



## AM / FM / SSB CB Transceiver

according to ECC / CEPT DEC (11) 03  
and EU standard EN 300 433-2

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## Legal Notes and General Information

It is legally required in some countries to publish our CE Declaration of Conformity in its original wording (as of July 2011) and in the country's language. Find the latest regulations, statements and other documentation with regard to this device published in the Service Download area at [www.hobbyradio.de](http://www.hobbyradio.de) or [www.alan-albrecht.info](http://www.alan-albrecht.info). Please note the published country-specific conditions when operating this device and observe your obligation to register and operating limitations, if applicable, in some countries, as long as they are still enforced! Taking this device into other EU countries is permitted according to European law, but operation is still governed by national regulations until the new Europe-wide CEPT decision CEPT ECC DEC (11) 03 is implemented into national law in the respective country.



## CE- Declaration of Conformity / Konformitätserklärung

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

### CB-Radio Albrecht AE 5890 EU

International version according to CEPT ECC DEC (11) 03

1 W / 4 W AM, 4 Watt FM, 4 W / 12 W (PEP) SSB

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, 2004/108/EG and 99/5/EC, CEPT ECC DEC (11)03  
EN 300 135 -2 V.1.2.1 / EN 300 433-2 V.1.1.2  
EN 301 489-1 V.1.8.1, EN 301 489-13 V1.2.1, 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 totally 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 is requested from residents of, **CH, E, FL, I**, while travellers may use their radios free of charge and licence). In all other EU (and countries applying the R&TTE directive) the operation of this radio is free of licence for all users. This radio may be subject of restrictions (4 Watt AM / 12 W SSB) in countries, where SSB or the new ECC decision is not yet accepted. Use of additional accessories like Packet Radio modems via MIC socket is only intended to be used in FM mode and may be restricted to individual channels depending on national frequency allocations.

Diese Erklärung wird unter unserer alleinigen Verantwortung abgegeben. Dieses Funkgerät darf wegen einiger noch geltenden länderspezifischen Vorbehalte bis auf weiteres **von Bewohnern von CH, E, FL und I nur mit gültigen CB Funkgenehmigung** in Betrieb genommen werden, während ausländische Reisende Ihr Gerät frei benutzen dürfen. In allen anderen EU (und EWR Staaten) ist die Benutzung anmelde- und gebührenfrei. In einigen Ländern gelten noch Betriebseinschränkungen für AM 4 Watt und SSB 12 Watt, solange die CEPT / ECC Entscheidung (11) 03 noch nicht in nationales Recht umgesetzt wurde. Der Anschluss von Audio-Zubehör, wie z.B. Packet Radio Modems, ist nur in der Betriebsart FM vorgesehen, die Benutzung von Packet Radio kann in einigen Ländern auf bestimmte national freigegebene channels begrenzt sein oder auch generell nicht gestattet sein.

Point of contact/Ansprechpartner:

Dipl.-Phys. Wolfgang Schnorrenberg

Place and date of issue:

**Dreieich, 08. 07. 2011**

**(Signature)**

Dipl.-Phys. Wolfgang Schnorrenberg  
Alan Electronics GmbH

## **Preparation for Start-up General Use Instructions**

This AM FM SSB transceiver AE 5890 EU is a universal CB radio for 12V DC power supply. It can be connected in vehicles, at high-performance 12V batteries, such as rechargeable lead batteries, and via a suitable 12V power adaptor with at least 6A stabilized continuous current, at 230V mains power supply. The radio is, due to its operating mode, which demands careful operation and repeated adjustment during operation, not everywhere permitted to be used in vehicles while driving. Find out about the country's regulations, if you are permitted to operate radios in the respective country while driving. In Germany the well-known "mobile phone prohibition" applies only for mobile phones and not for two-way radios.

The radio is intended for intermittent operation with an average transmission time of approx. 10% of the On-time, as usual for CB radios. This device is not intended for continuous transmission without regular receiving periods to cool down. Avoid high humidity, extreme high and low temperatures, dust and direct sunlight. Open your radio only if you have the necessary expertise, the correct tools and necessary measurement instruments.

On delivery the device has (according to the country of sale) the internationally usual CB radio range with 40 channels in all operating modes AM, FM, USB and LSB switchable. The Declaration of Conformity according to the new European standard EN 300 433-2 applies only, if the device is not modified and used according to this user manual. Any expansion of the frequency range to amateur radio and the use of other channels and operating modes then permitted in the respective country is only permitted for licensed amateur radio operators and can have legal consequences for unauthorized persons.

## **Power Connection**

Connect your device with the supplied DC cable to a 12V DC circuit or a 12V power adaptor. Voltage fluctuations between 11 Volts and 14 Volts for power adaptors and max. 15.6 Volts as for instance in vehicles, campers or boats with rechargeable lead batteries, chargers or alternators, are permitted. The battery or the power adaptor must be able to supply at least 6-8A stabilized. The power cord should not be extended. In vehicles always try to connect directly to the battery terminals. This gives you the best protection against interferences from ignition and alternator as well as the most stable operating voltage.

In case the in-line fuse in the DC cable blows, check the possible cause first (mostly reverse polarity and a protective diode has kicked in) and replace the fuse only with the same type (10A, American glass fuse), never short with silver paper or other methods!

## **Connect the red cable to the + terminal and the black cable to the – terminal of the power source.**

The negative pole is on the radio casing, as for all modern vehicles. For boat installation insulation of the radio and galvanic insulation of the aerial connectors can be necessary to protect against electrolyte or galvanic corrosion.

## **Safety Precautions and Vehicle Installation**

There are no parts inside the device which must be accessible during operation. Leave the opening of the device to experts. Do not open the casing without disconnecting the 12V power supply first. All work must be carried out de-energized. For vehicle installation mount the radio with the supplied screws and the mounting bracket in a suitable location in your vehicle. Ensure that the installation location cannot cause the risk of injuries for driver or passengers and avoid the immediate vicinity of heater or A/C outlets.

## **Choice of Aerial Vehicle Antenna**

This radio is not to be used with temporary antennas such as mini magnetic base antenna, window clip antenna or adhesive window antenna, as often used for CB radios.

For reasons of electromagnetic compatibility in the interrelation with neighboring electronic components a high-performance exterior vehicle antenna with antenna base earthed via the car body is necessary. When selecting the antenna location keep as far away as possible from passengers and vehicle electronics. In the interest of pedestrians on the sidewalk avoid for instance the right mudguard. Ensure proper ground connection of the antenna base to ensure that no RF reaches the vehicle interior via sheath current.

Car manufacturers have the right, according to applicable EU directives, to stipulate antenna installation locations and the maximum compatible transmission power for their vehicles. Observe these specifications under all circumstances not to risk to forfeit the operating license for your vehicle. Information is available from the car manufacturers. If in doubt, have the car manufacturer certify that no reservations against CB radio operation in connection with the car electronics exist!

Even if the effects of "electric smog" are controversial, do not subject other persons, who might think of your hobby being dangerous, to electro-magnetic fields. Observe a great distance to the antenna if you carry a pacemaker. Observe the manufacturer's information with regard to safe distances.

It goes without saying that the standing wave ratio of your antenna should be optimized. The final stage of the AE 5890 EU can handle SWR during operation up to 1:2 at full performance and short-term up to 1:3 (e.g. during tuning). Never press the push-to-talk button without the antenna connected!

The radio comes with an SO 239 jack (for PL plug). For connection of short lengths up to approx. 15m RG-58/U cable is sufficient, for longer distances we recommend RG-213/U or RG-8/U cable. Do not use Sat-TV or TV coax cables, these have 75 Ohm and are not suitable for CB radios.

### Base Station Operation

Please use only an exterior aerial with the AE 5890 EU. Any form of internal antenna creates in the near-field such high RF fields that other and even own electronic devices can be affected, despite sufficient EMC immunity according to EG directive! Known is humming from the own power adaptor or microphone into the transmitter, irradiation into VCRs or hi-fi equipment and more. Especially in SSB mode interferences can occur in other devices due to pulsating transmission signals, rather than in FM.

### First Connection and Selection of Country Code

Upon the first connection and switching the device on, **HELLO** is displayed, then the country code is shown, which was set at the time of delivery.

The following codes can be shown:

- **dl** Germany 80 channels FM 4 Watts, 40 channels AM 1 Watt, 40 channels SSB 4 Watts, also for CZ and SK
- **EC** previous CEPT regulation with 40 channels FM 4 Watts, no AM, no SSB
- **E** Europe according to new CEPT regulation with 40 channels FM 4 Watts, 40 channels AM 4 Watts und 40 channels SSB (12 Watts), as well as Spain and Italy according to previous regulations
- **PL** Poland with 40 channels FM 4 Watts, AM 4 Watts and SSB 12 Watts with Offset = 0 kHz
- **U** UK with 40 UK channels and 40 international channels, FM, 4 Watts, no AM, no SSB
- **U5** USA, setting for countries not using FM, but only AM and SSB. (Can also be used in Europe where setting **E** is legal.)

Devices sold in Germany are supplied with the German setting **dl**. This setting can also be used in other countries permitting AM and SSB, as long as the new CEPT regulations are in force, under condition that only channels 1-40 are used in FM. As soon as the regulations in the respective country are in force, for users with **dl** setting dealers are permitted to remove the jumper on the main board and thus switch the device in this setting to 4 Watts FM, 4 Watts AM and 12 Watts SSB.

### Switching Procedure for Country Codes:

- Turn the device off.
- Turn the device on again while pressing the Memory button (9). The existing country code is displayed.
- Select the desired country code with the channel selector.
- Turn the device off and on again.
- The device works with the new country code.

In countries, where switching is not yet permitted, this switching procedure is blocked by the hardware. These devices only work as delivered.

## AE 5890 Controls



### Knob and Selector

#### On, Volume and Squelch Setting

Switch the device on or off with the On/Off switch, which is combined with the volume knob (1). Set the volume to medium and set the squelch button (13) all the way to the left until the background noise can be heard.

Set the squelch, so that the noise is just not audible. In this position the squelch opens even for weak signals and is in the most sensitive position.

When opening the squelch beyond this point to the right (clockwise), the signals must be stronger to come through.

#### Channel/Frequency Display and Frequency Steps

At first the device starts in FM mode and the frequency, e.g. 27.065 MHz and on the right channel number 9 is displayed on the LCD. The device starts in normal CB mode. Only with a valid radio amateur license you have the right, after opening the casing, to extend your device with jumpers to amateur radio mode. Please read our separate publication under "Amateur Radio" on our download server [www.hobbyradio.de](http://www.hobbyradio.de).

One tip in this context: Not all functions and displays of the device are available in normal CB mode, e.g.:

#### Step Button (4)

The channel spacing in the CB range corresponds with the usual standard of the international 10kHz spacing, where (for historical reasons) some channels are spaced 20kHz instead of 10kHz. You can change the frequencies with the TUNING knob (12) on the device or with the UP/DOWN buttons on the microphone by 1 channel. When using the STEP button (4) you can change the displayed frequency also in 500Hz steps and allow finer tuning.

- Example: **channel 1, 26.965MHz**
- Press the **Step** button
- Now you can tune with the **Tuning button** (12) between **26.9600MHz** and **26.9695**.
- You also have the **Clarifier** (10) for further fine tuning.

According to regulations for CB radio the transmission frequency is not to be moved, consequently the detuning steps with the Step button only work for reception.

- When pressing the push-to-talk button the device immediately changes back to the corresponding channel.
- When releasing the push-to-talk button the previously used receiving frequency (incl. Step) is show again.

This switching is very useful for SSB, when the received station is not exactly on the channel.

In amateur radio mode these steps are also available for transmission.

### Mic Gain/RF Gain (5)

Mic gain and RF gain are at the beginning programmed to medium values. You switch the setting mode with **button 5** (press once for MIC Gain, twice for RF gain). The current values are shown on the display.

- **MIC gain: *mlc* – 9** and values between **3** and **10**

After pressing button 5 for some seconds you can set mic gain (or RF gain) with the **channel selector** or the **UP/DOWN** buttons on the microphone in steps between 3 and 10. For normal vehicle operation the medium setting is sufficient. Home stations often use a greater distance from the microphone; there a higher microphone gain is recommended. You should reduce the microphone gain in noisy surroundings (e.g. in trucks) or when using a pre-amplified microphone. Set the optimum modulation with a monitoring receiver or with the help of a counter station.

### RF Gain (Press Button 5 Twice, Then Go On With UP-DOWN)

Setting to full receiver sensitivity (RF gain = 10) is always recommended, when using your device in interference-free surroundings. If other stronger transmitters are nearby, which could lead to reception interferences, you might want to reduce the RF gain setting. Even if you only want to hear stations in close-up range you select a low RF gain setting. In SSB mode for high field intensity it can be necessary to adjust the RF gain setting to optimum receiving quality.

The RF gain setting is shown on the display as: **r F 9** from **3** to **10**.

### Clarifier (10)

This knob is used, as mentioned earlier, for receiver fine tuning and is generally only used in SSB mode if the counter station is not exactly on the same transmission frequency. In radio ripples with several other stations it often occurs that for individual stations you have to fine tune with the clarifier for best articulation. Otherwise leave the knob in medium position.

### LCD, S and Power Meter

Your radio comes with a large backlit LCD to read out all settings such as channel, frequency, status displays and the analog values such as received field strength (S meter) and transmission power. In this way you can see the most important parameters of your device at all times. The S meter setting corresponds with the international short wave amateur standard: approx. 100 µV EMK antenna voltage correspond with S 9. The S meter uses a **10-digit bar display** on the LCD. The stronger a counter station is received, the greater the deflection on the S meter.

For control purposes the S meter works during transmissions as **power meter** and gives you an approximate value for your output power. You will see that for FM you always have the same display for transmission, for AM the deflection is generally smaller, and for SSB it fluctuates with the rhythm of the voice.

### Further AE 5890 EU Key Functions – The Most Important First

The buttons 4 to 9 of your device are multi-functional and partly adapt – according to operating mode – automatically or in connection with **function button (11)**. To avoid confusion in the text of this description you will find here only the respective name of the function. If you have to press the **MODE** button, you see **"MODE"** and not the full description for all button functions such as **"MODE/DW/5"**. Furthermore, the functions on the buttons, which can only be used in connection with the function button FUNC are printed in blue color. Some of the functions are blocked in CB mode and cannot be accessed. These functions are reserved for the amateur radio setting of the device.

### Select Operating Mode

Press the **MODE button (8)** to toggle between **AM, FM, USB** and **LSB** modes. The selected mode is shown on the display. They mean:

<b>AM</b>	Amplitude modulation A3 with full carrier
<b>FM</b>	Narrowband frequency modulation (max. 2.0kHz range)
<b>USB</b>	Single side band modulation, upper side band ( <b>Upper Side Band</b> )
<b>LSB</b>	Single side band modulation, lower side band ( <b>Lower Side Band</b> )

The different modes for CB radios have partly historical reasons, as CB radio is already since the 1950s in existence. **AM mode (amplitude modulation)** corresponds with the technical process of medium wave and short wave radio and is today, except for CB radio, only used for aircraft radio. When speaking the transmission power is varied in the rhythm of the voice (technical term: "modulated"). AM is traditionally the radio mode which is used by truck drivers worldwide on CB radio. The low residual noise is advantageous if for instance in diesel trucks with little interference the squelch stays open. The receiving characteristics in AM correspond rather with the human ear: distant stations seem lower than stations nearby; still you can perceive if other persons are speaking on your channel, even if a local station seems to blanket everything: at least the blanketing tone can be heard and you can

check back at a later stage! One of the disadvantages of AM is the shorter range compared to FM or SSB and the higher sensitivity of AM for ignition interference and board computers.

In **FM** the transmission power is always the same, even when speaking, hence hardly any interferences of other devices are to be expected in this mode. Instead, when speaking the frequency of the device varies, hence it is called frequency modulation. Due to expected interferences in AM and SSB modes some countries for a long time permitted only FM. Advantage is the greater range compared to AM and the same volume of nearby and distant stations as well as a clear modulation sound. Loud noise, which can be heard with weak or missing signals, is a disadvantage. In FM mode it is virtually impossible to leave the squelch open.

**SSB (Single Side Band)** marks the highlight in the development of long-distance voice transmission. The transmission mode SSB avoids the disadvantage of the low range of AM and focuses the entire transmission power on a minimum frequency width, where during a speech pause the power is nearly shut down to zero. During receiving a special circuit makes sure that the "side bands" and "carrier", which were cut off during transmission, are restored. This allows an enormous improvement in range compared to AM and FM. Not only the transmitter has a greater range, but also the receiver has, due to the halved bandwidth, better sensitivity. The price for this is the disadvantage that for receiving very accurate tuning is necessary, and that during transmission interferences of neighboring devices is greater. Due to the necessary fine tuning of the receiver with the **Clarifier** (10), the use of SSB while driving a vehicle is a problem and can – such as making a phone call – distract from the traffic. SSB is rather an operating mode for base stations. This is the reason why SSB today is only used by skilled radio operators – you virtually have to train and develop some intuition for the correct setting.

### **USB and LSB**

In SSB mode a conventional channel is separated in two halves: the so-called **upper side band (Upper Side Band, USB)** and the **lower side band (Lower Side Band, LSB)**. Both can be used independently. Example: you transmit on channel 9 in USB. In reality, for speaking you only use the frequencies from 27.065 up to approx. 27.070MHz, while in LSB you are using the frequencies below 27.065MHz to approx. 27.060MHz. Both side bands are mirrored; hence transmitter and receiver must be set to the same side band. Otherwise you only receive gibberish.

### **Set Transmission Power (3)**

Your device has a stepless control for transmission power. In normal mode the knob **PWR** (3) should be set all the way to the right (clockwise). In this setting 4 Watts in FM (carrier power), max. 12 W SSB (PEP power) and 4 Watts (carrier power RMS) in AM are achieved. Turn counter-clockwise to reduce power to approx. 100mW. This is recommended if you only want to be heard in absolute close-up range.

**Incidentally:** it also reduces the general electric smog level, when only as much transmission power is set as is necessary for the radio contact!

### **How to Receive SSB?**

As the receiver station you cannot know, with which side band your counter station is transmitting. The fact that the counter station is transmitting in SSB is easily detected, since the "squawking noise" is very different from FM or AM signals. Receive first in USB. Very carefully turn the **Clarifier**. If you can hear a "Mickey Mouse" voice, try to carefully fine tune to a recognizable pitch. If this does not work, then try the other side band **LSB**.

You need some routine until you can clearly hear your dialog partner in SSB mode. But shortly you will be rewarded with the first DX (= long-distance traffic) connections.

### **Use Frequency Memory (9)**

Frequently used frequencies or channels can be saved and accessed via the **MSAVE/MLoad button** (9) with the respective mode in 5 station memories. The settings will not be lost during temporary power failure, since the device works with flash backup memory.

### **Input Channel in Station Memories (1-5) (9)**

- Tune into the desired channel. Press **FUNC + M-SAVE + Station memory (1-5)** to save the frequency.
- After **FUNC + M-SAVE** at first **ME** for "Memory" is shown on the display.

### **Access Frequency from Memory (9)**

Press **M-LOAD** and the **Station memory (1-5)** to access the station memory (after entering **M-LOAD** the display shows **ME**).



### Direct Channel 9/19 (International CB Call and Emergency Channel)

The most frequently used channel 9 (call channel and trucker channel in Germany) and channel 19 (second trucker channel and AM call channel in many other countries) can be easily selected by briefly pressing the button.

- **Press once** to select channel **9**, **press again** for **19**, and **press once more** to return to the previously used channel.

Channel numbers for 9 and 19 are flashing to confirm the selection of the direct channel.

**Tip:** Tune during receiving pauses to channel 9 and help in standby mode to keep this channel open for emergencies! Do not talk too much on channel 9. After finding a radio partner agree on a different channel and carry on with your conversation there.

### Automatic Warnings in Front of Motorway Roadworks

Truckers in Germany use channel **9 in AM**. In some provinces we can already find warning markers in front of roadworks, which warn truck drivers **via CB radio** with **announcements and warning signals** if they are approaching the construction site too fast. They announce **“Caution danger spot”**.

This service is also offered in other languages on the typical channels of foreign truck drivers and has helped to reduce accidents with trucks in construction sites. In most cases these warnings are only announced when driving in the truck lane.

### Channel Scan (Scan) and Memory Scan MScan (8)

Both scan functions allow band search, starting with the last frequency or channel. To scan not all but only your memory channels use **FUNC + MScan**. After finding a signal the channel is monitored for max. 8 seconds, unless the signal disappears earlier. In this case the scan starts again until the next signal is detected.

#### Start and Stop Scan

Press the **SCAN button (8)** to start scanning. You can stop it by:

Pressing the PTT button or pressing the **SCAN** button again.

Important: the scan uses the squelch setting as switching criteria. First set the squelch to a value for the scanner to stop for a busy channel. Scanning is not possible with open squelch: the CPU recognizes this condition like a busy channel and switches every 8 seconds to the next channel.

#### Reverse Scan Direction

You can change the scan direction at any time during the scan. Simply turn the channel selector briefly into the desired direction or use the **UP/DOWN** buttons on the microphone.

#### Dual Watch Monitoring

To regularly monitor two different channels use Dual Watch **DW**.

- Select the first channel, e.g. channel 26.
- Press **FUNC** and then **DW**, the display shows **DW**.
- Now select the **other channel**, e.g. channel 18.
- Your device will now constantly switch from channel 18 to 26, check there briefly for conversation and switch back to 18. If channel 26 is busy your device stays in receiving mode and only afterwards switches back to 18.

#### Turn Off Dual Watch

Briefly press the PTT button once or press the DW button once.

#### Noise Blanker NB Button (1)

A noise blanker is a circuit to blank out or limit short-term pulsating noise. Since the CB band is heavily overlaid with noise from electric machinery and vehicles your device comes with such circuit, which can be switched on in AM and SSB modes.

The noise blanker is activated/deactivated by pressing **FUNC + NB** (button 1).

#### Infrequently Used Functions (Menu Functions)

You access the following functions by pressing and holding the **SCAN** button and then briefly pressing the SCAN button again to skip 1 step ahead.

### Activate and Deactivate Key Beep *bP*

- Press and hold **SCAN** for approx. **3 seconds**, ***bP oF*** or ***bP on*** is displayed (depending on previous setting).
- Select with the channel selector and wait until the display resets.

### Activate and Deactivate Roger Beep Tone

“Roger Beep” is a tone signal after releasing the push-to-talk button, which can be added. The tone signals the other station, that you have stopped talking.

- Press and hold **SCAN** for approx. **3 seconds**, then ***press again*** briefly. ***r9b oF*** or ***r9b on*** is displayed.
- Select with the channel selector and wait until the display resets.

### Toggle Backlight Color LIGHT (*L I 9 H t*)

The display backlighting can be changed in the main colors RED GREEN BLUE and mixed colors, so that a total of 7 different colors are available.

- Press and hold **SCAN** for approx. **3 seconds**, then ***press twice again*** briefly. ***L I 9 H t*** and a number between **1** and **7** is displayed (depending on current backlighting).
- Select with the channel selector and wait until the display resets.

### Select a Transmission Timer (Transmission Time Limiter) TOT

You can limit the maximum permitted uninterrupted transmission time, if desired. The transmitter turns off and you have to release the PTT button once to reset the time-out timer to be able to transmit again, if you pressed the PTT button too long.

- Press and hold **SCAN** for approx. **3 seconds**, then ***press 3 times again*** briefly, ***TOT*** and a number between 0 and 30 is displayed.
- Select with the channel selector and wait until the display resets.

## Interesting Facts about the Technical Specifications

### Storage and Backup of Set Data

The radio uses a flash memory to save the latest settings. Hence no data is lost in de-energized state, even over a long period of time. The radio can thus be switched on/off via the vehicle ignition or it can be stored without the settings (especially the country setting) changing.

### Connections for External Devices

#### Microphone Jack (2)

6-pole, Jap. standard, screw-in type, suitable for electret or other microphones with approx. 600 Ohm to 1 kOhm impedance, except UP/DOWN button (pin 4) according to usual “Albrecht” standard.

<b>PIN 1</b>	Microphone NF
<b>PIN 2</b>	PTT-RX contact (on GND during reception) - also for NF uncoupling packet radio
<b>PIN 3</b>	PTT-TX contact (on GND during transmission)
<b>PIN 4</b>	UP/DOWN button ( <b><i>caution, special circuit for AE 5890 EU</i></b> )
<b>PIN 5</b>	Ground, shielding
<b>PIN 6</b>	Power supply for electrets microphone (or other accessories)

**Important:** The circuitry corresponds with the “Albrecht” standard, which is widely used for CB radio (exception PIN 4). Please observe if connecting different microphones! In case you want to connect a different microphone: only use microphones with electrets capsules and leave PIN 4 unused, if necessary. Additional devices such as modems are only to be used in FM mode. Please observe the regulations of the respective countries. Data transmission is not everywhere permitted.

#### Speaker Jack (Rear)

3.5mm mono jack, suitable for 4 to 8 Ohm speakers with ***at least 4 to 6 Watts***. The internal speaker is automatically muted when connecting an external speaker.

## Maintenance and Programming

The following notes are only for expert service staff and/or licensed amateur radio operators. Settings in the programming are only permitted for authorized users and for commercial export into countries, where the respective versions are permitted.

We take no responsibility for damages and consequential damages due to inexpertly programming or other modifications not expressly described by Albrecht. The end user warranty generally expires after opening the device. Only allow modifications during the warranty period by Albrecht authorized dealers!

Amateur radio operators find the documentation for expanding the device to 10m and 12m amateur radio band on our download server [www.hobbyradio.de](http://www.hobbyradio.de) under amateur radio.

If necessary, certain country settings (e.g. EC, 40 channels FM for Austria until implementation of the new regulations) can be determined by the supplier via the hardware. The user is generally not permitted to change the built-in hardware blocker. Only the supplier is authorized.

## Disposal and Recycling

This radio was manufactured low-emission according to the latest European RoHS directive. Please note that electronic and electric devices are not to be disposed of with the household waste; return these devices to collection points. Returning devices is free of charge for end users, since the industry is covering the disposal costs. By returning the device to a collection point you contribute to the recycling of valuable raw materials.



## 2 Years Warranty from Date of Purchase

The dealer guarantees this device for a period of 2 years from the date of purchase. This warranty covers all defects and defect components during the warranty period, except normal wear and tear such as scratches on display or casing, casing defects, broken antennas, exhausted lamps, worn out or damaged microphone cables and defects due to corrosion, voltage peaks due to improper external power supply or use of unsuitable accessories. Furthermore, defects are excluded from the warranty, which are caused by unintended use, defective transmitter final stage due to not adjusted antennas or connection to prohibited amplifiers.

Please contact your dealer directly for warranty claims. The dealer will either repair or replace your device or will name a service address specialized in your type of device.

You may also contact our hotline. If sending your device for repairs please include proof of purchase and add a description of the defect.

## Contact:

Technical documentation and the latest information with regard to regulations in individual EU countries can be found under Service of the Albrecht and Midland web pages and directly on the download server [www.hobbyradio.de](http://www.hobbyradio.de)

**Manufacturer:** Alan Electronics GmbH Daimlerstr. 1 K D-63303 Dreieich  
or Dovenkamp 11 D-22952 Lütjensee

<http://www.albrecht-online.de> <http://www.alan-electronics.de>

**Service requests to:** **e-mail: [alan-service@ps-tech.de](mailto:alan-service@ps-tech.de)** or by phone:  
**01805 012204** (0.14 Euro/min from German landline, mobile tariffs up to max. 0.42 Euro/min). This service hotline can only handle service requests for radios sold in Germany! If You have purchased your radio in other countries, please contact the distributor who has sold the radio.

Please do not return any device without previous authorization from the hotline! The hotline can name you the most cost-effective and fastest repair workshop for your city and the best service partner for your type of device.

## Further technical Specifications:

### General:

CB frequency range	26.565 (26.965) MHz to 27.415MHz (UK also to approx. 27.9MHz)
Frequency stability	+/-400Hz
Transmission types	A3E, F3E, J3E
Permitted operating voltage range	10.8 to 15.6V DC
Fuse	10A

## Transmitter

Transmission power CB	AM	1 Watt / 4 Watts depending on country
	FM	max. 4 Watts
	SSB	max. 4 or 12 Watts PEP depending on country
Achievable power after Amateur radio modification (only licensed amateur radio operators)	AM	approx. 6 Watts effective
	FM	approx. 15-25W effective
	SSB	approx. 15-25W PEP
Harmonic suppression	10 m Band	28.000 – 29.7MHz
Microphone sensitivity		min. 90dB (4nW)
Supplied microphone:		approx. 4mV / 1 kOhm
Dynamic control range microphone-ALC		Electret with integrated pre-amp
Power consumption during transmission		50dB
		max. 2.5 (AM)
		max. 3.0A (FM, SSB)

## Receiver

Receiver sensitivity	for 12dB SINAD	0.5 $\mu$ V EMK FM/SSB
		0.9 $\mu$ V EMK AM
Receiver neighbor channel selection		60dB FM/AM
		70dB SSB
Clarifier control range		+/- 1kHz
Steps setting range		up to 500Hz/step
NF output power at 10% distortion factor		min. 6 Watts, 4 Ohm
		min. 4 Watts, 8 Ohm

## Dimensions incl. protruding knobs/jacks

Weight 24.5 x 15.5 x 5.3 cm

1.3 kg

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