

NHT 3D

ANALYZER FOR
COMPLEX SIGNALS ELF



MICRO RAD

- > Selective measurements of magnetic induction (H) and electric field with any form factor.
- > Frequency range DC – 400 KHz.
- > Time domain analysis (oscilloscope mode with automatic and manual trigger)
- > Analysis in the frequency domain (real time FFT on 65536 points)
- > Selectable indexes: II98 (Icnirp 1998 Health Physics 74:494–522–1998) • WP10 (Icnirp 2010 Health Physics 99:818–836–2010) • IB50 (Time Domain analysis CEI EN 62233) • IRSS (Frequency Domain analysis CEI EN 62233)
- > Firmware updating by the user

Main Applications

NHT 3D is a high-performance handheld analyzer designed for measurements of electric and magnetic field characterized by complex or impulsive form factors.

Thanks to the interchangeability of the probes, it is possible to configure the instrument for measurements in different areas and according to the main reference Standards.

The “Real Time” operating mode provides a quick view of the main indexes and the trend of the field in the time domain and frequency, through repeated acquisitions of windows to 65.536 samples, with possibility to configure a trigger acquisition manual or automatic.

The “Monitoring” operating mode allows for the complete recording of all the signals from the probe in nonvolatile memory internal to the instrument; thanks to this feature it is possible, after the download of the data, the extraction of all the information amplitude / frequency and indexes for the period of monitoring.

This characteristic together with the great autonomy allows for example to carry out a monitoring of the duration of over 24 hours with a span of 1 kHz bandwidth



Use Sectors

- Energy
- Industrial
- Medical
- Railway
- Automotive
- Military

Main Reference Standards

Controls according with **DIRECTIVE 2004/40/EC** of the European Parliament and of the Council of 29 April 2004 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (18th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) and later revisions)

CEI EN 50500 “Measurement procedures of magnetic field levels generated by electronic and electrical apparatus in the railway environment with respect to human exposure.”

CEI EN 62233 “Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure”

CEI EN 62311 “Assessment of electronic and electrical equipment related to the restrictions for the electromagnetic fields (0 Hz - 300 GHz)”

TECHNICAL SPECIFICATIONS

Frequency Range		0 ÷ 400 kHz
SPAN / Frequency Resolution		0 Hz ÷ 1 kHz / 0.075 Hz
		0 Hz ÷ 20 kHz / 1.5 Hz
		0 Hz ÷ 400 kHz / 30 Hz
Measurements	Unit of Measures	V/m, μ Tesla, mTesla, A/m
	Type of Measures (Isotropic, RSS)	Instantaneous value, Max, Min, RMS, IRMS, F_{Max}
	Type of Measures (X – Y – Z)	Simultaneous acquisition of axes X, Y, Z
	Selectable indexes	II98, WP10, IB50, IRSS
Memory		65.536 measurements (X,Y,Z group of three) real time acquisition
Dynamic		>100 dB
Interface	Optical Interface	Serial, full duplex ottica o wi-fi (option)
	Probe Input	Plug-and-play automatic recognition, LEMO™ connector
WI-FI		Available as an option
GPS		Available as an option
Software		Waves (S.O.: Windows XP, 7 and Vista, Windows 8)

GENERAL SPECIFICATIONS

Battery		Lithium-ion
Operation Time		> 24 h
Charging Time		5 h
Battery Level Indicator		On Waves application or display
Temperature Range		Operativo: -10 °C ÷ +50 °C
		Storage: -20 °C ÷ +70 °C
		Charging Temperature: 0 °C ÷ 40 °C
Umidity		5% ÷ 95% non condensing
Dimensions (h x w x d)		130 x 87 x 25 mm (without Probe)
Weight		500 g (batteries included, without probes)
Country of Origin		Italy

Software Waves

The application Waves allows to perform analysis in the time domain and the frequency both in real time and post processing of the data recorded during monitoring.

During the real-time oscilloscope function manages to capture the signal in automatic or manual mode with a special trigger, and display of the signals can be controlled through control pan / zoom.

The measures are simplified by the marker function which provides simultaneously the value of the level and frequency / time.

The same applies in the frequency domain where you can place the masks on the curves under the various safety standards.

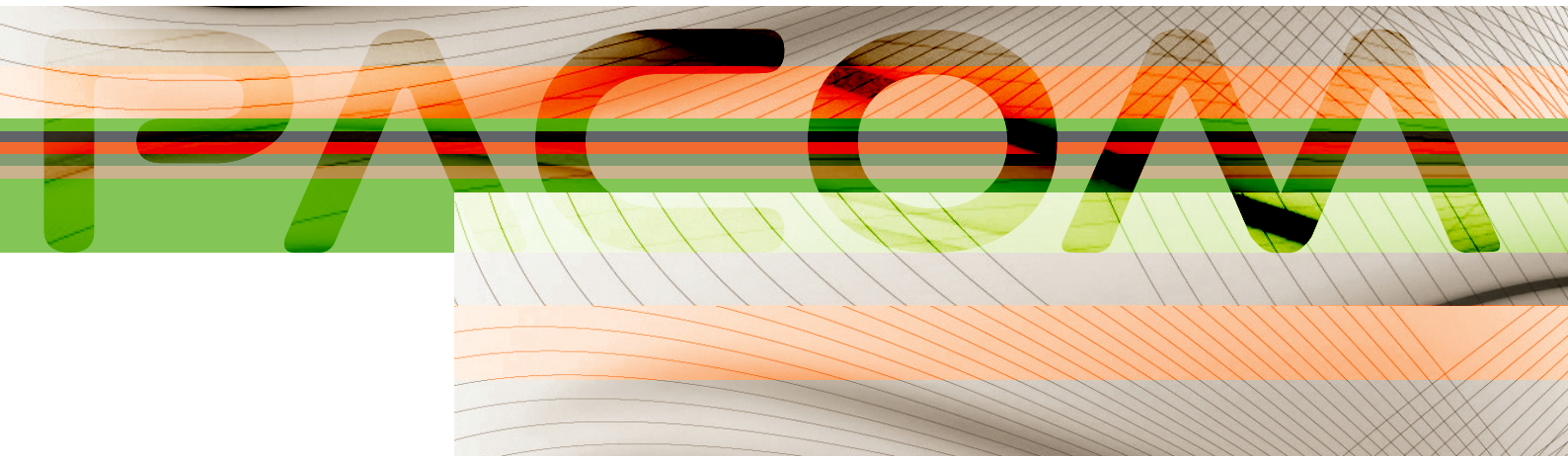
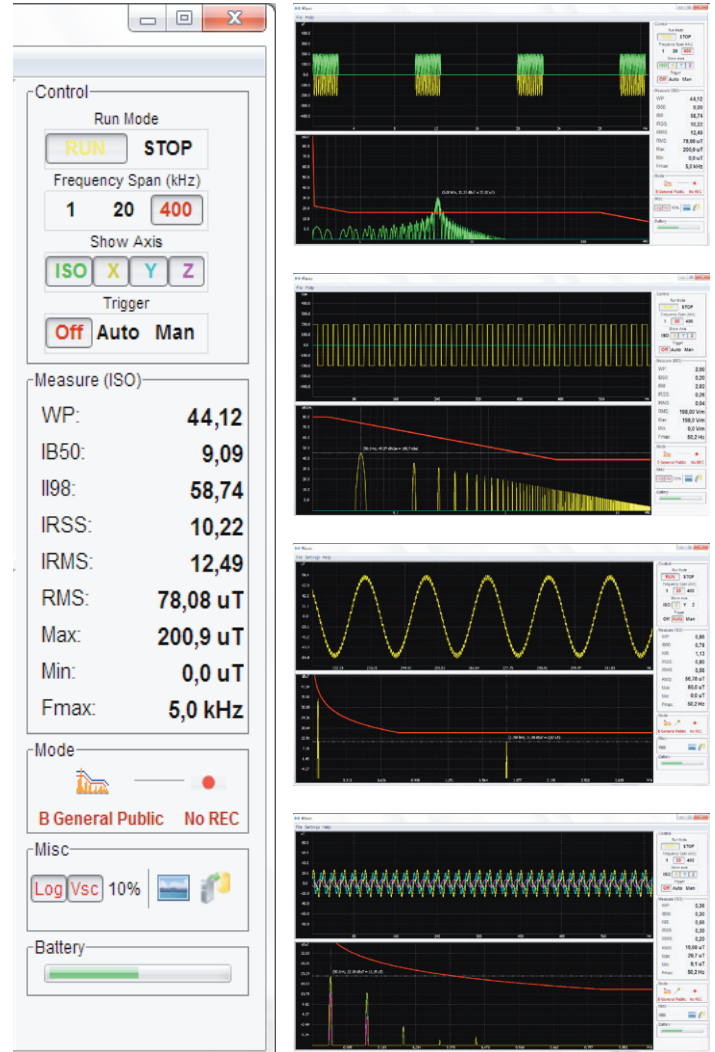
The Waves software allows the selection of four indexes: the weighted peak WP10, the index IB50, I198 and IRSS.

They are also always reported the average RMS, the RMS average normalized with respect to the frequency limit predominant (IRMS), the maximum and minimum value, the frequency with predominant contribution of field (Fmax).

A special command allows the automatic suppression of all the spectral components below 10 dB compared to the peak value (EN 50500).

All information displayed can be exported either as images or as tabulated data.

Waves application software can be installed on systems running Microsoft Windows XP, Windows Vista, Windows 7 and Windows 8, both 32 and 64 bit.



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