddy Fellow CBer
Hammer Accelerator
Handle CBer's nickname
Harvey wall banger Dangerous driver

How am I hitting you? How are you receiving me?

Keying the mike Pressing the PTT switch without talking

Kojac with a kodak
Land line
Lunch box
Man with a gun
Mayday

Police radar
Police radar
Police radar
SOS

Meat wagon Ambulance
Midnight shopper Thief

Modulation Conversation
Negative copy No reply

Over your shoulder Right behind you

Part your hair Behave yourself - police ahead

Pull your hammer back Slow down

Rat race Congested traffic

Rubberbander New CBer Sail boat fuel Wind Smokey dozing Parked pol

Smokey dozing Parked police car
Smokey with a camera Police radar
Spaghetti bowl Interchange

Stinger Antenna Turkey Dumb CBer

Up one Go up one channel Wall to wall All over/everywhere

What am I putting to you? Please give me an S-meter reading

#### Q groups

Quite often, abbreviations from the internationally binding Q code are used which is also applied in naval or amateur radio. Thanks to these three-letter acronyms, information can be submitted very fast:

QRA: The name of my vessel (or station) is ...

QRG: Your exact frequency (or that of ...) is ... kHz (or MHz).
QRL: I am busy (or I am busy with ...). Please do not interfere.

QRM: Your transmission is being interfered with ... or I am being interfered with

QRN: I am troubled by static
QRP: Decrease transmitter power

QRT: Stop sending

QRU: I have nothing for you

QRV: I am ready

QRX: I will call you again at ... hours (on ... kHz (or MHz))
QRZ: You are being called by ... (on ... kHz (or MHz))

QSB: Your signals are fading QSL: I am acknowledging receipt

QSO: can communicate with ... direct (or by relay through ...)

QSP: I will relay to ... free of charge QST: General call to all stations

QSY: Change to transmission on another frequency (or on ... kHz (or MHz))
QTH: My position is ... latitude, ... longitude (or according to any other indication)

CB-Kanäle und ihre Frequenzen für d / Frequency table for d

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen Frequency	
1	26,965	21	27,215	
2	26,975	22	27,225	
3	26,985	23	27,255	
4	27,005	24	27,235	
5	27,015	25	27,245	
6	27,025	26	27,265	
7	27,035	27	27,275	
8	27,055	28	27,285	
9	27,065	29	27,295	
10 27,075		30	27,305	
11	27,085	31	27,315	
12	27,105	32	27,325	
13	27,115	33	27,335	
14	27,125	34	27,345	
15	27,135	35	27,355	
16	27,155	36	27,365	
17	27,165	37	27,375	
18	27,175	38	27,385	
19	27,185	39	27,395	
20	27,205	40	27,405	

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen Frequency	
41	26,565	61	26,765	
42	26,575	62	26,775	
43	26,585	63	26,785	
44	26,595	64	26,795	
45	26,605	65	26,805	
46	26,615	66	26,815	
47	26,625	67	26,825	
48	26,635	68	26,835	
49	26,645	69	26,845	
50	26,655	70	26,855	
51	26,665	71	26,865	
52	26,675	72	26,875	
53	26,685	73	26,885	
54	26,695	74	26,895	
55	26,705	75	26,905	
56	26,715	76	26,915	
57	26,725	77	26,925	
58	26,735	78	26,935	
59	26,745	79	26,945	
60	26,755	80	26,955	

#### CB-Kanäle und ihre Frequenzen für U(GB) (MPT 1382) Frequency table for U(GB) (MPT 1382)

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen Frequency
1	27,60125	21	27,80125
2	27,61125	22	27,81125
3	27,62125	23	27,82125
4	27,63125	24	27,83125
5	27,64125	25	27,84125
6	27,65125	26	27,85125
7	27,66125	27	27,86125
8	27,67125	28	27,87125
9	27,68125	29	27,88125
10	27,69125	30	27,89125
11	27,70125	31	27,90125
12	27,71125	32	27,91125
13	27,72125	33	27,92125
14	27,73125	34	27,93125
15	27,74125	35	27,94125
16	27,75125	36	27,95125
17	27,76125	37	27,96125
18	27,77125	38	27,97125
19	27,78125	39	27,98125
20	27,79125	40	27,99125

## CB-Kanäle und ihre Frequenzen für EU/EC/U(CEPT) Frequency table for EU/EC/U(CEPT)

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen 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

## CB-Kanäle und ihre Frequenzen für PL Frequency table for PL

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen 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

## CB-Kanäle und ihre Frequenzen für In Frequency table for In

Kanal Channel	Frequenzen Frequency	Kanal Channel	Frequenzen 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		
9	27,065 MHz		
10	27,075 MHz		
11	27,085 MHz		
12	27,105 MHz		
13	27,115 MHz		
14	27,125 MHz		
15	27,135 MHz		
16	27,155 MHz		
17	27,165 MHz		
18	27,175 MHz		
19	27,185 MHz		
20	27,205 MHz		