

# Albrecht.®

## CB RADIO AE 4090

### OPERATING MANUAL



**Downloaded from [www.cbradio.nl](http://www.cbradio.nl)**

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## Important Note

Your Albrecht AE 4090 corresponds to the latest European CB standards. As a unique feature, it has a software country switching which allows selecting the operation mode according to the country, where You intend to use the radio. Please make sure that You use only the country switching which is allowed in Your country and according to Your CB licence! **You may risk a penalty if authority members will find that You are operating in not allowed modes!**

**40 FM**      40 channels FM / 4 Watt (former "CEPT" settings with 40 Channels FM according to EN 300 135-2). This mode can be used in nearly all European countries (some countries still request an individual licence, even for 40 FM mode! See our latest issue of the "Radio Passport"). Please note that radios with country switches are not allowed to be used in Austria.

***After installation or reconnecting to a power supply, Your radio will always start in this factory preselected 40 FM mode.***

**80/12**      80 channels FM / 4 Watt, 12 channels AM / 1 Watt for Germany only. You need a licence to operate the radio in this mode, and in certain border regions transmitting on channels 41 to 80 in FM is not allowed.

**40/40**      40 channels FM / 4 Watt, 40 channels AM / 1 Watt. Latest European Standard EN 300 433-2, not yet applied in all countries. In Belgium, Germany, Italy, Spain and Switzerland You need a licence to operate the radio, while it is already free of charges and licence in Finland , France , the Netherlands and Portugal.

## Introduction

Your new Albrecht CB Radio AE 4090, developed and manufactured in accordance with the latest CB regulations, offers you:

- 40 channels FM / 4 watt      or
- 80 channels FM / 4 watt / 12 channels AM / 1 Watt      or
- 40 channels FM / 4 Watts / 40 channels AM / 1 Watt
- Channel selection UP/ Down buttons on the radio
- Channel scan button at microphone
- Direct channel switching to CH 9 / 19 from microphone
- LED channel number display
- 8-pin microphone socket, suitable also for amplifier microphones, selective calling systems or Packet Radio modems/TNC's

- Socket for external loudspeaker

Please read this operating manual through carefully. This will enable you to make use of all the functions your new CB Radio has to offer as soon as possible.

## Accessories included

Your AE 4090 comes operational with the following accessories:

- mobile mount
- 2 knurled screws for the mobile mount
- 2 rubber washers for the mobile mount
- fixed connected DC power cable with looped-in fuse
- spare fuse
- Electret hand-held microphone with pre-amplifier and PTT, CH 9/19 and SCAN buttons
- microphone hanger
- various screws to fasten the radio and microphone fixing devices
- User manual with circuit diagram and Radio Passport

## 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!

Please also take road safety into account! CB Radio (even when only receiving, particularly when volume is turned up) can divert your attention from the road! Road safety is of course to be given priority! Therefore only use your ALBRECHT AE 4090 when the traffic situation enables it to be used safely.

## Front view

Receive Volume

AM - FM Switch

LED-Channel Display



On / Off

Squelch

Transmit LED  
(not all versions)Double Function  
Channel / Country switch

## Rear view

External speaker  
8 Oms, min. 2 WBrand Plate with  
country switching  
decriptionAntenna socket  
50 Ohms  
PL-259 StandardDC power cable  
13.2 V

## Installation of the radio

You can either operate your ALBRECHT AE 4090 in the car or at home as a base station. For installation as a mobile station in the car, a mobile mount device is enclosed. 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 (set's) working life. The set 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.

The mobile fixing device should be attached to the dashboard, the tunnel slot or to any other suitable place using the enclosed tapping screws. Do not install the set in a place where it could cause injuries in the case of an accident (be careful to ensure

free leg movement). Take care not to damage any underlying wires during installation!

Then insert the radio into the mobile mount device. Secure the set with the large knurled screws (using the enclosed plastic washers) firmly at the required angle.

Also mount the microphone hanger using the enclosed screws in an easily-accessible place.

In order to prevent interference to the vehicle electronics from transmission in the vehicle, please make sure to take any mounting instructions from the vehicle manufacturer for radios and antennas into account.

**Please note:** European directives allow the car manufacturers to decide, whether or not private radio transceivers may be operated in cars, this is also valid for antenna installations. Please install Your mobile CB station only in accordance to car manufacturer's installation instructions. In addition, the CB radio has an "e" approval number (e1 022911) for use as type approved car accessory item.

## Power supply

Your AE 4090 receives power from the 2 pin fixed power cable.

The red and black wires in the cable are for the power supply. The cable has a looped-in fuse.

You can choose from two methods when connecting to the power supply (red and black):

### Example 1

The channel and the last used mode should be maintained after switching off; the set should be able to be switched on and off at any time using the volume / on/off switch.

Connect up the red to the positive pole on the vehicle battery (or elsewhere in the vehicle's electrical system with permanent plus) or to a 12 volt power unit.

Connect up the black wire to the negative pole on the vehicle battery or the power unit or to a well-conductive part of the car body.

### Example 2

The set should be automatically switched on and off with the ignition switch of the car. The radio shall always start in the factory default mode on CH 1 in FM with 40 CH FM CEPT mode.

Attach the red wire to a part of the vehicle electrical system which is interconnected to the ignition.

Connect the black wire to the negative pole on the battery or the vehicle body.

**Note for all connecting methods:**

For EMC reasons, the cable used to connect to the power supply should be no longer than 3 metres.

If you wish to operate your set at home from the mains supply then please only use a stabilized power pack with at least 2 amps permanent current-carrying capacity. Under no circumstances should you use a car battery charger, as these are not stabilized and during open circuit reach such high voltage levels that your radio set could be destroyed.

If in base station use it is important to you that the stored stations are kept even after switching off and on again, then please do not switch the external power supply power unit off when you switch your set off for a short time. Only use the on/off switch on the transceiver itself.

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Never repair a blown fuse with silver paper or with aluminium foil! If the fuses keep blowing, then please give your radio set to your servicing dealer to be repaired or hand it in to Albrecht's service station.

The maximum allowed voltage variation for this radio is up to 15.6 volts. Never exceed this voltage under no circumstances! The transmitting stages for your AE 4090 are electronically stabilized, and therefore it is impossible to increase output by means of excessive supply voltage. Such attempts may lead to serious damage to the radio set but will never increase output power!

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## Antenna connection

Connect your CB antenna to the ANT socket on the rear side of your ALBRECHT AE 4090. Most CB antennas must be tuned to best radiation during installation to give highest effective communication range. CB specialists do that job with a standing wave meter to check and adjust the aerial. Tune the antenna to the best standing wave ratio (SWR) on an intermediate channel e.g. using Channel 1 in 80/12 mode (26.965 MHz) or Channel 20 in all other modes.

On this channel you should obtain a SWR of approx. 1.5 or less. If the SWR deteriorates on the highest (Channel 40) and lowest (Channel 41) channels up to a value of 2.5, then your aerial is still acceptable. SWR above 3 is too bad for good communication range. A bad SWR may also indicate that there is perhaps an installation error or missing ground. Problems may be caused through missing ground, especially in boats and motor homes with fiber glass body. For these cases, Albrecht offers a special connecting cable with matching box as "artificial ground" (AKM 27)

*Some antennas, like "Gamma II" are broadbanded and do not need any retuning during installations.*

***Even if your AE 4090 has a particularly robust transmitter high-level stage which can even withstand mismatching of SWR=3, you should still never transmit without an antenna!***

## Operation

### Before switching on

- Turn SQUELCH control left as far as possible

### Switching on and adjusting volume

The on/off switch is combined in the VOLUME control. To switch on:

- Turn VOLUME control from OFF position slightly right. LED display will be illuminated. Then turn further until desired volume is reached.

### Selecting the correct country code

#### Starting with European 40 CH FM system

When You switch on Your new CB radio for the first time, it will start with the Europe-wide used 40 Channels FM mode. If You are not sure what is allowed in Your country please ask local authorities before using the radio. If You should not need any individual CB licence in Your home or guest country, You should use this factory default setting:

- 40 FM** This is former “CEPT” mode, the programming which is allowed in most countries (except Austria). Here the radio works on the international 40 Channels in FM mode. The Mode switch AM – FM on the front side allows only receiving in AM and FM, but only transmitting in FM mode ( in some countries You need a licence, even for 40 CH FM only!)

#### Programming Country codes for AM and FM

If You live or are travelling in a country allowing AM and FM, You may now select between two different settings: The international AM / FM system for 40 channels and the German AM – FM channel system with 80 channels FM and 12 channels AM.

***Please read carefully the “Radio Passport” in the last chapter of this manual before reprogramming the unit Take Your home country licence with You when travelling abroad and using 40/40 or 80/12 mode.***

#### Switching to 40/ 40 system (B, CH, D, E, F, Fin, I and P)

- 40/40** This position can be used in those countries, where already all 40 international channels are allowed to be used in AM and FM. AM was traditionally used by CB from the beginning in the early 60’s in USA, and it is still the preferred mode of all truck drivers in the world. Please use this mode only in countries according to the list in the Radio Passport, and please apply for an individual licence where requested.



***To switch to this system***

- Switch the radio **off**
- Press **Down** button and keep button pressed
- Switch **on** the radio at the same time
- **Release** the button

The radio has now switched to AM / FM on all 40 channels. You may select any of these channels and operate in Am or FM. The last used channel is kept in a memory depending on the mode.

**Example:** If You have used CH 1 in AM before, then switch to FM, and select CH 8 for FM, You may later toggle between CH 1 /AM and CH 9 / FM with the AM/FM switch. In Germany, use of this software position is legal, but transmitting in AM is only allowed on channels 4 to 15.

**Switching to 80/12 channel system (Germany only)**

**80/12** This position is only allowed to be used in Germany, and an individual licence is necessary. Restrictions are still in force in the border regions to other countries (except to Czechia), where transmitting on channels 41 – 80 is not allowed or only with a special licence.

***To switch to this system***

- Switch off the radio
- Press UP button and keep pressed
- Switch On the radio again
- Release UP button

You can now receive on all 80 channels in FM and AM, but You can transmit on all these channels only in FM. In AM the channels 4 to 15 are enabled for transmitting. If You should try to transmit in AM on other channels, the LED will blink to warn You. Transmission on such channels is technically deactivated.

**Programming back to European 40 FM system**

You may switch back to the initially used FM only system at any time either by:

- Disconnecting power supply for some seconds (disconnect cable or take out fuse, or switch off the external power supply)

or

- Switch **off** the radio
- Press **UP and DOWN** together and keep both buttons pressed
- Switch **on** again
- Release both buttons

**Note:** This radio utilizes a CPU system especially developed for this radio. Other (illegal) channel systems are not stored in the CPU system and are not available at all.

**Selecting the operating channel**

- with Up or Down buttons on the radio You can continuously select channels. The present channel is displayed.
- Press the respective button longer to run up or down through the channels. The present channel is displayed.

**Adjusting squelch (muting)**

Particularly in FM, noise can be a nuisance on a free channel. With the muting control (SQUELCH) You can suppress this noise - but also signals which are too weak to be received properly.

This is how to adjust the signal strength required to switch on the loudspeaker, using the SQUELCH control knob:

The further the control knob is turned to the right, the stronger a signal has to be in order to be audible through the loudspeaker.

In order to adjust the set to be the most sensitive to incoming signals, switch to a free channel:

- Use the up / down switches to find a free channel, where no signal is displayed.
- Then turn the SQUELCH control carefully to the right until the noise just about disappears.

Now the loudspeaker stays off when on a free channel but it switches back on when receiving even very faint signals.

*The muting adjustment is particularly important during channel scanning. In this mode the point to which the set is adjusted decides whether scanning is stopped at the signal or not. Therefore you should test the various muting settings for various signal strengths and get to know this function.*

**AM / FM mode switch**

In all country programming modes FM modulation (transmit and receive) is possible on all selectable channels. AM receiving is also allowed and possible on all channels, but AM transmission is disabled completely in 40FM mode and in the German mode 80/12 on channels 1 to 3 and 16 to 80. In 80/12 mode You can only transmit AM on channels 4 to 15. If You should try to transmit on a forbidden channel in the German mode in AM, the display will blink.

Where allowed, You can switch with the AM/ FM switch between both modulation modes.

*When you switch on the set the first time it operates on FM.*

## Special interest channels

There are a few channels which have established themselves for certain purposes:

<b>Channel 1</b>	Call channel in FM (Germany only)
<b>Channel 9</b>	<b>Call and emergency channel</b> , in Germany particularly this channel is also used by all truck drivers in AM. This means: a large number of stations are listening in. If the worst comes to the worst (e.g. in case of accident etc.) there is a good chance that someone will be listening.

To call other stations, who you know are listening in on channel 9, you can also use this channel. Call up the desired station on channel 9. As soon as contact has been made, agree on a free channel for your conversation and then channel 9 will be free again for other calls.

An emergency channel can of course only work if as many stations as possible are listening in. Therefore listen in to this channel as often as possible!

<b>Channel 16</b>	Water sport channel
<b>Channel 19</b>	<b>Trucker channel</b> on AM in France, Spain and Italy
<b>Channel 24/25</b>	Data transfer (Packet Radio, Germany only)

Some recommendations have been worked out by the CB clubs for the new channels 41 to 80 in Germany. To find out which channels are suitable for special purposes, please get in touch with the respective groups or check in CB magazines.

## Direct channel access key CH9/19

Your transceiver has an extra button on the microphone which provides direct access to the most important channels 9 and 19 described in previous chapter.

You can toggle with the button between "normal" channel selected previously, CH 9, CH 19 and back again. Just press the button consequently.

## Scan mode

Your AE 4090 has an automatic channel scan, which can be used to observe all channels consequently.

First choose the mode (AM or FM). Adjust the muting control to the point at which the receiver should open (see also 'Adjusting squelch').

### Start channel scan

- Briefly press the button SCAN.
- Scan starts almost immediately by scanning all the channels upwards
- Scanning is stopped at each signal worth receiving and you can listen in to the conversation.

If you leave the set alone it will re-start a) after the communication on the channels has stopped or b) after about 5 seconds observation time, if the communication should last longer.

### Stop channel scan

- You can stop the scan at any time by pressing the SCAN button a second time.
- Pressing the transmission button will also automatically stop the scan modus.

### **Transmitting and correct use of microphone**

With the transmission button (Push To Talk) on the side of the microphone you can switch between receiving and transmitting:

- Press PTT button to transmit.  
If Your radio is equipped with a TX control LED, this will light when You are transmitting on an allowed channel in an allowed mode. (Note: Some versions of this radio do not have a TX- LED)
- Release PTT button again to switch back to receiving.

When the transmission PTT button is depressed, you can speak from a distance of about 5-10 cm into the microphone. After pressing the PTT button, please wait about ½ second before You start speaking. Please remember- that different from GSM phones- You share one channel common for transmit and receive, and Your transmitter and the receiver(s) on the distant side need a certain time to switch on. The modulation amplifier of your AE 4090 is sensitive enough and enables you in most cases to speak with even more distance, depending on how loud your voice is. An automatic regulator ensures that your partner always hears your signal at the same volume.

It is best to test the best distance from the microphone for yourself with the help of another station. Please note that there is a mic sensitivity potentiometer inside the microphone. Counterclockwise = full sensitivity, clockwise = less sensitivity.

## **External sockets**

### **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 the vehicle chassis.

### **Microphone socket**

Your AE 4090 has an 8 pin microphone socket on the front side. To enable the additional functions, Scan and direct channel control 9/19 from the microphone, the socket has a special wiring only valid for this transceiver model.

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 modems or so-called TNC`s for data transfer (Packet Radio). However, other type of microphones must be specially soldered to the 8 pin connector and do not allow CH9/19 or Scan switching.

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

## Service and Warranty informations

### Troubleshooting

Check at first the power supply and the fuse. A problem may be caused through power supply, when no LED light appears after switching on. If the unit works in a strange way, disconnect the power supply cable (or take out the fuse from the holder), while the radio remains switched on, wait some time (minimum 10 seconds), and then reconnect power cord again.

Check the microphone and antenna connector. We think You cannot do more in case of a problem. Please ask Your dealer or consult our service hints in the Internet. If You should return the radio to Your dealer for repair, do not forget to describe the problem as exactly as possible.

### 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 labor. 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 authorized repair center.

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 overvoltage caused through external power supplies, lightning or overvoltage defects via antenna or other cables, broken or damaged acrylic glass windows and cabinet parts.

Please contact the dealer or person where You have purchased Your CB radio.

### 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.albrecht-online.de/service>**

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 center. Please note that the acceptance of AM+FM in the different European countries has just started and may be subject to unpredictable changes. Our homepage will provide the latest informations about using the radio.

## Legal Information

The radio may be used in European Countries only according to following informations, which we publish as "Radio Passport". Because the number of countries allowing the new AM standard is changing, the latest version of this radio passport is published on our Internet Web server and may be downloaded any time. (<http://www.albrecht-online.de/service>) The version printed in this user manual has been issued in March 2003

### ALBRECHT RADIO PASSPORT AE 4090

This CB radio complies to the latest European regulations (R&TTE directive and European harmonised standards) and has been notified in the countries according to following table: (as of March 12, 2002):

Country	Country switch position	Licence and operating conditions
<b>Operation only with individual licence</b>		
Austria	40 FM	Austria does not accept radios with country switches, please do not use in Austria!
Belgium	40/40 and 40 FM	Residents in Belgium need licence
Germany	80/12 or 40/40 <b>Note:</b> Using 40/40 is allowed, but transmitting on channels 1-3 and 16-40 in AM forbidden	Licence and yearly charges requested. Transmitting on channels 41-80 in certain border regions not allowed (special licence necessary)
Great Britain (UK)	40 FM	Residents of UK need CB licence
Italy	40/40 and 40 FM	Licence and regular charges for all CB radios
Switzerland	40/40 and 40 FM	Licence and monthly charges
Spain	40/40 and 40 FM	Licence and regular charges
<b>Operation without licence and charges allowed</b>		
Belgium	40FM 40/40	Free for short-time travellers up to 1 month Home country licence accepted for travellers
Denmark	40 FM	Free of licence and charges for all users
Finland	40/40 and 40 FM	Free of licence and charges for all users
France	40/40 and 40 FM	Free of licence and charges for all users
Germany	40 FM	Free of licence and charges for all users
Greece	40 FM	Free of licence and charges for all users
Hungary	40 FM	Free of licence and charges for all users
Iceland	40 FM	Free of licence and charges for all users
Ireland	40 FM	Free of licence and charges for all users
Luxembourg	40 FM	Free of licence and charges for all users
Netherlands	40/40 and 40 FM	Free of licence and charges for all users
Norway	40 FM	Free of licence and charges for all users
Portugal	40 /40 and 40 FM	Free of licence and charges for all users
Spain	40 FM	Free of licence and charges for travellers
Sweden	40 FM	Free of licence and charges for all users
Switzerland	40 FM	Free of licence and charges for travellers
United Kingdom UK	40 FM	Free of licence and charges for travellers

**Important Note:** Please respect the licence conditions in the above listed countries and do not use the radio without licence, where necessary. For travelling with Your radio, we recommend to provide a copy of Your home country licence document and this Radio Passport together with the radio. The above list is based on public available informations, while country specific requirements may change without notice during the harmonisation process in Europe, we recommend to ask local authorities before travelling.

## Declaration of Conformity / Konformitätserklärung



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

### CB-Radio Albrecht AE 4090

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 and 99/5/EC  
EN 300 135 -2 / EN 300 433-2  
EN 301 489-1, EN 301 489-13, EN 60 950**

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

**ALAN Electronics GmbH  
Dovenkamp 11  
D- 22952 Lütjensee**

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** (80/12 in D, 40/40 in B, CH, D, E, I,) is requested. In Finland, France, Netherlands and Portugal 40/40 operation is free of licence. If the radio is programmed to **40 FM only**, it may be used without license and free of charge in nearly all EU Countries + Island, Switzerland, Norway, Hungary (except Austria.) In Italy individual licence is requested.. Residents of Belgium, Spain, Switzerland and Great Britain (UK) need a CB licence in their home country, while travellers from other European countries may use 40 CH FM during travelling in these countries free of licence and charges.

Diese Erklärung wird unter unserer alleinigen Verantwortung abgegeben. Dieses Funkgerät darf wegen der nicht harmonisierten Frequenzanwendungen in **AM + FM nur mit gültiger Einzelgenehmigung bzw -Zuteilung** in den Ländern B, CH, E, I, (40 / 40 Kanäle) und D (80/12 oder 40/40 Kanäle) in Betrieb genommen werden. In Frankreich, Finnland, den Niederlanden und Portugal ist der Betrieb auf 40/40 Kanälen anmelde- und gebührenfrei. In Deutschland ist mit der Programmierung **80/12** Sendebetrieb auf den Kanälen 41 - 80 in bestimmten Regionen entlang der Grenzen der Bundesrepublik Deutschland nicht oder nur mit Sondergenehmigung gestattet. Mit Programmierung 40/40 darf dieses Gerät auch in Deutschland betrieben werden, jedoch darf in AM (bis auf weiteres) nur auf den Kanälen 4-15 gesendet werden. Mit der Programmierung **40 FM** kann das Gerät in fast allen EU Staaten (ausser Österreich und Italien (dort ist eine individuelle Genehmigung notwendig) anmelde- und gebührenfrei benutzt werden. Bewohner von Belgien, Grossbritannien, Spanien und der Schweiz benötigen in Ihrem Heimatland eine Genehmigung (CB Licence). Die vorübergehende Benutzung von 40 Kanälen FM durch Reisende aus anderen europäischen Ländern ist in diesen Ländern jedoch anmelde- und gebührenfrei erlaubt.

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Place and date of issue:

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(Signature)

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ALAN Electronics GmbH

## Technical Details

### Microphone socket wiring

Pin 1	Ground, shield
Pin 2	PTT-TX (on ground for transmit)
Pin 3	PTT-RX (on ground for receiving)
Pin 4	Mic audio and MIC supply
Pin 5	Direct channel key versus ground
Pin 6	Scan key versus ground
Pin 7	Channel UP key versus ground
PIN 8	Channel Down key versus ground

### Packet Radio & others

Pin 1	Ground
Pin 2	Transmit key
Pin 3	Receive audio
Pin 4	Transmit Audio

### Tip for specialists

Your AE 4090 package includes a preamplified electret microphone. In the microphone is a board on which the mic gain can be adjusted with a small screwdriver. The mic gain has been factory preset to medium position. If required, the gain can be adjusted as desired (counterclockwise = full sensitivity).

### Transmitter

Transmitting power	4 Watt FM 1 Watt AM
Modulation sensitivity	2.5 mV at >1 kOhm
Harmonic and spurious radiations	-90 dBc = 4 nW
Max. frequency deviation	less than 2.0 kHz
AM modulation degree	90%

### Receiver

Sensitivity (FM) (SINAD)	better + 3dbmV EMK for 20 dB
Sensitivity (AM) (SINAD)	better + 3dbmV EMK for 12 dB
Adjacent channel selection	better 60 dB (EN 300 135-1) better 48 dB (EN 300 433-1)
Intermodulation rejection	better 54 dB (EN 300 135-1) better 48 dB (EN 300 433-1)
Image rejection	better 48 dB (EN 300 433-1)
Audio output power	ca. 2 Watt to 8 Ohm load

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[www.albrecht-online.de](http://www.albrecht-online.de)

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