



**AUDIOLOGY**  
PRODUCTCATALOGUE

2024





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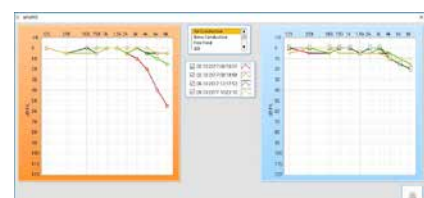
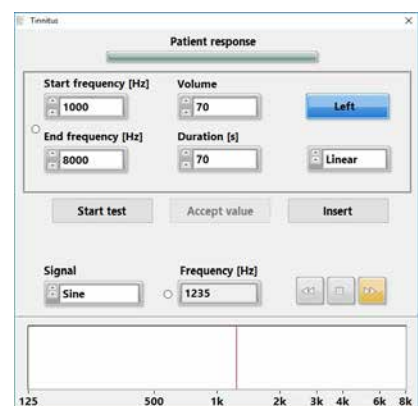
## eAUDIO<sup>USB</sup>

The new dimension for computer pure tone and speech audiometry

The eAUDIO<sup>USB</sup> is a modern computer based audiometry system designed for daily work. Based on state of the art electronics the eAUDIO<sup>USB</sup> creates new standards in 2 channel audiometry.

Standardised diagrams are integrated into a clearly structured interface to ensure optimal use of the system.

- Air conductor:
  - Radioear DD65 V2
    - 125 - 8000 Hz
    - 10 ... 120 dB nHL
  - Sennheiser HDA 300
    - 125 - 16000 Hz
    - 10 ... 110 dB nHL
- Bone conductor:
  - B81 (up to 85 dB nHL)
- 3 active freefield channels
- 2 line out channels
- Microphone in and out
- 2 line in
- Patient response
- grandiose design allows wall or desk mounting
- USB 2.0

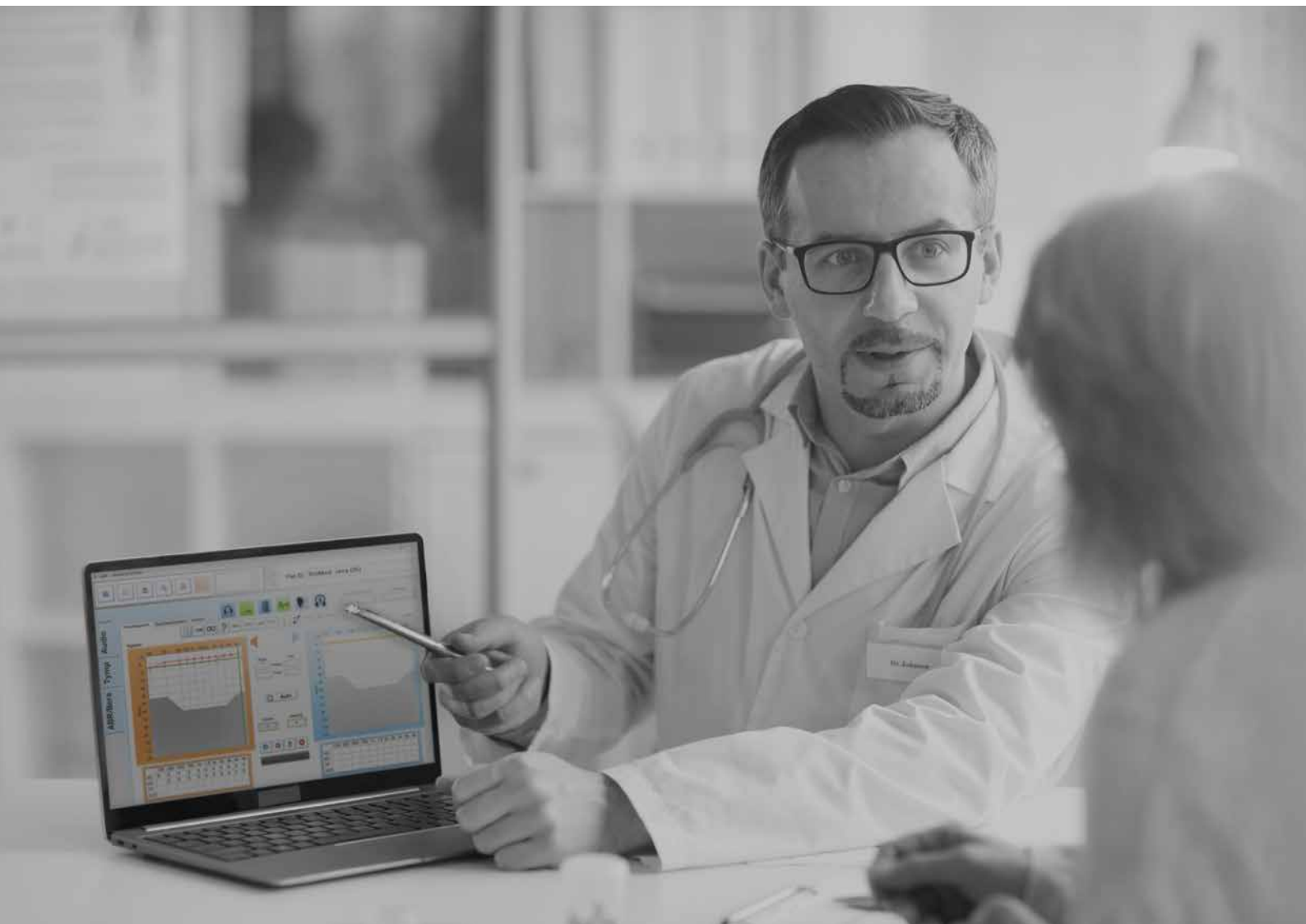
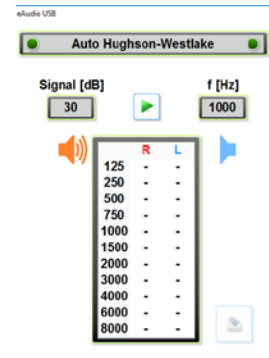


Overlay all data

- Test signals:
  - Manual, continuous and pulsing
- Masking signals:
  - narrow band noise, white noise, SSN
- Threshold exceeding tests:
  - SISI test
  - Lüscher - Zwislocki test
  - Langenbeck test
  - Stenger test
  - Fowler test
- Multiple speech tests possible
- Automatic calibration function
- Speech in noise
- Age-dependend normative values
- Tinnitus tone selector up to 16 KHz / Tinnitus masking
- Overlay function for all test
- use of different transducers possible
- compatible with Windows 11



eAUDIO<sup>USB</sup> is available as a diagnostic and clinical version.

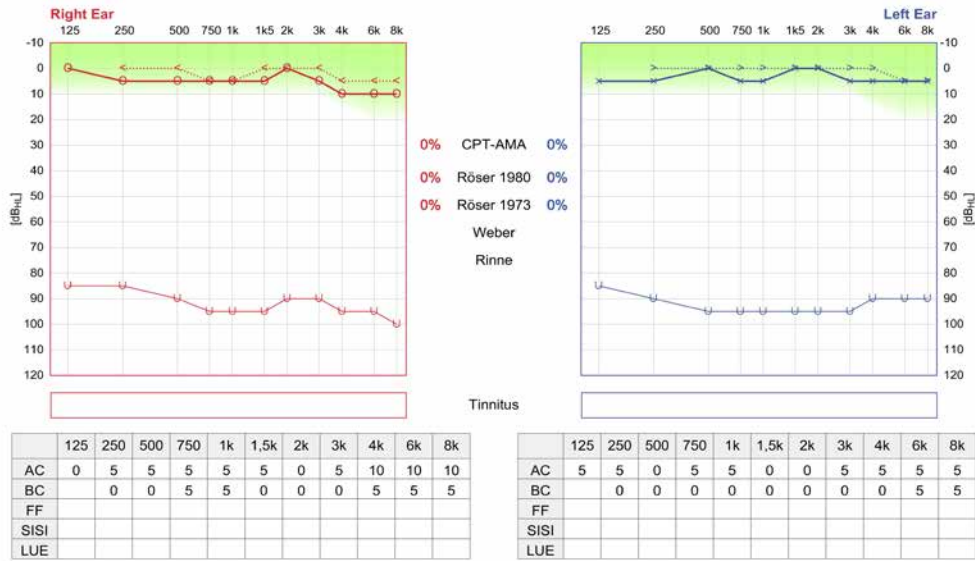




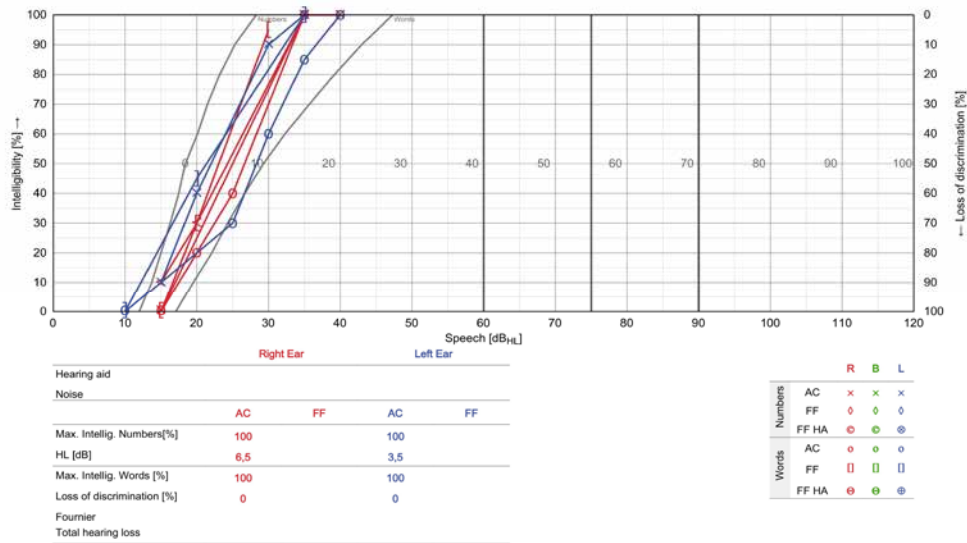
The ENTists!

Patient: All\_Tests Show (1)  
 Date of birth (age): 11.11.1988 (34)  
 Examination: 23.08.2023 18:23

### Audiogram



### Speech Testing



Examiner:

23.08.2023 18:25  
 Version: 2.0.17



All BioMed Jena products are developed and produced in Jena, Germany





# eTYMP<sup>USB</sup>

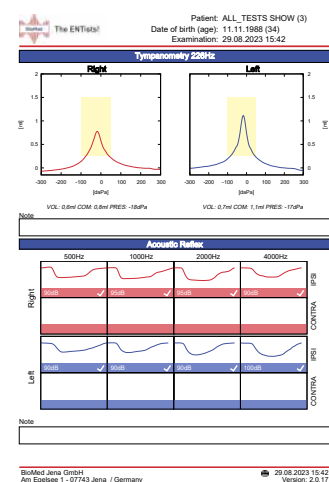
## Middle Ear Analyzer

The eTYMP<sup>USB</sup> is a computer based middle ear analyzer for practical routine and clinical applications.

The eTYMP<sup>USB</sup> offers the possibility to create user-defined test protocols by combining different tests from the test battery into one test flow. For instance you can create a simple screening procedure and a more in-depth evaluation.

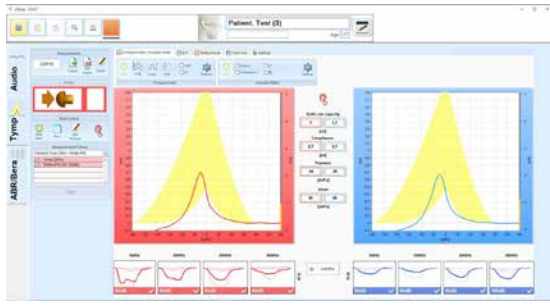
The device is characterized by its compact, functional and attractive design.

- Tympanometry with 226 Hz (standard), 678 Hz, 800 Hz (by request) and 1000 Hz
- Acoustic reflex threshold testing - ipsilateral, contralateral, freefield\* and nonacoustic\*
- Reflex decay testing - ipsilateral and contralateral
- Eustachian tube function (ETF) testing with intact and perforated tympan. membran
- Triggered measurement of acoustic reflex caused by direct stimulation of the cochlear implant (CI)
- Free scientific test mode
- Automatic altitude correction for exact admittance values
- All relevant calibration values are stored in the probe
- Robust acoustic reflex detection
- Small and lightweight probe, easy to clean
- Various trigger functionality over decoupled input and output.
- Continuous measurement
- Easy and Expertmode
- USB 2.0



\*optional





## Software - eAUDIO<sup>USB</sup>

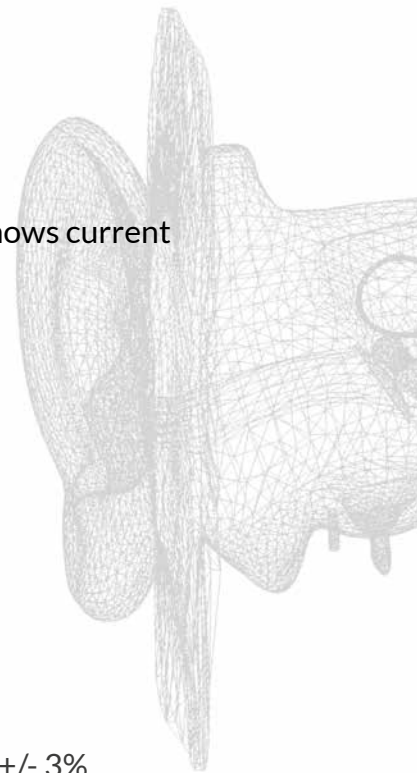
The heart of the device beats in the computer. As a part of eAUDIO software all functions can be easily accessed. The device can be controlled manually or in a complete time saving automatic mode. With the eAUDIO<sup>USB</sup>, eABR<sup>USB</sup> and eOAE a modern diagnostic center can be build and all relevant data be seen at a glance. The eAUDIO software is integrated in the eDM - Diagnostic Manager.

**FREE ONLINE UPDATE OF THE SOFTWARE!**



## Admittance Measurements

- Probe tone frequencies: 226 Hz , 678 Hz, 1000 Hz +/- 1%  
(800 Hz @ 75 dB on request)
- Probe tone intensities: 85, 80, 75 dB SPL +/-3dB.
- THD+N: Less then 4% (acoustical measured)
- Pressure range: +400 ... -600 daPa.
- Pressure accuracy: +/-5% oder 10 daPa
- Compliance range: 0.1 ... 6.0 ml (8.0 ml on request)
- Compliance accuracy +/-5% oder 0.1 ml
- Pump velocity: 100-400 daPa/sec.
- Pump control: Automatic/manual
- Compliance unit: Equivalent air volume [ml]  
or mmho
- Number of curves: 1 per page, overwriting
- LED function: Six colors and blinking LED shows current device and probe state



## Acoustic reflex

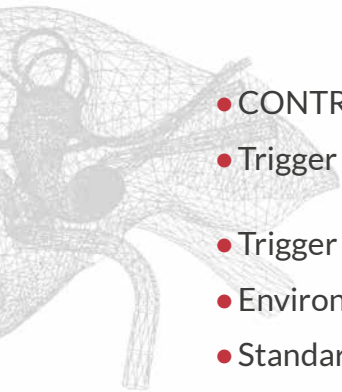
- IPSI pure tone: 500,1000, 2000 und 4000 Hz +/- 3%
- IPSI intensity: Max. 110 dBHL +/- 3dB
- CONTRA-pure tone: 500,1000, 2000 und 4000 Hz +/- 3% + user defined stimulus
- CONTRA intensity: Max. 120 dBHL +/- 3dB
- CONTRA head phone: DD45 Contra
- THD+N: Less then 5% (acoustical measured)
- Min. intensity: 40 dBHL
- Measurement: Automatic or manual
- Automatic test: 5 dB/10 dB steps per frequency
- Manual test: unlimited curves per frequency and ear
- Stimulus Duration: 0.4..1.5 seconds (Reflexdecay 60s)

## Eustachian Tube Function

- Perforated ear drum: Active and passive tube opening (Valsalva maneuver)
- Intact ear drum: Williams test (3 curves per ear)

### General

- Size (LxHxW): 310mmx105mmx250mm
- Weight: ca. 1500 g
- Probe Weight: 4g
- Power consumption: max. 20 W
- Interface: Isolated USB 2.0
- Test types: Tympanometry, Acoustic Reflex Threshold, Reflex Decay, Eustachian Tube Function (intact and perforated)
- CONTRA output: 6,35 mm
- Trigger input: 3,5 mm, optocoupler 5KV, Ifd=5-20 mA intern limited
- Trigger output: 3,5 mm, optocoupler 5KV, open collector
- Environmental: 10°C...40°C, max. 90% Humidity
- Standards: DIN EN 60645-5  
DIN EN 60601-1  
EWG 93/42 EEC



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## eABR<sup>USB</sup>

2 channel modul for measuring  
not only auditory evoked potentials

The eABR<sup>USB</sup> – small like a remote control- is the mobile full routine device for acoustic evoked potentials.

The eABR<sup>USB</sup> combines newest state of the art electronics with an easy to use interface. This ensure best results in routine and clinical use.

### **Auditory evoked potentials**

### **Vestibular evoked myogenic potentials (c- and oVEMP)**

The eABR<sup>USB</sup> has hardware encoded head and in ear phones. The device automatically selects the right calibration values. With the ability to create custom test protocols, the routine is simplified.

The eABR<sup>USB</sup> also has an vestibular modul for c- and oVEMP testing\*.

\*optional

- AC-Phones:
    - Radioear DD 45 shielded
    - Radioear IP 30 Bera
  - Click, Burst, Chirp
  - Click: Pos., Neg. Alt.
  - Masking: Noise
  - ADC:
    - 2 Kanal 24 Bit, 48KHz
  - CMR > 130 dB @ 50 Hz/60HZ
  - Up to 10.000 Sweeps
  - USB 2.0 - bus powered
  - EN 60645-7:2010
  - Compatible with Windows 11
- Automated assistance functions:
    - Automatic electrode impedance control
    - Automatic gain control (AGC)
    - Automatic artefact rejection
    - Automatic stop function
  - 24 Bit conversation
  - Free definable protocols
    - e.g. Treshhold-BERA
  - c- and oVEMP\*
  - easy to use curve handling
  - automated coupler detection
  - Automatic PDF Export
  - Lifetime free online software update

\* Optional







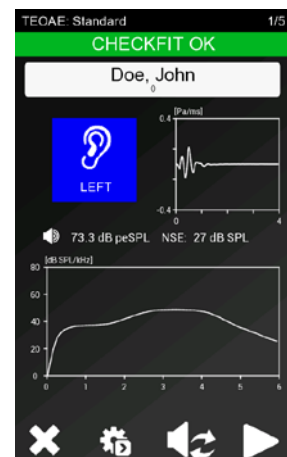


# eOAE

Hand held TEOAE+DPOAE device

When an acoustic signal hits the auditory system, the inner ear sends back a very quiet sound, the otoacoustic emissions. A distinction is made between transitory otoacoustic emissions (TEOAE) and distortively produced otoacoustic emissions (DPOAE).

Both TEOAE and DPOAE can be measured with the eOAE device. A special screening mode is implemented for performing screening examinations on newborns.







- **TEOAE**

User defineable stop criteria

4 adjustable profiles

Display as time graph or

frequency diagram

All parameters at a glance

- **DPOAE**

4 adjustable profiles

Display as DP-Gramm and Table

- **Screening**

Method TEOAE/DPOAE

Clear result presentation

- Easy cleaning of the probe parts
- Good disinfectability through touch screen
- Optional printer available
- Clear measurement data management also on the device
- QWERTZ keyboard for convenient data input on the device
- Capacity for 10.000 tests
- Full integration into the eDM - Diagnostic Manager
- Easy charging via docking station
- PC Software for remote operation
- complies with DIN EN 60645-6

## Device specifications

- Samplerate: 48 KHz
  - ADC resolution: 24 Bit
  - Display: 5" touch display
  - Weight: 320 gramm
  - Battery: 3880 mAh, 400 tests min.
  - Head phone output for masking
  - Dimensions: 141x97x27 mm
- Optional printer**
- Type: thermal printer
  - Paper width: 57,5 mm
  - Resolution: 8 p/mm, 384 p/line

## Probe specifications

- Type: TEOAE and DPOAE
- Stimulus:  
TEOAE: nonlinear Clicks  
DPOAE: pure tone  $f_1:f_2 = 1:1,2$
- Frequency range:  
TEOAE 1-4 KHz  
DPOAE: 0.5-12 KHz
- Level:  
TEOAE 40-90 dB peSPL  
DPOAE 40-70 dB SPL
- Probe cable length: 1,5 m





# AudioBox

4 to 6 channel free field amplifier

The **AudioBox** is a modern computer controlled free field amplifier for connecting up to 6 passive speakers. The 6 output channels can be assigned to 4 input channels. Each input channel can be individually calibrated with up to 50 positions (125 Hz, 250 Hz etc.).

Furthermore, the device has, on customer request, 6 signal channels with which an event can be displayed.

The **AudioBox** can be used to extend a conventional audiometer for lateralisation analysis or pediatric audiometry.

## Technical specification

- 4 Inputs max. 5 V
- 6 Outputs with 100 W each
- Isolated USB 2.0 interface
- API for C/C++, C#, Delphi, Labview
- Windows software
- medical power supply



# AudioControl

The special keyboard for Audiometry

This special keyboard was developed for an ergonomic Audiometry operation. With 2 sliders the volume levels of tone and masking can be controlled. 16 touch buttons ensure absolutely silent operation.

This keyboard works with **eAUDIO<sup>USB</sup>** software.  
For OEM applications the keyboard can easily be integrated via a HID Joystick interface.



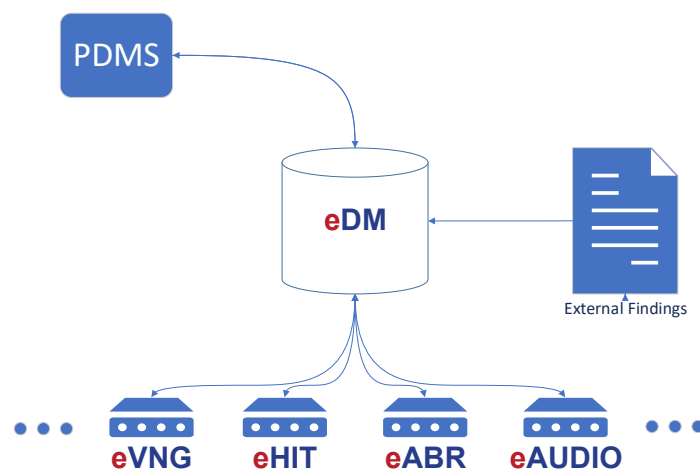
# eDM

## Diagnostic Manager

The **eDM** makes the daily work more efficient and easy at the same time.

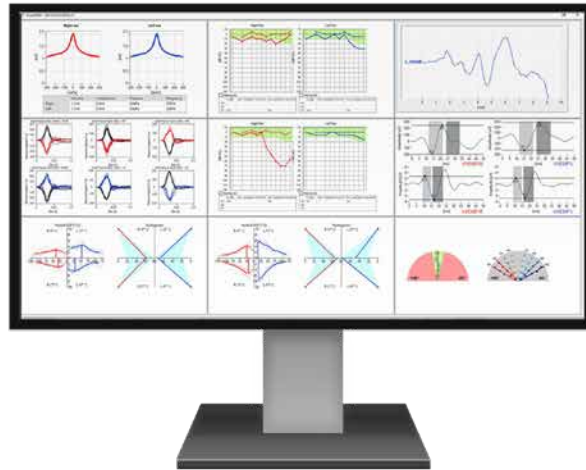
The **eDM** is the optimal solution for measuring, visualizing, managing and storing ENT data, acquired by BioMed Jena devices.

All different tests can be easily accessed. To optimize the workflow a measurement schedule for each patient can be created. Also the **eDM** is able to import PDF documents from other sources.



Remote support as simple as possible - start the remote control software „Anydesk“ directly from **eDM**.

eHIT<sup>USB</sup> eDVA<sup>USB</sup> eABR<sup>USB</sup> eTYMP<sup>USB</sup> eVEMP<sup>USB</sup> eSUV<sup>USB</sup>  
 KALORistar<sup>CT</sup> eAUDIO<sup>USB</sup> eOAE eVNG<sup>USB</sup> ePOSTURO<sup>USB</sup>



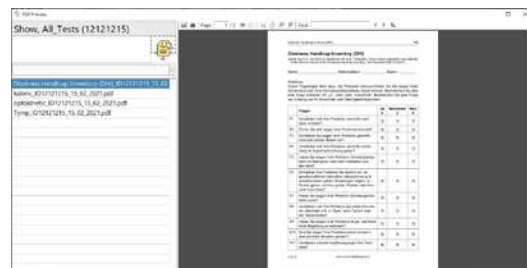
Feature highlight of eDM - Diagnostic Manager

### One software for all BioMed Jena devices

- Only one patient database
- Easy and quick data preview
- Configurable overview for all measurements
- Easy data administration (one for all)
- External PDF import / Automatic PDF export
- User profiles with independent settings for each user



MEASUREMENT SCHEDULE



EASY IMPORT OF EXTERNAL FILES

### Network support

- Create measurement schedule for every patient
- No storage limits - Firebird database
- No workplace licence
- GDT interface included, HL7 on request



- 1997            Founded by Prof. Dr.-Ing. Lutz Herrmann and Dipl. Ing. René Schüler
- 1998            Start of the vertigo diagnostic line as an OEM developer and manufactory
- 2004            Production start of the own brand: the „e“ line with the **eVNG**
- 2008            First VNG system with USB 2.0 and 100 Frames/s binocularly data acquisition  
**eVNG<sup>USB</sup>**
- from 2011       Full solution of vestibular diagnostics with all products: **eHIT<sup>USB</sup>**,  
**KALORistar**, **eVEMP<sup>USB</sup>** and **KALORistarlet**
- 2015            **ePOSTURO**, **eDVA<sup>USB</sup>** and manual pendula test
- 2016            **eMANAGER**, **eFRENZEL<sup>USB</sup>**, **eAUDIO<sup>USB</sup>** and **eABR<sup>USB</sup>**
- 2017            **eTYMP<sup>USB</sup>** and move to new location „Am Egelsee 1“ in Jena
- 2018            Redesign of our famous Airirrigator **KALORistar Arctic**
- 2019            Development of the **eEMG** data logger and signal processor
- 2020            Further Development of the **KALORistar** to **KALORistar<sup>CT</sup>**
- 2021            Release of the **eDM** and **eOAE**
- 2022/2023      Development of new AABR/ABR module for **eOAE**





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