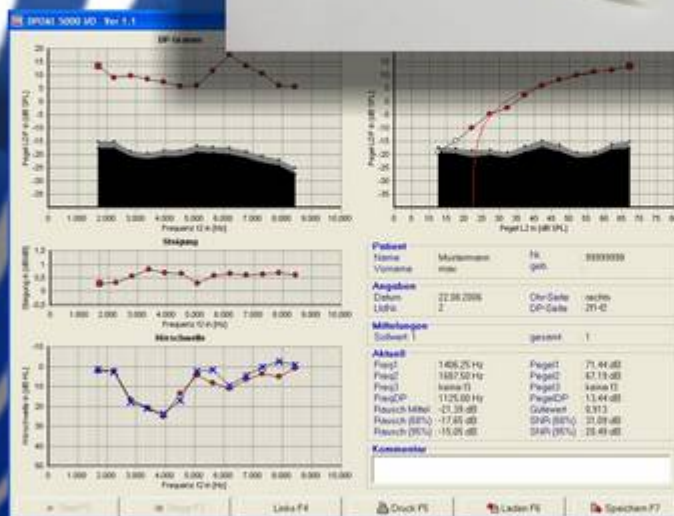


DP-OAE 4000 otoacoustic emissions



we are one of the
 leading companies
 in the field of ENT-diagnostics
 - worldwide -

DP-OAE 4000

Lately the Otoacoustic Emissions (OAE) have become more and more important in the field of objective diagnosis at sensorineural deafness. Using the T-OAE measurement (Transient Evoked Otoacoustic Emissions) clicks will cause a wide-band-irritation, using the DP-OAE's specific frequencies for irritation, (Distorsion-Products Otoacoustic Emissions) it is possible to provoke, measure and evaluate frequency related parts of the cochlear. A sound proof cabin is not necessary, only a noise-reduced area.

By continuous stimulation with two presetable primary sinus tones(f_1 , f_2), the selected area of the cochlea is provoked. The DP-OAE method increasingly rises in clinical means.

This unproblematic and quick measurement is suitable for all age groups. Especially as a precaution-examination for children and newborns this method is established worldwide.

In this occasion, already a low distinctive hearing-loss, at the begin of a deafness, can be recognized.

From screening measurements in the paediatrics using 4 frequency-areas up to clinical examinations containing 10 frequency-areas, the HOMOTH DP-OAE 4000 covers the entire spectrum of test demands of regular DP OAE measurements. The two measure-requirements **DP 1 = $2F_1 - F_2$** or **DP 2 = $2F_2 - F_1$** and averaging in time or in spectral area, makes this device suitable to a wide range of diagnostic.

In addition, the HOMOTH DP-OAE offers a "Hearingloss-Mode". Using this mode, a predefined (By doctor or audiologist) number of frequencies is tested by decreasing the input of SPL. The SPL range lasts from 70dB to 0,5dB splitted into 0,5dB steps. Using an algorithm, the DP-OAE software is able to determin the hearingloss. This method is very helpful in cases a "real" tone-audio can not be realized.

Ensuring the optimal positioning of the probe, a "best-fit-test" is integrated. A volume measurement is testing probe-stability during the complete measurement.

In order to make measurements more reliable, two additional methods of suppressing artefacts and unwanted responses are used. First, a third frequency (f_3 , surpressor tone) can be added in order to avoid finestructure of the response and work out the distorsion products with very high quality. Second, the output is set into a phase-relation to the inputsignal. Doing this, steady occurring artefacts will be spotted, specially marked and taken out of the evaluation.

The results of the diagnostics are displayed within the following graphics: DP-Diagram, Input/Output-Funktion, Slope, Hearing-Loss-Diagram. A special 3-D graphic allows to see all evaluated curves in one diagram, which can be turned into all directions for easy analysis.

All data is stored on harddisc of the computer. Other HOMOTH diagnostic-moduls can be connected to the computer and use the same patients-datafiles.

technical data

System :	PC-module with mikroprozessor controller and USB 2.0 port
system requirements:	Pentium PC min. 500 MHz, USB 2.0 port, Window 98, ME, 2000, XP
Standard :	EN 60601 -1 / 1-1 / 1-2 / MPG / NUB rules
Stimulus :	562 Hz to 9,843 kHz
Intensity :	0,5 dB SPL to 70 dB SPL choosable in 0.5 dB steps level differences free selectable
Probe :	miniature design with pressure ventilation and half autom. self-cleaning
Probe control :	with best-fit-test and realtime control view of stimulus and spectrum
Averaging :	all sweeps can be averaged in time- or spectralarea
Results-presentation :	DP-graph with signal, noise, and the corresponding spectrum input / output function - slope - hearing loss in HPL alternatively evaluation of DP 1 = $2F_1 - F_2$ or DP 2 = $2F_2 - F_1$
Dimensions / weight :	290 X 250 X 75 mm (B, L, H) / 1,8 Kg (probe-weight 12 g)
Probe cable:	2000 mm, flexible with fastening clip
Power pack :	+ 13,2 V = (MSELV) / 15 W
Accessories :	1 miniature probe complete 30 earplugs in 5 different sizes 1 external power pack 1 USB cable 1 program CD 1 instruction manual

technical modifications reserved

