**GNS** ELECTRONICS

# GNS 3000
## GPS/ GALILEO/ GLONASS TRICEIVER

✔ 99 Channels
✔ Logger Function
✔ SD Card Support
✔ High Sensitivity
✔ Up to 10 Hours Operation Time

**Bluetooth**®

Made for
**iPhone | iPad | iPod**

**android**

https://www.gns-electronics.de/support-gns3000/

QR Code GNS 3000
Support Page

# GNS

ELECTRONICS

## GNS 3000
*GPS/ GALILEO/ GLONASS TRICEIVER*

USER MANUAL



Charge indicator

Bluetooth status

GPS / logging status

GNS 3000

Storage-Card slot

on-/off-switch

USB-C power supply socket

Made for
 iPhone | iPad | iPod

android

🇬🇧 **Dear Customer,**

thank you for purchasing the *GNS 3000*. Please read the following information carefully to ensure problem-free and optimal functionality.

The *GNS 3000* is a GPS/GALILEO/GLONASS receiver with Bluetooth technology. The powerful 99-channel GNSS receiver allows simultaneous reception of GPS, GALILEO and GLONASS signals. The *GNS 3000* supports the SBAS System for accuracy improvement, all worldwide standards (WAAS, EGNOS, QZSS, MSAS, GAGAN) are supported. Due to its state of the art GNSS and Bluetooth technology the *GNS 3000* supports almost all recent and older Apple products as well as Android devices and other handhelds (smartphones, PDAs, Notebooks) with highly accurate position information.

**Note:** The *GNS 3000* is **not a USB device**, the USB port can only be used for charging the battery. **Data transfer over USB port is not possible.**

## Safety notices

- Do not manually operate your GPS navigation system while driving.
- Protect the *GNS 3000* from moisture; observe the limits on operating and storage temperatures.
- This device contains a Li-Ion battery and should only be operated at temperatures between 0° and +50°C (32 and 122°F). Do not expose the *GNS 3000* to direct sunlight or heat.
- Do not open or modify. Failure to comply will result in the guarantee and warranty becoming void. There are no components inside that can be serviced by the user.
- Only connect the *GNS 3000* to the devices and connector types described in this instructions manual.
- Be sure to respect the laws of the country you are in with respect to operation of devices whilst driving.
- Do not operate the *GNS 3000* with a damaged charger cable or if the unit has been dropped or damaged.

- Do not bend the cable forcibly or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Ensure that you're *GNS 3000* is firmly fixed in your vehicle to avoid damage.

## Package contents

- *GNS 3000* GPS/GALILEO/GLONASS Triceiver
- *GNS 3000* GPS/GALILEO/GLONASS Triceiver charger cable
- This instruction booklet
- Should anything be missing, please contact your dealer. Please remove protective film on the LED display before use!

## Operating buttons and LEDs

To switch on your *GNS 3000*, move the switch from left to the right. The green and blue LEDs will start flashing. Move the switch back to the left to switch off.

## Logger Function

The *GNS 3000* features a logger functionality. GPS data is logged on a Storage-Card (not included) inserted into the *GNS 3000* Storage-Card slot.

The position is logged every second and the duration of logging is only limited by the available memory of the storage card (1 GB allows for approximately 80 days of continuous logging).

***Please only remove and insert the Storage-Card when the GNS 3000 is switched off!***

## Storage-Card preparations:

The Storage-Card must have a single partition, formatted FAT or FAT32 and a maximum of 32 GB in capacity. A maximum of 100 files are allowed on the root directory and for normal logging purposes there must not be a file named update.gns present.

The logfiles are named and numbered LOG00001.TXT to LOG99999.TXT so logging will also cease to work after LOG99999. TXT is reached.

If the card meets all requirements but still does not work, we recommend formatting it using the SD Memory Card Formatter (https://www.sdcard.org/downloads/formatter/).

**Start / Stop Logging:**

To start GPS data logging with the *GNS 3000* turn the power switch to OFF, then switch it ON-OFF-ON in a straight sequence within 1.5 seconds.

To stop logging simply switch off the device. Alternatively logging will automatically stop if the battery is empty or the storage card capacity is reached.

**Logging output format:**

GPS data is logged to files named and numbered LOG00001.TXT to LOG99999.TXT. The data is recorded in NMEA 0183 (v4.10) GGA and RMC sentences which can easily be converted into other formats such as Google's KML or GPX using the free conversion tool GPSBabel which is available for most operating systems (https://www.gpsbabel.org/).

Data is only recorded while the device has a GPS fix and the actual log file is created only when the first GPS fix has been acquired after logging was enabled.

# LED indicators and their meanings

Standard Operation Mode

|  | red charging light | Blue Bluetooth status | Green GPS status |
|---|---|---|---|
| **off** | Normal battery operation | *GNS 3000 plus* is off | *GNS 3000* is off |
| **on** | Charger cable attached, battery fully charged | Bluetooth connection established | GPS position available |
| **blinking** | Charger cable attached, battery charging | No Bluetooth connection established | GPS position not (yet) available |
| **fast blinking** | Battery almost empty, device switching off in about 10 min. | – | – |

## Logging Operation Mode

| | Combo LED (green / orange) | |
|---|---|---|
| | ⊕ Green GPS status | ⊕ Orange logger status |
| **Double flashing** | Logging active; no GPS position available | - |
| **On with short interruptions** | Logging active; GPS position available | - |
| **Flashing alternately** | Logging requested, but the Storage-Card is full, the file limit is reached, or a file named update.gns is present and there is no external power attached*[1] | |
| **Fast flashing for 2 seconds** | - | Logging requested, but no Storage-Card present |
| **Fast flashing > 2seconds** | - | Logging requested, but Storage-Card not FAT(32) formatted, exceeding 32GB or otherwise not suited for GNS3000 operation*[2] |

*[1] Please verify the following:
1. Is the Storage-Card full or file-limit is reached => Delete non required files
2. Firmware update file "update.gns" is present while no external power attached => Attach external power for FW update or delete "update.gns" file

*[2] Please verify the following:
1. Is the Storage-Card FAT(32) formatted or larger than 32GB => Format Storage-Card FAT(32) or use Storage-Card <=32GB

## Charging

The *GNS 3000* is equipped with a Li-Ion battery. The operation time is over 10 hours. Charging: Charging time is approximately 3.5 hours (empty battery). Connect the *GNS 3000* with the supplied charging cable to a USB port of your choice. This can be, for example, the USB port of a PC, or any external USB charger like a cigarette lighter charger, for example. The red charge indicator light will start blinking to indicate charging. It remains lit when charging is complete.

## Installation and Bluetooth mode

Position the *GNS 3000* so that it has an unobstructed „view" of the sky. (no metal parts between sky and device). Secure the receiver to avoid slipping. Switch on the *GNS 3000*. Activate the Bluetooth mode in your Apple- / Android device / PDA / PC and initiate a search for the *GNS 3000* with your Apple / Android / PDA / Handheld / Tablet / PC devices Bluetooth manager. This is described in the manual for your device. When you are asked for the PIN to establish the link, enter "0000". In case your device shows a message to compare the displayed the code with the code displayed on the GNS3000 just confirm the message. Start your navigation software and select the appropriate interface under the GPS settings if required. The *GNS 3000* can be connected with up to 5 Android or Apple devices simultaneously. For Windows devices only one exclusive connection at the same time is possible.

## Special feature for Apple devices:

After the first connection with an Apple device, the connection will be automatically re-established when restarting the *GNS 3000*. This automatic connection establishment will be interrupted when you connect your *GNS 3000* with another device intermediately.

## GPS data transfer to Android devices:

The *GNS 3000* can also be used with Android devices. The Android Operating System does not support external Bluetooth GPS receivers by itself, but when you use an external freeware app such as „Bluetooth GPS" (available in every App Store) you can pass the data from the *GNS 3000* GPS receiver to your Android device via Bluetooth.

After you have installed the „Bluetooth GPS" app, set up a partnership between the *GNS 3000* and your Android device. Start the „Bluetooth GPS" app and select the GNS 3000 receiver. Then choose the „Enable Mock GPS Provider" option and make the connection by pressing the „Connect" button. Your Android device will now receive the GPS data from the *GNS 3000* via Bluetooth.

**Dear Customer,**

For more information and guidance on the Bluetooth installation on your Apple or Android device, please refer to our Installation Tutorial on https://www.gns-electronics.de/support-gns3000/

## Operation over car ignition

For fixed and unfixed installation and operation in motor vehicles with 12-24V power supply. Due to the power management features described below the *GNS 3000* is prepared for fixed installation in motor vehicles. If your vehicle is equipped with a cigarette lighter socket which is connected to the car ignition and the *GNS 3000* is connected via USB charging adapter and the included USB cable, the *GNS 3000* will turn on automatically when the car ignition is activated and will shut down automatically 15 minutes after switching off the car ignition (on/off switch of the *GNS 3000* has to be in the position „on").

## Power management

**1.** Without external power supply (cable/car ignition off) the *GNS 3000* will shut down automatically after 15 minutes without a Bluetooth connection to reduce battery consumption.

**2.** The *GNS 3000* can be turned on again easily using the on/off switch or by powering the device with an external charging cable.

## Reset

For technical reasons the *GNS 3000* is not equipped with a RESET switch. If you should experience an unexpected malfunction - e.g. no data is sent or the partner device does not recognize the *GNS 3000* - simply switch off the device, remove storage card and plug in the external charging cable to perform a full RESET. An existing Bluetooth connection should be terminated first.

## Technical data

| General | | |
|---|---|---|
| **Weight** | GNS 3000 only | appr. 47 g |
| **Dimensions** | 79.1mm x 45.3mm x 11.3mm | |
| **Ambient temperatures** | Storage | -10...+50°C (14...122°F) |
| | Operation | 0...+50°C  (32...122°F) |
| **Power supply and consumption** | Charging & operation | 5.0V DC (+5%) 500mA |
| | Via car adapter | 12..24V DC 10...300mA |
| **Battery operating time** | > 10 h | |
| **Battery charging time** | 0-90% ca. 3.5h | |
| **Connectors** | Supply | USB-C socket |
| **Data interface** | Via Bluetooth | Multi connection only for Apple and Android devices |

| Bluetooth | |
|---|---|
| Class2 Bluetooth V5.0 | |
| **Range** | 10m |

| GPS | |
|---|---|
| **GPS** | SBAS [WAAS, EGNOS, QZSS, MSAS, GAGAN] |
| **Chip set** | MediaTek MT 3333  99-channel GPS / GALILEO / GLONASS receiver |
| **Time to first fix** | Cold start                35 s<br>Warm start              33 s<br>Hot start                  < 1 s |

| Storage-Card Logging | |
|---|---|
| **Supported Storage Cards** | <= 32 Gigabyte |
| **Supported file systems** | FAT, FAT32 |
| **Logging time (typical)** | Approx. 9 hours with fully charged battery |
| **Logging format** | NMEA GGA and RMC sentences |
| **Max number of log files** | 100 |

## Compliance

The declaration of conformity is available on request from the manufacturer.

CE: The *GNS 3000* complies with all applicable standards including the relevant RED and EMC directives.

FCC Compliance: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

MIC certification for Japanese Radio Law: This device conforms with the Radio Equipment specified in Article 2-1-19 of the Certification Ordinance.

R&TTE Bluetooth EMC: This device also complies with EN 62479:2010; EN 60950-1:2006+A1+A11+A12; EN 301 489-1 V1.9.2; EN 301 489-17 V2.1.1; EN 300 440-2 V1.4.1; EN 300 328 V1.7.1 and is listed under Bluetooth.

Qualified Products:
Although the *GNS 3000* conforms to the current strict guidelines and norms it cannot be guaranteed that other devices will not be affected by interference.

## Safety notice, Bluetooth operation

FCC Warning Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Bluetooth should not be used in the proximity of the following devices or in the following locations: Medicinal devices, pacemakers, automatic control devices, automatic doors, fire alarms, aeroplanes, public transport. If you are unsure if the operation of wireless devices is permitted in certain environments, please enquire before operating the device.

**WEEE declaration**

This device is labelled in accordance with the European directive 2012/19/EU concerning waste electrical and electronic equipment - WEEE. The directive sets down a Europe-wide framework for the return and recycling of end-of-life devices.

WEEE reg. no. DE 6443033

**Warranty notice**

The product is to be repaired at no cost within the legal warranty period of 24 months assuming that there is no damage by third-party interference, moisture, drop, or other improper handling. The internal Li-Ion battery has a warranty period of 6 months and is excluded from the 24 months warranty!

**Technical  Support**

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,,for iPhone" means that an electronic accessory has been designed to connect specifically to iPhone and has been certified by the developer to meet Apple per- formance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Android is a trademark of Google Inc.

**Made in Germany**

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