

# BlueNAC-3000® Wireless Headset



 **Bluetooth®**

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## FEATURES OF BlueNAC-3000® HEADSETS

The headset BlueNAC-3000® is a professional wireless intercom allows communication with Bluetooth® devices such as mobile phone, GPS navigator, etc., and intercommunication with other BlueNAC-3000®, making possible the Pilot-Copilot communication with a range up to 30m.

Thanks to sophisticated software CVC (Clear Voice Capture), the digitized voice is "cleaned" of noise by adaptive filters, with spectacular results: People who call you will not appreciate the slightest noise.

In combination with another device called BlueNAC-3000 RADIOLINK, it is possible to connect a radio (station) or UHF or VHF aeronautical FM or AM.



*BlueNAC-3000 RadioLink Built-in*

*BlueNAC-3000 RadioLink Portable*

After several years of hard work and thousands of hours of development, you are proud to offer you the first wireless system based on Bluetooth® technology and developed exclusively for use in light aircrafts.

## Congratulations and thanks for your purchase!

### What's Bluetooth® technology?

Bluetooth® is a communication protocol based on RF technology that enables voice and data between devices via a secure radio frequency link and globally free (2.4 GHz). Devices that implement it can communicate with them when are within reach. Communication takes place so that the devices do not have to be aligned and may even be in separate rooms if the transmission power allows.

**BlueNAC-3000®** uses this technology to establish intercommunication between two identical devices, configured as Pilot and Copilot, reaching up to 30 m.

Another device called BlueNAC-3000 RADIOLINK, extends the system capabilities to allowing radio communication, also wireless.

## FEATURES OF BlueNAC-3000®

- Bluetooth® version 2.1 (Headset/Handsfree profiles)
- Noise and echo cancellation cVc (Clear Voice Capture)
- Voice monitor control "Sidetone" is independent of overall volume.
- Adjustable VOX control. Automatic activation of communication through of voice.
- Storing of 5 devices (mobile phones, GPS or MP3)
- Incorporates PTT bottom to radio TX through BlueNAC-3000 RADIOLINK device.
- Lithium-ion battery 500 mA/h. up to 8 hours talk time and 150 hours in standby mode.
- Software upgradeable via USB port.

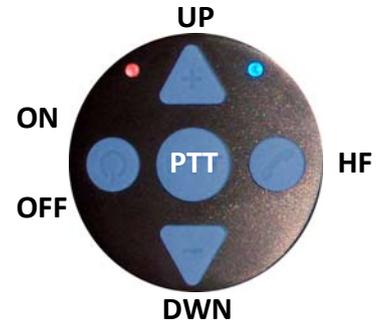
## DESCRIPTION AND OPERATION

**[!] Attention:** Before using this device the first time, remember to charge the battery at maximum (about 3 to 4 hours). To do it use the included charger and connect it through the USB port. The red LED will remain on until the end of the charge. Once charged, the battery provides a range of 8 to 12 hours depending on usage and time at rest.

BlueNAC-3000 headset has 4 multi-function keys, a PTT key (exclusive to activate the radio) and 2 LEDs (red and blue).

At the bottom of the headset is a miniUSB connector that allows both, battery charged and the software update or parameter adjustment via PC.

Each key can perform different functions depending on the time it is held down and the way in which the device is found.



### Switch On and Off the BlueNAC-3000

BlueNAC-3000 turned on and off by pressing and holding the ON/OFF key for 4 seconds.

**Switch On:** Press and hold ON/OFF key for 4 seconds until turn on one of the two LEDs. If the LED blue blinks, this indicates that it is configured as Pilot. If instead this, the LED red blinks, it is configured as Co-pilot. Also you can hear a synthesized voice that indicates which device it is: "PILOT" or "COPILOT"

**Switch Off:** Hold down the ON/OFF key for 4 seconds until both LEDs turn on during an instant. Then the device will be turn off. This action prevent accidental shutdown of the device, especially while using gloves.

### Operating Modes

There are two modes: **NORMAL** and **SETUP** for adjustments, described below:

1.- In the **NORMAL** Mode, the volume keys affect the volume of the intercom, allowing to adjust the desired level. When receiving a call and during the course of it, these keys are operated on the mobile phone volume. Some phones do not enable remote control over volume, so you must adjust it directly on the phone.

The operation of the keys in the **NORMAL** Mode is as follows:



Switch On/Off Key.

Long Press: ON/OFF (≈ 3 sec.)

Long Press: Enter Device Pairing Mode (≈ 8 sec.)

Short Press: Reject Call / Hang up call (When the mobile phone is connected)



Mobile phone HF (Hands Free) Key, when the phone is linked and connected,

Short Press: Make Voice Dialing or Answer an incoming call.

Long Press: Re-call the last number dialed (≈ 3 sec.)



Volume ▲ Key, Short Press: Increase the volume in the active communication (Intercom or call)



Volume ▼ key, Short Press: Decrease volume in the active communication (Intercom or call)



Volume ▲ & Volume ▼ Keys pulsed simultaneously.

Long Press: Go to main menu SETUP (≈ 3 sec.)

2.- **SETUP** Mode settings are accessible by pressing both the Volume keys ▲ & ▼ for about 4 seconds. You will know you are in SETUP mode to hear the synthesized voice “SIDETONE” which is the first choice. Both LEDs will be flashing while you are in that mode. After 5 seconds, if no action is taken, it will automatically NORMAL mode. While you are in the SETUP you can perform certain actions and adjustments of the parameters described below.

To change the option in the SETUP you must press the phone key  which allows going through the available options cyclically.

The operation of the keys in the SETUP Mode, is as follows:



Volume ▲ & Volume ▼ Keys pulsed simultaneously.  
Long Press (≈ 3 sec.): Enter the SETUP mode.  
You will hear a synthesized voice saying “SIDETONE”



On/Off Key: While you are in the SETUP mode, a short press to exit from SETUP mode.



Telephone, HF (Hands Free) Key, select next SETUP option.  
Short Press: Skip to the next level of the SETUP, from 1 to 4 consecutively.



Volume ▲:

Level 1: Up monitoring level (SIDETONE)  
Level 2: Up volume level of the sounds (SOUNDS)  
Level 3: Up VOX level (less sensitive, will be more difficult to activate the communication)  
Level 4: Exchange configuration, PILOT by COPILOT or vice versa.



Volume ▼:

Level 1: Down monitoring level (SIDETONE)  
Level 2: Down volume level of sounds (SOUNDS)  
Level 3: Down VOX level (more sensitive, will be easier to activate the communication)  
Level 4: Exchange configuration, PILOT by COPILOT or vice versa.

### Description of the 4 levels of settings in SETUP mode

1. **Monitoring or SIDETONE:** This is the first parameter can be adjusted when you enter in SETUP mode. Once you hear the word “SIDETONE” you can change the volume level with which you hear our own voice respect the overall volume.
2. **Sounds Volume:** You hear the word “SOUNDS” which allows us to vary the volume of the sound signals and synthetic voices that are heard when pressing the keys.
3. **VOX:** You hear the word “VOX” to adjust the trigger level for the microphone depending on the proximity of the mouth and the noise sources. If you go up that level, it will be harder to activate the communication and you should speak louder. If you go down it will be easily activated.

The VOX allows to keeps the amplifier and the transmission activated while talking. After 5 seconds in silence or with a noise level below the programmed threshold it will turn off both, the amplifier and the transmission automatically.

4. **Exchange configuration PILOTO ◀ ▶ COPILOTO.** We heard a synthetic voice that tells us which device it is, “PILOT” or “COPILOT” and pressing ▲ or ▼ role changes and restart the device.  
In order to activate the intercom should be a Pilot and Copilot. Before pairing two devices with BlueNAC-3000, you must ensure that one is a Pilot another one a Copilot. Usually this action is not necessary if two devices BlueNAC-3000 purchases together.

### Indications of the LEDs

During power up the LEDs display device configuration:

Buel Led	Flashing during 4 seconds	Pilot mode device initializing
Red Led	Flashing during 4 seconds	Copilot mode device initializing

After 4 seconds after power on, the device status display:

Blue Led	Fixed Flash every second Flash twice every second	Not connect any device Linked to device Audio channel established (intercom)
Red Led	Blinking Fixed	Low battery charge Dead battery or charging
Both Leds	Flashing simultaneously Flashing alternately	SETUP Mode Pairing/Sync Mode

## MATCH BlueNAC-3000 WITH OTHER DEVICE

This action will only necessary if you want to match two BlueNAC-3000 devices that were not purchased together or if we want to combine them with a module BlueNAC3000 Radio-Link.

To perform this action correctly, we must first make sure that both devices correspond to a Pilot and Copilot respectively.

This is very easy to know, because when you turn on any of them, you'll hear a synthesized voice tells us "PILOT" or "COPILOT" according to the previous settings. Or either visually while switch-on during 4 seconds, the blue LED blinks in Pilot device, whereas red LED blinks if that is Copilot.

Once we verified that, we must turn off both devices and proceed as follows:

- Turn on each device again holding down ON/OFF key at least 8 seconds, instead of 3 seconds, until the LEDs start blink alternately.
- If you are pairing 2 Headsets or 2 Intercom-motorbike, you must wait at least 2 minutes until it finishes. If it is completed successfully, both devices will restart and the blue LED will blink every second.
- If you are pairing Headsets or Intercom-motorbike with a BlueNAC3000 Radio-Link, this procedure should be applied to the 3 devices and probably will finish faster. Eventually all devices will restart and the blue LED will blink every second.
- In the case this procedure does not successfully completed, repeat full procedure again.

## PAIRING/SYNC A DEVICE WITH BlueNAC-3000

### General considerations on the priority

BlueNAC-3000 can be synchronized with another Bluetooth® device with different functionality: mobile phone, GPS, MP3, etc. In base on the type of device, BlueNAC-3000 assigns the priority (e.g., the phone has priority over the intercom between two BlueNAC-3000). This means that, if we received and accepted a phone call, communication with another device BlueNAC-3000 will be temporarily suspended, and will be restored automatically at the end of the call (it may take a few seconds).

To make this procedure, the BlueNAC-3000 must be on and the device to synchronize must be also its Bluetooth function enabled.

Press and hold "phone key"  or HF "Hands Free key" on BlueNAC-3000 for about 3 seconds until de LEDs blinking alternately. This activates the "visible mode" of BlueNAC-3000 so that another device can locate it and synchronize. This synchronization takes 60 seconds approximately, during which you can link your device to BlueNAC-3000. In this time interval should activate the search mode or sync your mobile phone or Bluetooth device, depending on the make and model. Consult the owner's manual to learn this procedure.

After few seconds, your device will display "BlueNAC-3000 PILOT" or "BlueNAC-3000 COPILOT" depending upon configuration.

To connect both devices you'll must enter the code "8888". Your device will confirm that the synchronization process has completed successfully. If we also ask, "Do you want to enable automatic reconnection?" we recommend you choose "YES" to avoid having to select the device manually each



time you shut down or lose coverage. At this time your Bluetooth mobile phone or device will be associated with BlueNAC-3000.

In general, BlueNac-3000 can be used with any phone or GPS Navigator Bluetooth which allows headset or hands-free profiles. If you link your phone to BlueNAC-3000, this will exclude the possibility of connecting another device simultaneously. Although you can only connect with one at same time, you can register up to 5 different devices by repeating the above procedure.

Once all Bluetooth devices are registered, the first which is found will be associated with BlueNAC-3000. To connect another device of prior partners must turn off or disconnect the Bluetooth device before.

If the device does not connect automatically, you can force the association making a short push on the key “phone”  of BlueNAC-3000. This starts the sequence of sync with the list of the 5 previously associated devices...

**[!] Attention:** The pairing process of Bluetooth devices (Red and Blue LEDs flashing alternately) may take about one minute. If no devices are found during that time, the BlueNAC-3000 returns to normal mode. Is important bear in mind, the devices must be in pairing mode at same time.

### Reconnect the BlueNAC-3000 to Bluetooth® devices

If there is a connection failure between both devices (ex. if a device is switched off, or unreachable), will be not necessary to repeat the synchronization process. Simply turn on the device or be approaching to enter coverage. If the connection is not automatically restored, please select manually in your Bluetooth device (ex. mobile phone, GPS, MP3, etc.) the BlueNAC-3000 (PILOT or COPILOT) to restored the connection.

## SOUND AND VOLUME ADJUSTMENTS

BlueNAC-3000 uses a DSP (Digital Signal Processor) for digital processing of sound, with powerful noise cancellation software called CVC (Clear Voice Capture) that guarantees excellent noise reduction and echo.

Also we can monitor your own voice (SIDETONE), avoiding the tendency to raise his voice to speak due to the presence of noise. This is a more natural and comfortable communication and offers the advantage of being able to check the sound quality during communications. We recommend that the volume of the monitor (SIDETONE) is always much lower than the total volume we hear the Co-pilot or vice versa. Otherwise you will have the sensation of being unable to speak normally because they hear their own voice for a few milliseconds of delay due to digital processing to remove noise.

The volume keys in BlueNAC-3000 control, by default, the listening volume of active communication (intercommunication with other BlueNAC-3000, phone call in progress, etc.). In addition, you can also adjust other settings in the menu mode volume as the volume of monitoring or tones. (See Settings in SETUP mode)

## USE OF TWO BLUENAC-3000 DEVICES

To use the intercom mode, make sure both units are switching-on and pairing. The Intercom function is disabled when there is an incoming call or when you have connected a GPS navigator which gives some instruction. The intercom mode was re-activated as soon as the call or instruction ends.

**[!] Attention:** Some mobile phones cut off calls after a few seconds, which means that the Intercom function may not be available immediately.

The Intercom function is activated by voice (VOX). To start a conversation with the intercom, simply start talking. The communication is active for as long as you are talking. If no conversation, the function is deactivated after 5 seconds. To reactive, simply speak.

After 30 seconds of inactivity, the intercom passes to sleep mode to save power, you hear a beep characteristic, blue led blink once per second instead two flashes every second.

**[!] Attention:** When using the intercom function after a period of inactivity, the first time you activate the communication will start with a small delay because the devices are in sleep function to save power and must be reactivated. You will know that its happens because in the sleep state blue LED blink once every second



and when reactive the audio connection you hear a faint beep characteristic and the blue LED will flash twice every second.

For this reason, it is possible that the first word is cut or you don't heard it, so it is recommended to start a conversation with a blow or an "OOH", "YES", "HELLO" or a short expression to allow intercom function was activated. After this, communication will start automatically.

Two BlueNAC-3000 units can communicate to a distance up 30 meters. Therefore, they are appropriate for communication Pilot-Copilot, although you can use them to communication at distance not exceeding 30 meters. The maximun range depends on the environment where they are used.

## USING THE MOBILE PHONE FUNCTION

To use a mobile phone, make sure that the two units are switch-on and synchronized properly following the process described in the PAIRING/SYNC section.

**[!] Attention:** Calls are always private and have high priority, which means that the intercom function is temporarily disabled while there is an incoming call and is restored when the call ends or if you decide to reject it.

### Answering a call

When you hear the dial tone, press the "phone key"  or HF "Hands Free key" and begin speaking.

### Rejecting a call

If you don't want to responding, you can let the phone ring or press the ON/OFF  at once (you will hear a confirmation tone).

### Make a call

There are several ways to make a call.

- From the keypad from your mobile phone: Making a normal call from your phone (You shouldn't do this action in a moving vehicle)
- For voice command briefly press the "Phone key" . If your phone supports voice call system, briefly hear the synthesized voice "SPEAK NOW" and then a signal to indicate when you should say the contact's name you want to call. The correct operation of this function depends on the type of helmet used (open-face or integral) and the speed at which it is moving. We suggest you perform a few tests to determine the best settings.
- Redial the last number: press and hold "Phone key" for about 3 seconds to re-dial the last number (you will hear a synthesized voice confirmation, that says "RECALL")

### End a call

There are several ways to end a call:

- Wait for the other person hang up.
- Briefly press once the ON/OFF key (you hear a confirmation tone)
- Press the "END key" on your mobile phone (You shouldn't do this action in a moving vehicle)

## USE OF BLUETOOTH GPS NAVIGATOR

To use the functions of a GPS, make sure both units are stwich-on and synchronized properly, following the process described in the "PAIRING/SYNC" section.

**[!] Attention:** Communicating with a GPS has high priority, which means that, while you hear the GPS instructions, intercommunication is temporarily disabled. Once the GPS communication end, the intercom is automatically restored.

### Play voice commands on your Navigator

These traffic instructions are transmitted cutting temporarily the intercommunication. Once transmited these instructions, BlueNAC-3000 automatically restart the intercom mode.

**Listen music from your Navigator**

Most modern Navigators allow listen music while not transmit any information. In this case, communication with the Navigator is continuous thus preventing intercommunication.

**Using a mobile phone with a Navigator**

If you have synchronized your Navigator with a BlueNAC-3000, you cannot connect directly your mobile phone to BlueNAC-3000, but instead this, you can connect the phone using the Navigator. By doing that, all the phone functions are controlled from the Navigator. For more information on how to synchronize the mobile phone with a Navigator, read the Navigator user manual.

## UPDATE BY USB PORT

You can access to our web <http://www.bluenac3000.es> to download the free updates, software and firmware.

For connect the BlueNAC-3000 to a PC to update it, is required a standard mini-USB cable, a free USB input on your computer and internet access.

The instructions to update it are on this website. Once installed the software and drivers on your PC, you can access to the control panel that lets you make adjustments in BlueNAC-3000 graphically and simple, or you can check for a new firmware update with possible improvements or changes.

## GUARANTEE

1. The duration the guarantee is 24 months from the date of acquisition.
2. To make use of the guarantee is essential send us a photocopy of the purchase invoice referring to damaged equipment.
3. The guarantee repairs should be made in NAC-INTERCOM.
4. The guarantee covers the entire device except batteries or external peripherals to the product.
5. The damage that the device could suffer during transportation and the costs thereof are excluded from the guarantee.
6. Not be claimed damages or compensation for the downtime, its costs, or direct or consequential damages that might cause such inactivity.
7. The guarantee is void if there is one of the following circumstances: installation and/or faulty connections, use in adverse conditions, damage caused by bad use or handling, damage or faults in batteries.
8. The performance of statutory guarantee, against the seller, is in addition to this guarantee and is not restricted by it.

## SAFETY TIPS

- Keep away from moisture and dust.
- Clean with soapy water, never with abrasives or solvents.
- Do not store in areas over 50°C or directly under the heat source. It can cause a drop in performance and reduce battery life.
- Do not let it fall from considerable heights.
- Do not manipulate the controls or plug connections with wet hands and remember to avoid contact with splashes of water or aggressive liquids.
- Avoid that is near magnetic fields.
- Do not manipulate/modify the product.
- Keep away from microwave or wireless networks. May cause interference.
- Do not expose the headset to considerable fluctuations in temperature.
- Do not subject it to shocks and excessive vibrations.

<b>TECHNICAL SPECIFICATIONS BlueNAC-3000®</b>	
Bluetooth® Version	2.1
Radiofrequency	2,41Ghz-2,48Ghz
Standard Profiles	Headset, HandsFree
Chip Manufacturer and Model	CSR BC03MM
Battery Type/Capacity	Li-Ion/500mAh
Battery charge time	2-3h
Talk time/at rest	≈8h / ≈150h
Output Power	Type II (4 mW max.)
Radio Range	<50m
Storage Temperature	-20°C->+45°C (max. 85% relative humidity)
Operating Temperature	+3°C->+35°C (max. 85% relative humidity)
<b>CHARGER</b>	<b>GEB-05EU-0550</b>
Input Voltage	180-250V
Frequency	50/60 Hz
Rated Current	0,15 A
Voltage/Current Output	5 V / 500 mA

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NAC-Intercom uses the trademark of Bluetooth® wireless technology license from Bluetooth SIG, Inc.

## Disclaimer and Limitation of Liability

NAC-Intercom assumes no liability for damages or loss resulting from the use of this manual.

NAC-Intercom assumes no liability for loss or claims by third parties which may result from use of this software.

NAC-Intercom assumes no liability for damages or losses caused by deletion of data as a result of a malfunction, battery or dead battery, or repairs. Be sure to back up all important data on other media to avoid data loss.



## DECLARATION OF CONFORMITY

The NAC-Intercom company declares under his sole responsibility, that the specified equipment is in conformity with to the above Directives and Standards:

Product name: BlueNAC-3000®  
 Manufacturer´s name: Nac-Intercom®  
 Model no.: BN-3000 Intercom Moto  
 Manufacturer´s address: c/Quintela nº27 Portal 4 Local 2,  
36209 – Vigo, Pontevedra (SPAIN)

Referred to this statement, the CE rules,

Electromagnetic emissions (EMC)	EN 301 489-17(v. 1.2.1)
Electrical Safety	EN 60950 (2006)
Radiofrequency	EN 300 328 (v.1.7.1)

And Standards FCC:

15247 + 15209(Tx) + 15209 (Rx) + 15207

Council Directives to which conformity is declared: CE: 99/05/EC, 89/336/EEC, 92/31/EEC, 93/68/EEC, 73/23/EEC, 93/97/EEC and legislation FCC: 47 CFR part 15, class B

Vigo, 6<sup>th</sup> of June 2009



All items display this symbol in the body of the product, in packaging or in the user manual, should not be discarded with normal household waste, but must be deposited in specialized collection centers. In these sites, materials are selected based on their characteristics and will be recycled, contributing significantly to the protection and conservation of the environment.

## COLABORATIONS

PROXECTO COFINANCIADO



**XUNTA DE GALICIA**  
 CONSELLERÍA DE  
 ECONOMÍA E INDUSTRIA



UNIÓN EUROPEA

FONDO SOCIAL EUROPEO  
 "O FSE inviste no teu futuro"



SECRETARÍA GENERAL DE  
 INDUSTRIA  
 DIRECCIÓN GENERAL DE  
 POLÍTICA DE LA PYME



"Una manera de hacer Europa"



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