

different from cellular phone, where a duplex connection to Your partner is established during the conversation. We cannot recommend to use automatic voice operation (VOX) in motor bike communications, because the engine and surrounding noise can cause unwanted triggering of Your transmitter. This will create interference and can block the use of the channel for other users without that You may notice this! VOX operation may be possible for other applications in lower noise environment. In this case You will need an **optional available VOX adapter** (this is a blind plug instead of the PTT button). Do not forget to change both adapter and headset before each use. Even if the adapter is switched off, a small leakage current will discharge Li-Ion batteries slowly, but continuously. This is common to all devices with Li-Ion batteries.

Reset and / or pairing with other devices

It may happen that a pairing procedure was not successful. In that case switch both units off and start a new pairing procedure. Normally both devices save their pairing information in a non volatile memory, so You do not need to repeat the procedure before next use, just switch on- that's it.

If You should need to use the headset for another device, like cellular phone, You must normally repeat the pairing when returning to the 2-way-radio adapter. Some headsets on the market allow multi-pairing functions. In that case no repeated pairing is necessary when returning o the radio.

Interface requirements for 2-Way-Radios

- Double audio jacks for mic (2.5 mm) und speaker /phone (3.5 mm)
- Only radios can be used which have conventional grounded audio outputs. DC coupled bridge amplifier outputs cannot work with our adapter. All ALAN and many other radios can be used.
- For radios with a single 2.5 mm stereo audio socket, You will need our additional adapter plug 29254, because direct connection of the Bluetooth adapter into the Mic socket allows only restricted VOX operation without PTT.

Technical Data

Wireless transmission system	Spread Spectrum Bluetooth™ Standard 1.1, Class 2
Frequency range	2402 to 2480 MHz
Channels	79 with 1 MHz bandwidth per channel
Radiated transmission power (ERP)	less than +4 dBm (2.5 mW), with automatic power control
Modulation	digital encryption, FHSS, GMSK, 1 Mbps
Channel occupancy system	frequency hopping 625 µs time slot
Maximum communication distance	approx. 10 m
Operating time	switched on (StandBy) max. appr. 100 hours talk time max. appr. 6 hours
Audio-processing	PCM Codec
Adapter power supply	high power lithium polymer battery 170 mAh
Charging system	230 V switching power supply charger with automatic full battery detecting
Applied European Standards	EN 300 328-2 V.1.2.1, EN 301 489-01 V.1.3.1 EN 301 489-17 V.1.1.1, EN 60950 + A.1, A2, A3, A4, A11

CE Marking & Conformity Declaration



Safety notes



This unit fulfills the above mentioned European Standards and is marked with CE. According to the latest European Regulations, this Bluetooth™ device is a class 1 equipment which can be used without restrictions in all EU and associated countries which apply the R&TTE directive. Please be aware that other restrictions may still be in force for the 2 way radio connected with Your Bluetooth adapter. Our latest issue of Conformity Declaration and product documentation can be downloaded from our service homepage under <http://www.alan-albrecht.info>

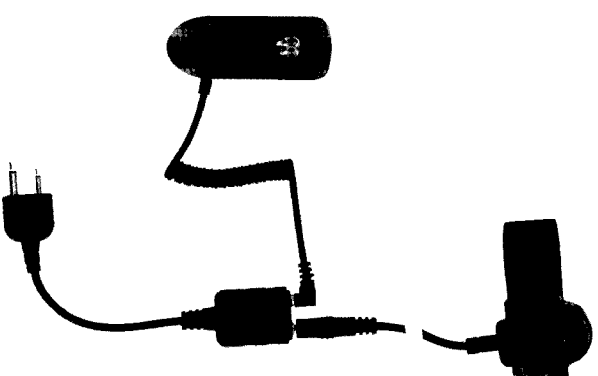
While the transmitting power of Bluetooth™ Systems is far below (up to a factor of 1000) the radiated power levels of hand held GSM phones and is generally not regarded as dangerous, interference effects between radio transmitters and other electronic devices cannot be excluded in sensitive environments, like medical centers, and airplanes. Operators may request that Bluetooth™ devices must remain switched off in such areas. The same restrictions apply for the radios connected with the Bluetooth device.

Albrecht®

BPA 100



Adapter for 2 Way Handheld Radios



ALAN Electronics GmbH

© **ALAN Electronics GmbH (April 2005)**
Service-Hotline: (+49) (0) 6103 9481 30
Service-Fax: (+49) (0) 6103 9481 60
e-Mail: service@alan-germany.de
Service Download <http://www.alan-albrecht.info>

General remarks

Many kinds of Bluetooth Headsets are available on the market. They all are designed for use together with cellular phones with Bluetooth™ technology. The Albrecht Adapter BPA 100 is a unique solution, which allows to connect any standard Bluetooth headset for private and professional 2-way radios, like ALAN PMR 446 or commercial hand held radios.

System Requirements

The headset must support the Bluetooth™ **Standard Headset Protocol**. Besides standard headsets and Bluetooth motor bike helmets there are also some Bluetooth handfree kits for car installation on the market, which support different protocols. Like the Bluetooth **Handfree Protocol**. Because this is different from the Headset protocol, such more sophisticated handfree systems must be able to be adapted by software switching to the headset protocol, otherwise they cannot be used with the Albrecht adapter. Please read the instruction manuals or better consult the distributor of the headset/handfree set.

Package includes

- Adapter with integrated Bluetooth™ chipset and rechargeable Li-Ion battery.
- 230 V charger to charge the adapter from 230 V AC.
- Radio Connecting Cable to connect the PTT key and the adapter to the 2-way handheld radio.
- Waterproof Push-To-Talk Key (PTT) with velcro magic tape for fast mounting to handle bar (motor bike) or other suitable places).

Note: Please use only our recommended or supplied accessory items!

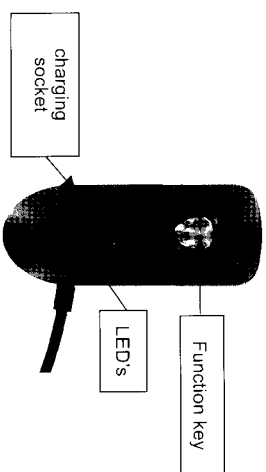
Please use only the supplied accessories. Operate the Bluetooth adapter only in connection with the specially designed wall charger or approved original DC adapter for your vehicle, other chargers may damage the device or the Li-Ion battery inside. **Never open the adapter, the charging device or try to charge or even open the lithium battery by yourself!** Any manipulation at the Li-Ion battery, such as short circuits etc., may cause fire or even explosion and severe injuries to persons.

Charging the Adapter with 230 V AC

Charging starts the moment the wall charger is connected with the adapter. 1.5 to 2.5 hours are being needed to fully charge a completely empty adapter. The LED indicator light gives you information of the state of charging. (**red = charging, off = battery full**). When the battery becomes empty during use, the **red LED will start flashing** from time to time.

Switching On and Off

There is a single multi-purpose function button on the adapter, which is used for ON-OFF and pairing as well.



- Press button for at least **3 seconds**. The **green LD will flash** several times to show "on" position (StandBy mode).
- Press again the button for **3 seconds**, now the **red LED will flash** several times. This is the "off" position.

Connecting the Adapter with the Bluetooth™ Headset

Your system of adapter and headset can establish a connection that protects you from eaves-dropping. To do so the system needs information to identify your Bluetooth™ headset as its exclusive partner. This procedure is called „pairing“. This is very important because you don't want any other Bluetooth™ headsets in your vicinity to coincidentally be connected with your radio or vice versa.

You have to start this pairing process with fully charged adapter and headset. It is necessary to switch the adapter off before pairing. If You are not sure, switch the adapter off by the already described procedure. For the headset side, please read about the pairing process in the instruction manual of the headset.

- Press the function key of the adapter for at least **6 seconds**. After the first 3 seconds You will observe that the adapter switches on (green LED is flashing).

- Do not release the button, keep it pressed for another 3 seconds. Finally You will see an alternating flashing of the red and green LED's.

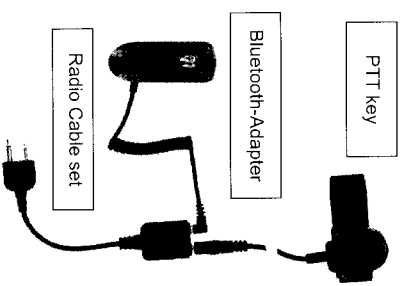
Now Your adapter has entered the pairing mode and is searching for other bluetooth devices nearby. Like Your headset. You will have about 45 seconds time to start the appropriate pairing procedure at the Headset, too.

Starting Pairing Mode of Headset

The pairing mode of the Headset is described in the user manual of Your headset. Please follow the user instructions. Most headsets show the pairing mode by a faster flashing of LED's. As soon as both devices have found each other, the fast flashing will stop. Both systems remain automatically in their standby modes.

Note: some more intelligent headsets or handfree systems may ask for a security code of the adapter. If such a note appears in the display (if equipped), please use 1234 as code for the adapter.

Connecting the 2 way Radio and starting Conversation Mode



- Connect the radio cable to the 2 way radio's 2.5/3.5 mm microphone socket, connect adapter and PTT button as indicated. Switch radio on and adjust to medium volume. Please avoid to place the adapter too near to the radio's antenna.
- After pairing the adapter is in standby mode (green LED is flashing every 2 seconds).
- Switch the headset from standby mode to "Call" or "Talk". In the user manual this is described as starting a phone conversation. In most cases You will find a "Talk" button.
- Starting and stopping the communication link will be done at the headset side. As long as You need the radio communication (including the receive periods!) the headset must stay in the "Talk" or "Call" position, whatever the user manual describes. Please note that the user manual describes telephone conversation and not a 2-way radio conversation.
- Start the connection to Your 2-way radio by using the **Talk / Call** button of the Bluetooth™ headset. It will always take a small moment, until You can see that the communication link is established. You will see the green LED on the adapter side permanently on. This demonstrates, that connection is successful.
- Adjust the **headset volume** at first to minimum to avoid any risk of acoustical shock. Open the squelch of the radio for testing (or press the monitor button). You will hear the white noise from the 2 way radio. You may now adjust the volume at the headset according to Your needs. Do not adjust the volume of the radio too loud, this may provide distortion.
- To talk via radio press the **PTT key** on the radio's side (which You have probably mounted at the handle bar of a motor bike or at other suitable places) and talk via Your headset.
- To receive again, You release the **PTT key** again. Please do not switch anything at the headset side!
- If You do not want to listen any more to Your radio channel, You should **disconnect the connection from the headset side only (Talk or Call button)**. The adapter at the radio side will then automatically switch back to standby mode.
- Please switch both devices completely off, when You do not need them.

Important notes explaining different characteristics of radio and cellular phone

When using cellular phones, You only need to use the **Talk/Call** button of Your headset when You start a phone call or answer a phone call. In receive mode of a two-way-radio, You must ensure, that at any time incoming audio from other stations can be transmitted to the headset side. So the headset side must always remain switched into **Talk/Call** mode, or You cannot hear what happens on the radio channel!

A **PTT key is necessary** in 2-way-radio communications, because many users share a common channel-