AE 8090

CB-Base Station

User Manual

Contents

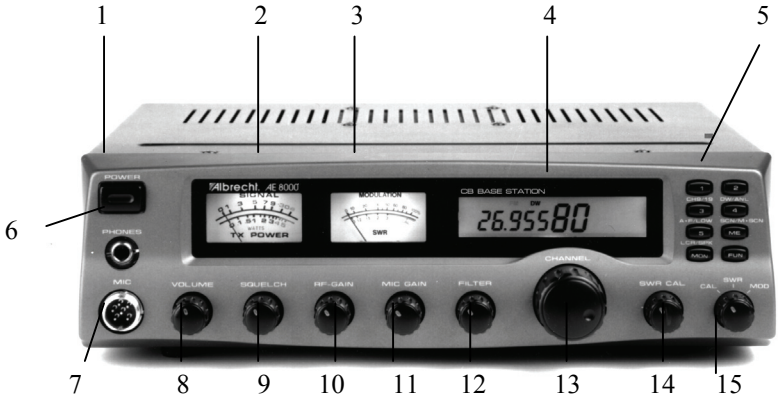
Introduction

Congratulations to your CB base station AE 8090! This unique base station offers:

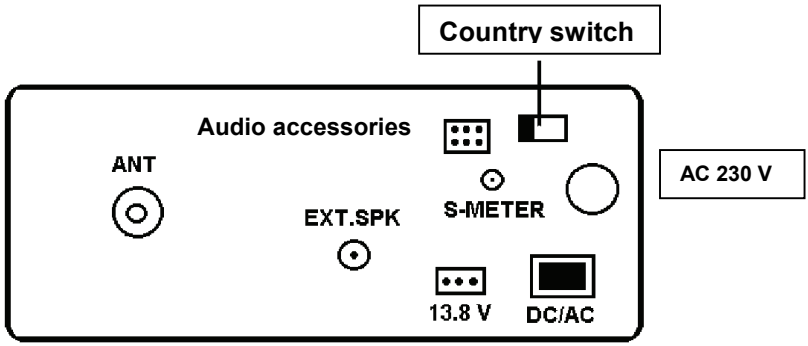
- **Multi-Standard Switching-** during installation you can select your country of operation among the most common country settings
- 80 channels FM / 12 channels AM (for Germany, Czech and Slovak Republics)
- 40 channels FM (CEPT) for all EU countries (+ Iceland, Norway und Switzerland (+ Liechtenstein), except Austria)
- 40 channels FM and 40 channels AM for Belgium, Bulgaria, Germany. Estonia, Finland, France, Latvia, Liechtenstein, the Netherlands, Poland, Portugal, Romania, Spain and Switzerland,
- Rotary knob channel selection + UP/DOWN-buttons at microphone
- Multi-function LCD
- Traditional Power-/S-Meter (moving coil instrument)
- Modulation-/SWR-Meter (incl. SWR calibration)
- Separate Power switch
- Volume knob
- Squelch
- RF-Gain
- Mic-Gain
- AM/FM Switch
- Dual Watch
- Audio filter for better audio sound
- 5 memory channels, can be programmed with AM- and FM-channels of your choice
- Scan und Memory-Scan
- Direct switching to channels 9 and 19
- Power switching for FM (Hi/Lo)
- LCR Last channel recall
- ANL-circuit against interference reception in AM
- Quick channel Up/Down
- 6-pin Mic socket + audio accessory socket at rear side
- Connector for external S-meter
- Connector for external speaker
- Selectable power supply between 230 V AC and 12 V DC
- Electret- preamplified hand microphone
- Switchable keyboard tone

Please read these instructions carefully and learn about the features of this radio.

Front view



Rear panel



Country selector switch (rear panel))

Channel combinations: 40 FM - 80/12 - 40/40

Knobs and push buttons

1. POWER On-Off
2. Power/S-meter
3. Modulation-/SWR-meter
4. Display
5. Keyboard
6. Earphone Socket 6.3 mm
7. Microphone socket 6-pin
8. VOLUME
9. SQUELCH
10. Receiver RF sensitivity RF-GAIN
11. Microphone sensitivity MIC GAIN
12. Receiver audio filter FILTER
13. Rotary channel knob CHANNEL
14. SWR-calibration-switch SWR CAL
15. Meter display switch CAL / SWR / MOD

Multi function keyboard

1. Memory 1 and direct channel access to ch 9/19
2. Memory 2, ANL and Dual-Watch
3. Memory 3, AM-FM- and RF output switch LOW
4. Memory 4 und Scan/Memory-Scan-Taste
5. Memory 5 and LCR-/SPK-key

ME Memory enable key
MON Monitor key
FUN Function key (= second function)

Accessories supplied

Your AE 8090 comes with following accessory items:

- Hand microphone
- DC-power cable 12 V
- Mounting screws etc.
- User manuals

Safety Precautions

People with pacemakers are recommended as a precaution to consult their doctor before operating the CB radio. Not all types of pacemakers are sufficiently protected from radiation from a nearby transmitter, so do not assume it is safe to start operation without checking! Please remember that you are in the immediate vicinity of a transmitting aerial, particularly when used as a mobile. If your doctor, or the manufacturer of the pacemaker, has recommended keeping a certain safe distance from the aerial, then please follow their instructions!
Do not transmit without connecting the aerial and never touch the aerial during transmission!

Installation

You can either operate your base station at home at 230 V AC, during camping, on a boat or just at any place where you have 12 V DC available Mount the set in such a way that it is not exposed to direct sunlight if possible, as this would lead to an increase in the temperature and can decrease the working life. The radio should also not be installed near a heater. Mount the set in such a way that it is exposed to as little vibration as possible.
Do not install the set in a place where it could cause injuries in the case of an accident.
Mount the microphone fixing device using the enclosed screws in an easily-accessible place, if desired.
In order to prevent interference to vehicle or home electronics, please make sure to take any mounting instructions from the vehicle manufacturer for radios and antennas into account. For home installation, use only

outdoor antennas whenever possible, and where only indoor antennas are possible, keep them as far away as possible from television sets, home stereo or computers.

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Regulations for use

CE-Marking and Conformity with European Standards

This device is provided with R&TTE Directive conform identification:

The CE sign means, that this radio achieves the basic requirements of the latest European regulations. The so-called R&TTE Directive displaced all earlier national “type approvals” in the EU and also regulates the bringing into circulation and the use of radio installations. So the ownership and the trade with proper labelled devices such as the AE 8090 in the EU and some other (not EU-) countries, who accept the R&TTE Directive, allowed, while for the use of radio installations there are still different rules, depending on the programming and the country. For CB radios this means: the technical standards EN 300 135 and EN 300 433 are valid Europe-wide, but not the use of specific modulation types and channel numbers. So there still are differences in the programming of the channel numbers in AM and FM and still some countries charge license fees for CB radios. All radios, for which there are somewhere in Europe restrictions, have beside the CE sign also an “Alert Sign” sign. All manufacturers have been obliged to inform their users noticeable on the package and in the manual, what they have to follow while using the device.
This is in so far understandable, because the frequencies were used for different objects in every country and so it takes a while to harmonize all those different frequencies.
The AE 8090 achieves the for CB radio harmonised European radio-standards EM 300 433-2 and EN 300 135-2 as well as EN 301 489-13 for the electromagnetic compatibility and EN 60 950-1 for the electric safety. So this device does not transmit any harmful radio interference and is on the other side also immune to radiations from other devices, if it is used as intended. In generally this is the case, if you do not connect any cables to the microphone- and loudspeaker jack which are longer than 3 m.

Our recommendation: if you use your radio with the AM-programming, please consider the licence conditions mentioned above seriously! You

risk, if you are found that You have a wrong programming and you cannot show a licence, a possible penalty or other sanctions. It is also important that you register in your home country, if there still is a registration necessary. Users within UK are only allowed to use 40 FM and 40 FM with UK channels.

In Germany the “Bundesnetzagentur” is responsible for potential special permits in border areas. In bigger cities you find the address of the responsible branch office either in the telephone directory or you ask in the central office of the “Bundesnetzagentur”: (+49) (0)6131-180. The Circulation Card is also released by the “Bundesnetzagentur” in Germany and some other country’s administrations.

Country programming during installation

Before connecting the radio to **the AC or DC power supply**, it is necessary to bring the **country switch** on the rear panel to the correct country position for your country.
Only during power up procedure of the radio, the programming information from the switch will be read and transferred to the CPU. Factory default setting is to the mostly used 40 AM and 40 AM position. If You want to use the radio in a country, where no AM is allowed, pllease use only the 40 FM (CEPT) position. This is allowed in all countries except Austria, because the present regulations in Austria do not allow any country switches accessible for users. On request, we can supply a fixed 40 FM version AE 8090 FM for Austria.

The switch has the positions

40 FM - 80/12 - 40/40

Changing country programming

The country programming remains stored as long as the radio is connected to the power supply. Changing the switch position is possible, when necessary.
Switch the radio off, pull the power supply cable for at least 10..30 seconds. Change the switch position to the new setting and connect the power cable again.

Power Supply

Operation from AC 230 V

Insert the AC power cable plug into a (grounded) 230 V outlet. Select the AC position of the AC-DC switch on the rear panel.
Please note and be aware that the internal 12 V power supply circuit is connected to 230 V as long as the 230 V plug remains inserted into an AC outlet., even if the power switch should be “off”. Among other reasons the internal power supply will ensure the memory storage function.
The power consumption in “Off” position is small, however we recommend that you disconnect the radio from the 230 V network in cases where You will not need the radio for a longer time period.
After a power interruption of more than some seconds the radio will restart in FM on channel 9 with the factory preset memory channels.

Safety warning

Inside the radio there are no user accessible parts which may need your attention or service. Only qualified and authorized technicians are allowed to open the radio for any maintenance or re-adjusting procedures. This is as well valid for replacement of the main fuse in case of a technical malfunction. A blown 230 V fuse (0.5 A slow blow characteristics) lets always assume that there is a defect which needs to be repaired by qualified technician.

Inside the cabinet parts of the radio may be under high voltage if the 230 Volts cable is inserted into a power outlet, even if the radio seems to be switched off or in 12 V DC position. Do not open the radio before disconnecting the 230 V AC supply cable.

Operation with 12 V DC

If a 230 V outlet should not be available (e.g. the station is operated in a motor home, camping vehicle or boat) you may operate the radio from a 12 V network or battery. Use the supplied DC cable, which has a polarized plug and an inserted DC fuse. The cable is inserted into the DC plug on the rear side, and the free cable ends shall be connected with the 12 V DC supply on the shortest possible way. For memory backup we recommend to connect the radio to a permanent 12 V supply. If a short cable connection should not be possible, use at least 2.5 square millimetres thick DC extension cable for the wiring (available at car accessory shops)
Connect the **red wire** with the **Plus-side** of the DC supply and the **black wire** with the **Minus-side**. The radio will need about 1.5 Amp in transmit mode.
In boats and recreation vehicles it is sometimes critical where to place a central charger in the network. Chargers can generate interferences to radios- so it may be necessary to test different connecting points for the radio.
The best connecting point will be directly at the 12 V battery- this ensures the lowest possible interference levels.

The fuse in the DC cable

The fuse is important to protect the internal radio circuits against damaging by wrong polarisation of the DC cable and in other fault situation.

If a fuse blows, it has always a cause, which should be investigated! In most cases the cause is a wrong + and – connection.

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In case of a blown fuse please find the reason and replace the fuse by the same value (max. 2.5 A)

Never repair a blown fuse by means of aluminium foils or wires!

If a fuse blows often, let a technician check the radio or send it to one of the ALAN/ALBRECHT service partners.

The maximum allowed DC voltage is 15.6 V- the RF power is stabilized and does not increase with rising voltage.

The radio shall never be connected directly to 24 V networks!

Antenna Connection

Connect an external CB base station antenna at the antenna socket at the rear side. The antenna must be designed for the CB radio frequency range and should be mounted for example on the roof for best communication range. Outdoor antennas need to be installed by antenna specialists with sufficient knowledge in RF technology and safety aspects.

For adjusting antennas an external SWR instrument or the internal SWR test instrument may be used.

The SWR meter measures the ratios of standing wave ratio of the antenna system, which is critical in properly adjusting the antenna length and all related electrical connections. This meter will indicate if there are any major changes in these critical areas caused by such things as humidity, vibration, or corrosion, which will cause the SWR Meter to rise. A rising SWR indicates that a problem exists.

To Calibrate SWR:

a) Set the radio into the FM mode.

b) Switch the CAL/SWR/MOD knob to the SWR position

c) Transmit by pressing the PTT button on the microphone, and adjust the SWR/CAL, control until the needle reaches the CAL position on the meter.

d) Put the CAL/SWR/MOD knob back to the SWR position, and read the SWR value.

Tune the antenna:

Use a medium operation channel and try to adjust the antenna according to the manufacturer's instruction. On a medium channel the SWR should be 1.5 or better. The antenna is optimal tuned if the SWR reaches it's best value on the medium channel and will become higher towards upper and lower channels.

Use, whereever possible, a good outdoor antenna and no compromiss solution for indoor. Indoor antennas may under some conditions generate interference to nearby electronics entertainment systems.
Never transmit without antenna and never touch antennas during transmission

Note: Because of spurious suppression requirements by European standards the internal SWR test circuit cannot provide the same accuracy compared to external SWR meters, which are used only for testing and will be removed from the antenna cables after the measurements have been finished.

Operation

Before first use

- Adjust RF-GAIN to full sensitivity (full clockwise)
- Adjust SQUELCH to open position (counterclockwise)
- Adjust MIC GAIN to a medium position.
- Adjust FILTER to counterclockwise (left) position
- Adjust VOLUME to counterclockwise position

Power on and volume adjustment

- Press POWER key. The display and the instruments will be illuminated
- Turn VOLUME knob to desired volume level (clockwise)

Channel selection

At the radio:

- User the rotary channel selector knob. The display will show channel number and frequency.

At the microphone:

- Use UP- or DOWN- keys to switch to higher or lower channel numbers

- Press button longer for faster channel search

S- Meter- instrument

The instrument (S-Meter, upper scale) will show you how strong a recveived signal is. The scale from S 1 to S 9 +30 follows international conventions. S 9 means a good signal , S 1 a weak signal and S 9 + 30 is the strongest possible input signal.

AM-FM Selection

With the key **A-F** you can select between ***Amplitude Modulation AM*** and ***Frequency Modulation FM***. (see display)

At first power on the radio will start in FM.

For most users the choice of the modulation is a matter of tradition. AM has certain advantages and is less noisy, but does not provide a constant audio volume. AM is used by most truck drivers, while FM is used more by CB hobby users at home.

FM is possible on all selected channels, while AM is restricted to CH 4-15 in the german setting 80/12.
If you should select AM and go to an FM-only channel, the radio will automatically switch to FM and show a flashing FM symbol in the display. If You select again a channel which is allowed for AM, the AM symbol will appear.

The **international Programming "40/40"** allows AM and FM on all 40 international channels. Meanwhile this programming is allowed in Germany as well.

In the international **FM-CEPT-Programming "40FM"** the A-F-switching has no function.

Direct switching to channel 9

Channel 9 has a special function in most countries. It is the **emergency** and **"calling"** channel. In Germany CH 9 is used by almost all truck drivers. If You need assistance, you have the biggest chances to find a partner station on this channel.!

To select CH 9 directly

- Press ***CH9/CH19***. The channel display ***09*** will flash, and You can transmit and receive on this channel
- With the **normal channel switch** you can now select between ch 9 and 19.
- Press ***CH 9/ CH 19*** again to switch back to the previously used channel.

Direct switching to channel 19

In France, Spain and Italy channel 19 is often used by truck drivers. You select the CH 19 directly by

- Push **FUN** and then **CH9/CH19**. The channel number 19 will flash now, and you can “work” on this channel.

- With the **normal channel switch** you can now select between ch 9 and 19.

- Press ***CH 9/ CH 19*** again to switch back to the previously used channel.

Adjust the receiver RF sensitivity (RF gain)

Normal position is maximum sensitivity = full clockwise. Sometimes it may be necessary to reduce the sensitivity, for example if You receive strong signals which “overload” your receiver, or if You simply do not want to have the full receiver sensitivity when you communicate only within your neighborhood.

- First use maximum clockwise position for RF GAIN.

- If necessary (or desired) turn RF GAIN more counterclockwise to reduce the sensitivity.

- Do not forget later to turn back to full clockwise position!

Filter

The FILTER- knob can improve the audio characteristics of received signals. It can reduce the low frequency response and make the sound clearer or “higher” because it increases medium audio frequencies. Weak and “dark” appearing Receiving signals can be made better understandable. Full frequency response curve = clockwise

Memorize channels and recall memories

AE 8090 can store up to 5 frequently used channels and you can recall them with buttons 1 to 5.

Save a channel

- Select desired channel by **rotary knob** or **UP/DWN** keys.

- Select the desired modulation **AM** or **FM**

- Press first **FUN** und then **ME** . ***S*** appears in display ("Store Memory")

- Press one of the buttons **1** to **5** to select the memory location for the desired channel. ***S*** will disappear and the memory storing is completed.

Previously stored channels can be overwritten by new storing procedures.

Recall memorized channels

- Press **ME**. The Icon ***L*** (for Load Memory) will appear in the display.

- As long as ***L*** is still appearing press one of the buttons **1** to **5** of the previously stored memory locations.

This channel is now recalled. You can transmit and receive there.

- To select another memory location, press again **ME** and one of the buttons 1 to 5

- You quit the memory location by using the channel rotator switch or the up down keys.

LCR – Last channel recall

After you have changed your working channel by any action, you can recall the channel, on which you have transmitted for the last time before. Just press **LCR/SPK** and the radio returns to the last used channel.

Example: You had used CH 7 in AM with transmitting for a conversation. Then You have switched to FM and listened to other stations, without transmitting there. Pressing now **LCR/SPK** will switch your radio back to CH 7 in AM.

Scanning (search for busy channels)

AE 8090 offers an automatic scan mode which checks all channels consequently for activity. When a signal is received, which opens the squelch, the scanner will stop at this signal and allows you 5 seconds listening. If you do nothing, the scanner will continue searching the channels after this time. If the signal should disappear during the 5 seconds waiting time, the scanning will resume after a short delay.

All channel scan

You can start scanning into both directions.

- Start scan mode by pressing **SCN/M-SCN** .
- Turn channel knob during scanning for a moment to left side- the scanning will change direction to lower channel numbers (and reverse)

Scan stop

- Press **SCN/M-SCN** shortly

SCAN will disappear, scanning stops and the radio works normal.

- You can also use the **PTT** button at the microphone to stop scanning
- The same effect is arranged by pressing **CH9/19**
- Pressing once more CH9/19, the radio returns to the channel which had been scanned before pressing the knob the first time

Any touch on **UP /Down** or turn of the **rotary selector** will be able to change the scanning direction

Memory Scanning

Start with a memory channel and press:

- **FUN** , and then **SCN/M-SCN** .

The scanner will now check only the 5 memory locations. Changing the scan direction is possible as well

Note: Important for any scan mode is a correct **Squelch** adjustment. Do not open the squelch too much- the scanner would stop too often at interference signals, and do not close the squelch too much- then only very strong signals will have a chance to let the scanner stop

Dual Watch, DW

This key gives a chance to check 2 channels alternatively for activity.
Example: You have established Ch 5 as personal calling channel, where you are waiting for calls from others. And you wish to listen any other channel of your choice by rotary channel switch

- Select your calling channel (in the example this is ch 5)
- Press **DW** . The ***DW*** Icon will appear in the display.
- Now select any other channel by channel selector

You listen to the channel shown in the display. Automatically the DW circuit will check your calling channel as well for activity.
As soon as someone will call you on the calling channel, the receiver will stop listening the other channel and you listen the traffic on your calling channel with priority

Automatic noise limiter ANL

In AM the radio offers an additional noise filter ANL, which can reduce typical AM modulated noise signals from vehicle ignition coils, electrical machines etc.
(ANL = Automatic Noise Limiter).

- Press **FUN** und then **DW/ANL** .
- Zum Ausschalten verfahren Sie genauso.

It is normal, that after activating ANL the audio volume impression seems to be lower. But there is actually no reduction in receiver sensitivity.

Quick channel UP/Down

You can start the channel selection with 10 x speed.

- Press **FUN** .
- Use rotary knob or UP/DWN buttons. You will see that channel change is done in steps of 10 channels now. After starting the next channel will be 11, 21 etc.

Example: You have selected ch 16. Press **FUN** und then turn **channel knob 1 step to right** - the next step is then 26, 36, and so on (or reverse)

Switching Speaker & Phones off

This function is useful if you use data transmission via the rear panel 6 pin accessory socket. You can switch off speaker and phones, while the discriminator output at the rear panel socket remains still active.

Press **FUN** und then **LCR/SPK** .

Use the same procedure for activating the speaker again.

Caution: Switching the speaker output off makes no sense if you use the mic socket on the front panel for data transmission, because the PIN 2 (RX audio) at the mic socket is switched off as well.

Please do not forget when you have switched off the speaker!
If later no speaker should work, check the switch position. Our service dept. got already radios returned where only the speaker was off and the user thought the radio is defective.

Transmit

Use the PTT button at the microphone to switch between receive mode (normal) and transmit mode:

- Press PTT- to start transmission
- Wait a small moment (1/2 second) before start talking
- Speak with a moderate voice into the microphone (see next chapter)
- Release PTT button after you stopped talking

The radio returns to receive mode

During transmission you can observe the left moving coil instrument, which shows the relative transmit power output.

The right moving coil instrument can be switched to show the modulation degree (MOD) or the standing wave ratio of the antenna & cable matching (SWR).

Mic Gain

The MIC GAIN potentiometer will adjust the microphone sensitivity to your speech volume and distance to the microphone. The supplied hand microphone is a preamplified electret-type which provides enough audio output that normal speaking volume requires approximately only ½ turn of the potentiometer. If you like to speak loud or from less distance, reduce the MIC Gain, if You speak only with moderate voice, you may increase the MIC GAIN setting. In any case you should test the best setting for your voice together with a distant station.

Reduce transmit power

If you communicate only over a shorter distance, you may produce a high field strength in your surrounding or even at the distant station. Why should you not reduce the electromagnetic radiation, where full power is not necessary?

Our recommendation: Check with your partner station always, whether you can be understood with low power setting as well! The radio allows to reduce the output power in FM from 4 watts (normal) to 1 Watt (reduced). This is a radiation reduction of 6 dB. To switch transmit power

- Press **FUN** and then **A-F/LOW** .
    - This procedure can be used for both directions: High to Low and Low to High

Monitor (MON)

This key overwrites the actual squelch setting and is very useful if a receiving signal becomes suddenly interrupted.

Keyboard acknowledge tones

Any key operation will produce a beep tone as confirmation. If You should not desire these tone bursts, switch the tones off (switching on with same procedure:

- Switch the radio off
- Press the PTT button at microphone
- Keep PTT pressed during switching the radio on again
- Release PTT button

Accessory Connectors

External loudspeaker

Depending on the surrounding noise, it can be advisable to hook up an external loudspeaker. Usual commercial radio loudspeakers with 4-8 ohms impedance and 2-4 W minimum output can be plugged in.
The cable can be up to 3 metres long. For car loudspeakers, make sure to use a two-pin 3.5 mm jack plug and ensure that none of the loudspeaker connections are attached to ground.

Microphone socket

Your AE8090 has a 6 pin microphone standard socket on the front side. To enable the additional channel selecting function **UP** and **Down** from the microphone, the socket has a special wiring at Pin No. 4 only valid for this and similar Albrecht transceivers.

Apart from the hand microphone included in the package, you can also hook up other microphones, with or without preamplifier, or with or without selective calling devices. According to the latest regulations you are also allowed to plug in devices for data transfer or sound card access for CB gateway use. However, other type of microphones must be specially soldered to the 6 pin connector and do not allow additional switches. Such other microphones must not use PIN 4 of the plug.

Please note that data transfer is only permitted on certain channels and only for non-commercial use and not in all countries.

The receive audio signal at PIN 2, which can be used for Data or packet radio decoders or audio gateways is a resistor- attenuated speaker signal.

External S-Meter socket

The 2.5 mm socket on the rear side allows the connection of an external S-Meter, which can supply more accuracy compared to the internal bar graph display in the LCD section.

The polarity is positive, i.e. the – connection is the outer conductor (ring) and the + connection is the inner connector (tip) of the 2.5 mm connector.

Phones socket

This 6.3 mm Mono socket on the front panel is for standard headphones with an optimal impedance of 32 Ohms. The socket is sufficiently resistor protected against too high audio sound pressure as long as You do not use a headphone of less than 16 Ohms. Please take care that the headphone shall be wired for Mono operation- if necessary you may need an adapter for connecting standard stereo headphones to this socket.

Audio Accessory socket 6 pin

The 6 pin MOLEX socket on the rear panel is designed for connecting noise reduction systems, selective calling devices, or data systems. It corresponds to the **AKE select** wiring standard **N 2** . Please note that decoder signals (directly from discriminator output) are only available in FM mode.

For other systems you may also use the mic and speaker sockets.

Technical Specifications

Mic socket	**Accessory socket**
1 Mic audio	1 transmit key PTT
2 RX for decoders (appr. 2 kOhm)	2 Ground
3 PTT-TX (against ground)	3 Muting (RX)
4 Up/Down	4 Discriminator audio output
5 Ground	5 TX modulation
6 DC Supply for preamp etc	6 DC 12 V

Frequency ranges:

80/12:	26.565 to 27.405 MHz FM (channels 1-80) 27.005 to 27.135 MHz AM (channels 4-15)
40 FM CEPT:	26.965 to 27.405 MHz FM (channels 1-40)
40/40:	26.965 to 27.405 MHz AM and FM (channels 1-40)

Transmitter

Transmit Power	4 W FM, switchable to 1 Watt 1 W AM (at 80/12 and 40/40)
Mod-sensitivity	2.8 mV at 1 kOhm
Harmonics & Spurious	-90 dBc corresp. . 4 nW
Max. frequency deviation	2,0 kHz
AM-Modulation degree	90% (at 80/12 and 40/40)

Receiver

Sensitivity (FM)	better than +3 dBµV EMF for 20 dB SINAD
Sensitivity (AM)	better than +6 dBµV EMF for 12 dB SINAD (only at AM operation in 80/12 and 40/40 modes)
Adj. channel selectivity	better than 60 dBµV EMF
Intermodulation	better than 60 dBµV EMF
Spurious Response	better than 50 dBµV EMF
Audio output power	2 W at 8 Ohm , 3.5 mm Mono socket
Headphones	Mono socket 6.3 mm for headphones >32 Ohms via protection resistor from speaker output

Power consumption at 230 V AC

POWER off	appr. 35 mA
Receiving	appr. 70-90 mA
Transmit Mode4 Watt	appr. 150 mA

Power consumption at 12 V DC

POWER off	appr. 6 mA
Receiving	appr. 0.35 to 0.5 A
Senden 4Watt:	apprc 1.3 to 1.5 A

Troubleshooting

Check at first the power supply and the fuse(s). A problem max be caused through power supply, when no light appears after switching on. If the unit works in a strange way, disconnect the power supply cable, while the radio remains switched on, wait some time (minimum 10 seconds), and then reconnect power again.
Check the microphone and antenna connector. We think you cannot do more in case of a real technical problem. Please ask your dealer or consult our service hints in the Internet. If you should return the radio to your distributor for repair, do not forget to describe the problem as exactly as possible. Please never open the radio cabinet while the 230 V AC cable should be plugged in- there are unprotected parts inside and high voltage may cause dangerous electrical shock.

European 2 years warranty

The distributor, dealer or retail shop where you bought the radio warrants to the original retail purchaser of this product that should this product or any part of it, under normal use and conditions, be proven defective in material or workmanship within 2 years from the date of original purchase, such defect(s) will be repaired or replaced with new or reconditioned product without charge for parts and repair labour. To obtain repair or replacement within the terms of this warranty, the product is to be delivered with proof of warranty coverage (e.g. a copy of your bill of sale), specification of defect(s), to the distributor, dealer or his authorised repair centre.
Liability for communications range of this product is disclaimed. The warranty does not apply to any product or part there of which, has suffered or been damaged through alteration, improper installation, mishandling, misuse, neglect, accident, or by removal or defacement of the factory serial number label(s). The warranty does not apply to accessory parts or problems caused through not authorized or not recommended accessories like other than the supplied microphone, external antennas, external power supplies and over voltage caused through external power supplies,

lightning or over voltage defects via antenna or other cables, broken or damaged acrylic glass windows and cabinet parts.
Please contact the distributor or person where you have purchased your CB base station.

Where to find service hints and service documentation

The complete technical documentation is updated regularly. You can download the latest versions of user manuals, technical documents and conformity declaration, as well as service hints or FAQ's any time from our server under

http://www.hobbyradio.de

If You should have a problem, please have a look to the service hints or frequently asked questions (FAQ) before You send Your CB radio back to the service centre.

Disposal and Recycling of Electronics Waste

This CB radio has been produced according to the European *RoHS* directive and does no more contain certain banned hazardous substances. Please dispose defective and no more usable electronic items only via officially allowed collecting points.
The new European WEEE directive does no more allow to dispose items via household trash. Please contribute to the efficient recycling of used electronic items!

Declaration of Conformity / Konformitätserklärung

We hereby declare that our product: / Wir erklären hiermit, dass unser Produkt

CB-Radio Albrecht AE 8090

satisfies all technical regulations applicable to the product within the scope of EU Council Directives, European Standards and national frequency applications:/ alle technischen Anforderungen im Geltungsbereich der EU Richtlinien, europäischer Normen und nationaler Frequenzanwendungen einhält:

73/23/EEC, 89/336/EEC, 2004/108/EG and 99/5/EC
EN 300 135 –2 V.1.1.1 / EN 300 433-2 V.1.1.2
EN 301 489-1 V.1.1.6, EN 301 489-13 V.1.2.1, EN 60 950-1: 2006

All essential radio test suites have been carried out. /
Alle für das Produkt vorgeschriebenen Funktestreihen wurden durchgeführt.

Alan Electronics GmbH - Daimlerstr. 1 k - D- 63303 Dreieich

This declaration is issued under our sole responsibility. Basing on not harmonised frequency applications, the CB radio may be used only in listed countries according to selected channel programming. An individual licence for operating this radio in **AM + FM** on 40/40 in **B, CH, FL, E** and **I** is requested.
In **D**, where 80/12, 80/40, 40/12 or 40/40 FM/AM channels are allowed, **CZ** (only 80 FM), **SK** (only 40 FM + channels 70-80), **BG, EST**, **F, FIN, GR, IRL, LV, NL, PL, P** and **RO** the operation on 40 / 40 channels in AM and FM is free of licence and free of charges. If the radio is programmed to **40 FM only**, it may be used without license and free of charge **in all EU member states + HR, N, IS, but not in *Austria, where radios with country switches are generally not allowed to be used***.
Residents of Belgium, Spain, Switzerland and Great Britain (UK) and Italy need a CB license in their home country, while travellers from other European countries may use their radio during travelling in these countries free of license and charges (in UK travellers are only allowed to use 40 FM).

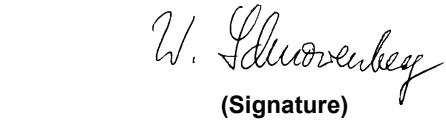
Diese Erklärung wird unter unserer alleinigen Verantwortung abgegeben. Dieses Funkgerät darf wegen der nicht harmonisierten Frequenzanwendungen in **AM + FM** in den Ländern **B, CH , FL, E** und **I** nur mit gültiger CB **Funkgenehmigung** benutzt werden. In **D** (80 FM, max 40 AM), **CZ** (nur 80 FM),**SK** (40 Kanäle FM + Kanäle 70-80), **BG, EST, F, FIN, GR, IRL, LV, NL, P, PL** und **RO** (40/40) ist der CB Funk anmelde- und gebührenfrei. Dabei ist In Deutschland mit der Programmierung **80/12 der ortsfeste** Sendebetrieb auf den Kanälen 41 - 80 in bestimmten Regionen entlang der Grenzen der Bundesrepublik Deutschland (außer zu CZ) nicht oder nur mit Sondergenehmigung gestattet, in Tschechien darf nur FM (80 Kanäle) und in der Slowakei FM auf 40 Kanälen + Kanäle 70-80 benutzt werden.

Mit der Programmierung **40 FM** darf dieses Gerät **in allen EU Mitgliedsstaaten + Island, Kroatien, Norwegen (*außer Österreich, dort ist der Betrieb von CB Funkgeräten mit Länderumschaltung generell nicht erlaubt*)** anmelde- und gebührenfrei betrieben werden. Bewohner von Belgien, Großbritannien, der Schweiz. Liechtenstein, Italien und Spanien benötigen in ihrem Heimatland eine Genehmigung (CB-Lizenz). Die vorübergehende Benutzung durch Reisende aus anderen europäischen Ländern ist jedoch in diesen Ländern anmelde- und gebührenfrei erlaubt (in GB jedoch nur in FM). Mitführen der Circulation Card für Reisende aus Deutschland ist empfohlen in Spanien, Finnland, der Schweiz und Liechtenstein.

Alan Electronics GmbH declara, bajo su responsabilidat, que este aparato cumple con lo dispuesto en la Directiva 99/05/CE, del Parlamento Europeo y del Consejo de 9 de marzo de 1999, transpuesta a la legislacion espanola mediante el Real Decreto 1890/2000, de 20 de noviembre.

Point of contact/ Ansprechpartner:
Dipl.-Phys. Wolfgang Schnorrenberg
Place and date of issue:

Dreieich/ Lütjensee, 11. 12. 2008



(Signature)
Dipl.-Phys. Wolfgang Schnorrenberg
Alan Electronics GmbH

Albrecht Radio Passport

The following programming and operation rules are valid for your AE 8090 (issued January 2009) in the countries, which apply the R&TTE Directive of the EU:

Country	Programming	Restrictions
Operation of CB radios with restrictions		
Belgium, Switzerland (+FL) and Spain	40/40 or 40 FM	Residents need license and pay charges
Italy	40 FM or 40/40	Residents need registration and pay charges
Austria	40 FM	CB radios with country switches are not allowed to be used in Austria. Distributors can supply a 40 CH FM version without country switch on request.
Operation without any license or charges		
Belgium, Spain	40 FM 40/40	Short-time travellers do not need any license or charges. Home country license / Circulation Card is accepted
Germany	40 FM, 80/12, 40/40	Free of license and charges for all users, except base statiion use on channels 41-80 in certain border areas except CZ border.
Croatia, Cyprus, Danmark, Hungary, Iceland, Lithuania, Luxembourg, Norway, Malta, Slovenia	40 FM	Free of license and charges for all users
Finland, France, Greece , Ireland	40/40 and 40 FM	Free of license and charges for all users
Great Britain	40 FM	Free of license and charges for all users
Iceland	40 FM	Free of license and charges for all users
Italy	40/40 and 40 FM/	Short-time travellers do not need any license or charges
Luxembourg	40 FM	Free of license and charges for all users
Netherlands	40/40 and 40 FM	Free of license and charges for all users
Norwegen, Malta	40 FM	Free of license and charges for all users
Bulgaria, Estonia, Latvia, Poland, Portugal, Romania	40 FM and 40 AM	Free of license and charges for all users
Sweden, Slovenia	40 FM	Free of license and charges for all users
Switzerland and Liechtenstein	40 FM and 40 AM	Short-time travellers do not need any license or charges. (Circulation Card recommended)
Slovak Republic	40 FM + CH 70-80	Free of license and charges for all users
Czech Republic	80 / 40 but AM not allowed	Free of license and charges for all users

Sales and Service in UK

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technicalsupport@alan-uk.com

Service in Germany

For spare parts order call **06103 9481-22** or send e-mail to **service@alan-electronics.de**
For technical questions we have a technical consulting hotline (charge 69 Cents/minute from german fixed phone network and 1.49 Euro/minute from German mobile networks) under 0900 1234 222.

Repair centre:
Alan Electronics GmbH – Daimlerstr. 1 k – D-63303 Dreieich
You can also contact one of our service partners directly: see service address list under www.hobbyradio.de

Service download: www.hobbyradio.de