# GIGAHERTZ® SOLUTIONS
## Made in Germany

# THE NFA-SERIES
## 3D-LF-analyser including
## data logger

**Revolutionising building biologists'
measurement approach**

**With only minimal settings required, the NFA 1000 melts
down over 40,000 data points per second to the essential
aspects of the field situation to be grasped at one glance
during the measurement procedure.**

**Parallel to this, all relevant measuring and settings data
is recorded simultaneously and without interruptions in a
huge cyclical memory. Audio comments can be dictated
into the device real-time. A minimum of effort therefore
provides you with a maximum of information, enabling
you to easily work out a detailed measurement protocol
on the PC later on.**

**This leaves you with more time for the essential task:**

**The best possible consultancy of your customer.**

**The complete series is based on this concept – starting
from the simple magnetic field logger up to the industrial
device.**

**More profound analysis with less effort – how does that work?**

This question shouldn't even arise... it's our job to make it work. One or two additional results do not really justify an explosive increase of the time and effort needed for conducting the actual measurement! The person concerned, of course, will need all relevant measurement parameters, but more than that he or she needs YOUR clear mind as well as an affordable service performance. With the NFA you will have all the information you need at one glance, without having to think of all sorts of menu items and adjustment possibilities:

▪ The display shows the 3D-total exposure as a standard, if you prefer alternately magnetic and potential-free electric for 5 seconds each (indicated by LEDs). So all you need to do is to place the device onto the point of measurement, step back, if required add an audio note to the automatically recorded data by dictating it into the device, and that's it.

▪ In parallel, the differently coloured LEDs show the relevant frequency components and the field specific SBM guideline-safe standard values (a setting of individual limit values is also possible).

At the same time, ALL relevant data of the field situation is uncompromisingly recorded...

▪ ... in order to avoid a lack of information when working out the detailed protocol later on on the PC. The interpretation is supported by the frequency information specified to each axis, and, of course, by the "live" recording of the audio notes (from NFA400 upwards).

▪ The NFAs as well as the NFLs are "clever" devices: absurd settings are automatically corrected and made obvious, and for long-time on-site recordings they offer the possibility of "locking" the device so as to avoid unwanted alterations on the settings.

**Potential-free 3D measurements without "cube" – does that work?**

Yes, it works – with two patent applications and several further ideas we have managed to "square the circle":

▪ Active sensor surfaces corresponding to the norm compensate for the varying sizes of the field sensor pairs.

▪ We make active use of the parasitic effects of the sensors, thus also compensating the "shortening effect" of the long axis. Difficult to understand from the geometric point of view – but it works!

▪ To enable a potential-free measurement, of course the NFA also needs to be set up or held at a distance prior to reading.

**Eight types of devices – which one should I go for?**

For the professional building biologist the NFA 1000 and, if needed, several NFL30 would be the standard equipment. This will allow a safer recommendation of remedial actions than ever possible before.

For occasional analysis purposes and for dedicated amateurs we recommend the basic versions, trimmed-down especially with regard to the price. The basic devices, too, are a clear improvement to today's state of the art technology.

The devices belonging to the Plus series are a low-cost alternative for the industry as well as for public authorities for measurements up to the limit values of the BimSchV and the DIN/VDE-standard norms for the population. Here, the isotropic magnetic field sensor is even more compact than required by the norms.

**Gigahertz Solutions – always the leading edge!**

With 10 years of experience in the industrial production of field strength meters, 20 patent applications and over 30,000 devices sold, we are one of the leading producers in the professional building biology's field strength measurement technology worldwide.

Note:
To allocate the individual functions to the various devices, please see the chart on the following page.
The NFA1000 will be launched in August 2008, the remaining devices and options in the months to follow.

# NFA series
## 3D - LF analyser with data logger

**GIGAHERTZ SOLUTIONS®**
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| | 3D-magnetic field logger | | | 3D-LF analyser with logger | | | NFAPlus series | |
|---|---|---|---|---|---|---|---|---|
| | **Meters for building biologists** | | | | | | **Industry / Public authorities** | |
| | NFL 2 | NFL 30 | NFL 400 | NFA 100 | NFA 400 | NFA 1000 | NFA-M30P | NFA-ME30P |
| **Short term** | | | | | | | | |
| catalogue prices in Euro excl. VAT (net) | 400.00 | 550.00 | 800.00 | 725.00 | 1,025.00 | 1,625.00 | 885.00 | 1,490.00 |
| catalogue prices in Euro incl. 19% VAT | 476.00 | 654.50 | 952.00 | 862.75 | 1,219.75 | 1,933.75 | 1,053.15 | 1,773.10 |
| **Frequency ranges** | | | | | | | | |
| Frequency ranges (from … to) | 16 Hz 2 kHz | 16 Hz 32 kHz | 5 Hz 400 kHz | 16 Hz 100 kHz | 5 Hz 400 kHz | 5 Hz 1MHz | 5 Hz 32 kHz | 5 Hz 32 kHz |
| Frequency selective, simultaneous recording of all 4 channels onto SD-card (1GB) | | | | | | | | |
| - 4 Frequency bands:  a) 16.6 Hz  b) 50/60 Hz  c) > 2kHz  d) rest | ✓ | ✓ | | ✓ | ✓ | | | |
| - optimised FFT up to 32 kHz, plus a broadband value of over 32 kHz | | | ✓ | | | ✓ | ✓ | ✓ |
| **Magnetic flux density** | | | | | | | | |
| Internal 3D-sensor (isotropic point < 3cm$^3$) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Measurement range "M" | | 1 nT-19.99 µT | | | 1 nT-19.99 µT | | | 1 nT-400.0 µT |
| **Electric field strength** | | | | | | | | |
| Internal, potential-free 3D-E-field-sensor (pat. pend.) | | | | | | ✓ | | ✓ |
| Internal potential-free 1D-E-field-sensor in Y-direction | | | | | ✓ | | | |
| Internal earth potential-bound sensor in Y-direction | | | | ✓ | ✓ | ✓ | | ✓ |
| TCO-conform E-field-sensor (easy to fit) | | | | opt. | opt. | opt. | | opt. |
| measurement range "E" | | | | | 0.1-1,999 V/m | | | 0.1-19,990 V/m |
| Input jack for hand electrode for "body voltage" | | | | | 1-19,990 mV | | | 1-19,990 mV |
| **Signal analysis** | | | | | | | | |
| True RMS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| True RMS hold or max hold | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Peak value, to be configured as "peak hold" | | | ✓ | | | ✓ | ✓ | ✓ |
| **Display** | | | | | | | | |
| Big LC display (4 digits), easy to read also from a distance | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Frequency shown by differently coloured LEDs | | | | ✓ | ✓ | ✓ | | ✓ |
| Audio signal (Geiger-counter-effect and volume can be configured) | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Optional configuration of alarm signal upon exceeding limit value | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Separate graphic display unit with infrared or radio link | | | | | opt. | opt. | opt. | opt. |
| **Internal data logger** (4 channels simultaneously: X / Y / Z / eg. external source) [1] | | | | | | | | |
| Entry for HF recordings with external HF analyser | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Memo function (voice recorder) | | | | | ✓ | ✓ | | ✓ |
| PC configuration and evaluation software: graphic display, where applicable specific to frequency and axis, statistic functions (eg. 95. percentile) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Possibility of "locking" the device to avoid operating errors by third persons during long-term recordings | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Transient recorder (scheduled for 2009) | | | opt. | | | opt. | opt. | opt. |
| **Scope of supply and optional accessories** | | | | | | | | |
| Internal Li-Ion battery pack (lasts for recordings of approx. 48h at 10 complete data sets per sec.) incl. battery charger for quick charging | incl. | incl. | incl. | incl. | incl. | incl. | incl. | incl. |
| Tripod connection screw at bottom of casing | | | | incl. | incl. | incl. | incl. | incl. |
| Ground cable and ground clamp | | | | incl. | incl. | incl. | | incl. |
| Potential-free "holder" for measurement devices PM1 | | | | | incl. | incl. | | incl. |
| Potential-free telescope extension rod | | | | | opt. | opt. | | opt. |
| Plastic case K2, leaves room for an additional measurement device | | | | incl. | incl. | incl. | | incl. |
| Compact plastic case K4 for a safe transport | incl. | incl. | incl. | opt. | opt. | opt. | incl. | opt. |

1) No danger of "blind spots" here by switching from one filter to another, or by switching off the device between the measurements, as frequently done. Furthermore, the measured values are either averaged during the recordings (every 100 miliseconds) depending on the operator's adjustments, or maximum values or peaks are held until the next recording, in order to avoid any loss of information.