

8.2. Paskirtis: klinikinė audiometrija

MA 42

Two Channel Diagnostic Audiometer

Ergonomic, Portable and Designed to Ease Testing Process

Diagnostics with Ease

The MA 42 is a sophisticated diagnostic audiometer with pure tone, speech, and sound field audiometric testing. It offers a small footprint with smart icons to ensure easy operation. The variety of diagnostic features make this an advanced device with simple testing management for an easy workflow. Also included are dual AC connection options and speech playback modes of internal wave files, external audio devices or live speech to make this an ideal product for a variety of test settings.

Simple Test Management

To optimize your workflow, you may customize all user settings to your individual preferences. This way testing with the MA 42 is even more efficient and timesaving.

Quick screen transitions and on board communication controls allow you to easily guide your patient through the measurements. Make your work easy with the MA 42!

Reporting Made Easy

Just decide what fits your workflow better: Save the test results as a PDF report on a USB stick, print results with the new thermal printer or use our intuitive data transfer software solution, MAICO Sessions, which allows easy management and visualization of your audiometry measurements with each result stored.

8.3.1. P.D. Orinė, kaulinė, kalbinė ir laisvo lauko audiometrija

Features at a Glance

- Air, bone and speech 2 channel audiometer
- Mixing signals and channels independently
- Connection of one or two AC transducers, BC and sound field testing
- Optional high frequency audiometry up to 16,000 Hz
- Advanced diagnostic test functions
- Included Special Tests: Pure Tone Stenger, Speech Stenger, MHA
- Optional Extended Special Tests: SISI, Tone Decay, ABLB, MLB, Langenbeck test
- Full colorful display with simple screen design
- Small footprint for ease of portability
- Easy access to talk forward, talk back and monitor functions
- Direct printout of the results, store report as PDF or quickly transfer to MAICO Sessions PC software
- Optional MAICO Sessions PC Software connectable with OtoAccess® or Noah patient database for easy data management

8.3.8. P.D. Aukštų dažnių audiometrija

8.3. P.D. Atliekami testai:
2.SISI
3. Langenbeck
4. Stenger
5. ABLB
6. Toninis Decay
7.MHA

8.10. P.D. Programinė įranga pacientų duomenų ir tyrimų rezultatų saugojimui bei perkėlimui į kompiuterį



Technical Data

PURE TONE AUDIOMETRY

Test Signals	Pure tone, warble and pediatric noise (pulsed and continuous)
Test Types	HL, MCL, UCL, Binaural and Aided
Test Frequencies	Standard range: 125, 250, 500, 750, 1000, 1500, 2000, 3000, 4000, 6000, 8000 Hz High frequency range: 9000, 10000, 11200, 12500, 14000, 16000 Hz
Masking Noise	Narrow band and white noise
Special Tests	Pure Tone Stenger High Frequency Audiometry (optional), Extended Special Tests (optional): SISI, Tone Decay, ABLB, MLB, Langenbeck Test

8.6. P.D. Aukštų dažnių diapazonas nuo 9000 Hz iki 16000 Hz

8.5. P.D. Dažnių diapazonas nuo 125 Hz iki 8000 Hz

8.7. P.D. Maskavimas:
1. Tikslaus ruožo garsas
2. Baltasis triukšmas

Language	English, Dutch, French, German, Italian, Japanese, Polish, Russian, Spanish, Turkish
PC Interface	USB
STANDARDS	
Audiometer	IEC 60645-1, Type 2, EHF class A-E, ANSI/ASA S3.6, Type 2, HF class AE
Safety	IEC 60601-1, Class II, Type B applied parts
EMC	IEC 60601-1-2
CE 0123	according to Medical Device Regulation (EU) 2017/745, Class IIa

SPEECH AUDIOMETRY

Test Signals	Microphone, auxiliary and wave
Test Types	SRT, WRS, MCL, UCL, Binaural and Aided
Masking Noise	Speech and white noise
Special Tests	Speech Stenger, Master Hearing Aid Optional: QuickSIN™, F

8.8. P.D. Garso stiprumas reguliuojamas pasirinktinai 5, 2 arba 1 dB žingsniu

MA 42 SPECIFICATIONS

Level Steps	5, 2 or 1 dB
Hearing Level Range AC	-10 dB HL to 120 dB HL
Hearing Level Range BC	-10 dB HL to 85 dB HL
Hearing Level Range Speaker	-10 dB HL to 115 dB HL

DEVICE GENERAL

Dimensions / Weight	W x D x H: 34.5 cm x 20 cm x 8 cm / 1.5 kg
Power Supply	100-240 VAC ± 10 %, 50/60 Hz, 0.5 A
Display	5.7" TFT display, 640 x 480

8.9.1. P.D. Paciento atsako mygtukas

8.11.P.D. 6. Programinė įranga (1 vnt.)

8.11.P.D. 1. Klinikinis audiometras (1 vnt.)

8.11.P.D. 3. Audiometrinės ausinės (1 vnt.)

8.11. P.D.
2. Kaulinis zondas (1 vnt.)
5. Paciento atsako mygtukas (1 vnt.)
7. Laisvo lauko kolonėlės (2 vnt.)

Standard Components					Specification	
	MA 42 Device	AC headphone DD45	BC headphone B71	Patient response switch		
	Optional Components					
		AC headphone DD65 v2	BC headphone B81	Speaker SP90A		HM-E300 printer kit
	MAICO Sessions PC Software	OtoAccess Database	Noah Database			

STANDARD COMPONENTS

AC headphone DD45, BC headphone B71, patient response switch, power supply

OPTIONAL TRANSDUCERS

AC headphone DD65 v2, AC HF headphone DD450, AC insert earphone IP30, BC headphone B81, BC headphone BKH10 with masking headphone Holmco 9501, speaker SP85A, speaker SP90A, other speakers and amplifiers on request

8.11.P.D. 4. Aukštų dažnių audiometrinės ausinės (1 vnt.)

OPTIONAL ACCESSORIES

Talk back microphone, monitor phone & microphone headset, monitor phone (for examiner), patch cords, HM-E300 printer kit (3" thermal printer), carrying case

8.9. P.D. 2. Mikrofonas perduoti informaciją pacientui

OPTIONAL LICENSES

Extended Special Tests, High Frequency Audiometry

OPTIONAL SOFTWARE

MAICO Sessions PC Software, OtoAccess® Database, OtoAccess® Worklist HL7 (OtoAccess® Database add-on), Noah Database

5.7.3.7 Pure Tone Stenger



Section 1.5.7 Stenger Test



Section 5.7.2 Special Test Menu

The Pure Tone Stenger is a reduced tone test with non-changeable pre-settings:

- Binaural presentation is fixed.
- **Tone** is preselected as signal type in both channels. Only **Tone** or **Pediatric Noise** is available as Signal Type.
- **Lock** is fixed – levels for right and left ear change simultaneously
- The default transducer is preselected. It is only possible to select **Phones** or **Insert** as a transducer.
- Storing and Data management is not available.

The Pure Tone Stenger test screen shows the current test results of the Pure Tone Audiometry (Figure 21).

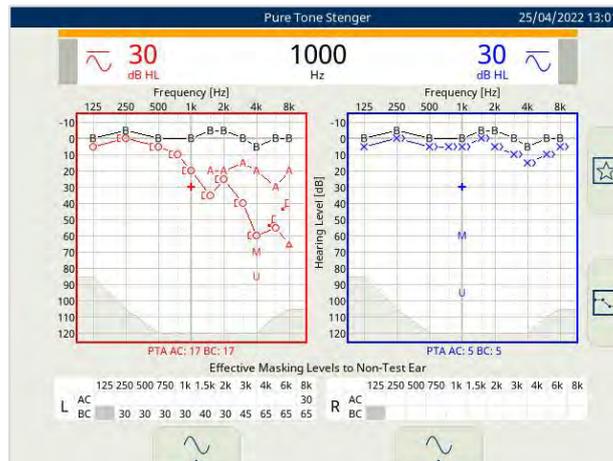


Figure 22

8.9.1. P.D. Paciento atsako mygtukas

How to Perform the Pure Tone Stenger

Press:



to select **Tone** or **Pediatric Noise**.



1. Instruct the patient to press the patient response button when the tone is heard.
2. Set a tone to the better hearing ear 10 dB above threshold.
3. Set the tone to the poorer hearing ear hearing 10 dB below the indicated threshold.
4. Present both tones simultaneously and wait for the patient to indicate the tone has been heard.

Result

Patient does not respond
Patient does respond

The patient is simulating (**Positive Stenger**).
The patient's hearing loss in the poor ear is genuine (**Negative Stenger**).

6.2 Connections

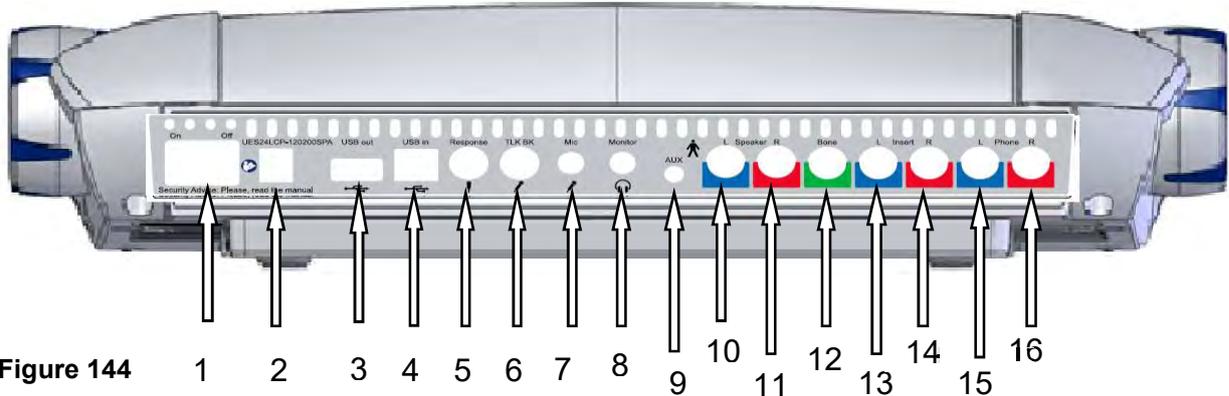


Figure 144

Table 19 Connections on Backside

CONNECTIONS		
No	Socket	Specification
1	On/Off	Power Switch
2	Power Supply	External Power Supply Unit +12V 2A (center +12V) Model UES24LCP-120200SPA
3	USB 2.0 A Host	
4	USB 2.0 B Device	
5	Patient Response Switch	2 k Ω 3.3V DC
6	Talk Back Microphone	Input impedance 3.4 k Ω Min. input level 0 VU 212 μ Vrms 1 kHz Max. input level 0 VU 6.6 mVrms 1 kHz
7	Mic (Microphone)	Input impedance 3.4 k Ω Min. input level 0 VU 212 μ Vrms 1 kHz Max. input level 0 VU 6.6 mVrms 1 kHz
8	Monitor Phone	Max voltage level 2.4 Vrms Load impedance 4 Ω or higher
9	AUX Input	Input impedance 47 k Ω Min. input level 0 VU 16 mVrms 1 kHz Max. input level 0 VU 500 mVrms 1 kHz
10	Speaker Left Line	Max. voltage level 3 Vrms Load impedance 2 k Ω or higher
11	Speaker Right Line	Max. voltage level 3 Vrms Load impedance 2 k Ω or higher
12	Bone (BC headphone)	Max. voltage level 6 Vrms Load impedance 3.3 Ω or higher
13	Insert Earphone Left	Max. voltage level 3 Vrms Load impedance 10 Ω or higher
14	Insert Earphone Right	Max. voltage level 3 Vrms Load impedance 10 Ω or higher
15	Phone Left (Headphone)	Max. voltage level 3 Vrms Load impedance 10 Ω or higher
16	Phone Right (Headphone)	Max. voltage level 3 Vrms Load impedance 10 Ω or higher

8.4.3. P.D. Išėjimas paciento atsako mygtukui

8.4.4. P.D. Išėjimas laisvo lauko kolonėlėms

8.4.1. P.D. Išėjimas kauliniam zondui

8.4.5. P.D. Išėjimas ausinėms, skirtoms aukštų dažnių audiometrijai

8.4.2. P.D. Išėjimas audiometrinėms ausinėms

MAICO Diagnostic GmbH



Manufacturer's Authorization

We

Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlin
Germany

established and reputable Manufacturers the MAICO Audiometers, Impedance Meters, OAE and ABR measuring systems, ENT related Diagnostic Instruments having factories at

Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlin
Germany

do hereby authorize UAB Kavita, Mažeikiai, Lithuania to submit a bid, and subsequently negotiate and sign the contract with you against the above equipment manufactured by us for the countries Lithuania, Latvia and Estonia.

We hereby extend our full guarantee and warranty for the goods offered for supply by UAB Kavita, Mažeikiai, Lithuania.

Yours faithfully,

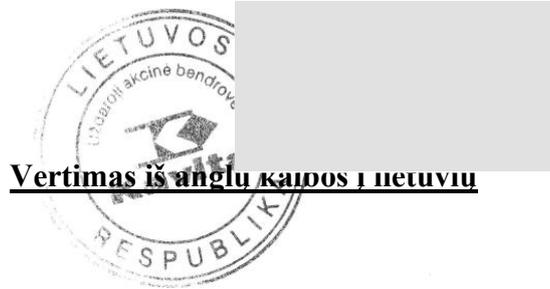
MAICO Diagnostic GmbH

International Sales

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Tel.: +49 30 70 71 46-50
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For and on behalf of:
Messrs Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlin
Germany

23. September 2024



Vertimas iš anglų kalbos į lietuvių

MAICO Diagnostika GmbH

ATSTOVAVIMO RAŠTAS

Mes,

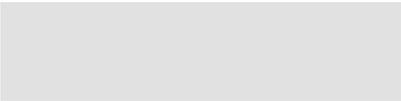
Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlynas
Vokietija

įsteigtas ir žinomas gamintojas MAICO, gaminantis MAICO Audiometrus, Impedansimetrus, OAE ir Auditorijų garso matavimo sistemas ABR, ENT diagnostinius instrumentus, turintis gamyklą

Maico Diagnostic GmbH
Salzufer 13/14
10587 Berlynas
Vokietija

Įgaliojame UAB „Kavita“ esančią Lietuvoje, teikti pasiūlymus, o vėliau ir pasirašyti sutartį su jumis prieš anksčiau minėtų įrenginių pagaminimą, Lietuvoje, Latvijoje ir Estijoje.

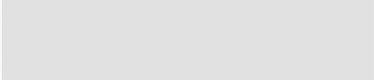
Mes patvirtiname ir garantuojame pilną aptarnavimą ir garantiją siūlomoms mūsų prekėms UAB „KAVITA“ Mažeikiai, Lietuva.

MAICO Diagnostika GmbH
/PARAŠAS/


2024 rugsėjo 22 d.



We hereby certify that.

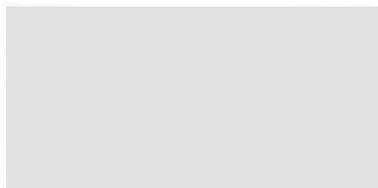
Mr. 

of company Kavita, Lithuania,

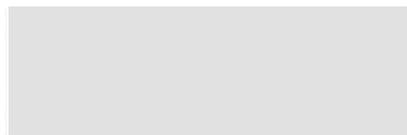
has participated successfully in our audiological, service and calibration training on

- **MAICO Audiometer**
- **MAICO Impedance Meters**
- **MAICO AABR Instruments**
- **MAICO OAE Systems**

on 5 - 7 June 2023 at Maico Diagnostics, Berlin, Germany.



General Manager



Technical Customer Support

Berlin, 13 June 2023



MAICCO Diagnostic GmbH

SERVISO SERTIFIKATAS

Mes patvirtiname, kad

UAB „Kavita“, Lietuva Serviso inžinierius

turi teisę

garantiniu ir po garantiniu laikotarpiu prižiūrėti ir remontuoti

šiuos MAICO prietaisus:

- MAICO audiometrus;
- MAICO timpanometrus;
- MAICO ABR prietaisus naujų gimimų klausos nustatymui;
- MAICO OAE instrumentus.

/parašas/

Tarptautinių pardavimų vadovas

Įgaliojotas atstovas

/parašas/

Regiono pardavimų vadovė

Berlynas, 2023 m. birželio 13 d.

MAICO Diagnostic GmbH. Salzufer 13/14, 10587 Berlynas, Vokietija

AUDIOMETRY

Tone Audiometry

Tone Tests	HL, MCL, UCL, Aided
Special Tests	High Frequency Audiometry Pure Tone Stenger SISI Test (Automatic test: 5, 4, 3, 2, 1 dB Increment of 250 ms every 5 s, response window = 1500 ms from start of increment) Tone Decay Test (Automatic test, Duration: 60 s) ABLB Test (Stimulus length: 500 ms or 1000 ms) MLB Test (Stimulus length: 500 ms or 1000 ms) Langenbeck Test (Effective masking noise: Narrow band noise)
Inputs	Sinus or warble tone (pulse and continuous)
Outputs	Left, Right, Binaural, Bone (L+R)
Accuracy	Frequency $\pm 1 \%$
Distortion	Total Harmonic Distortion (THD): AC: < 8.8.P.D. Garso stipumas reguliuojamas pasirinktinai 5, 2 arba 1 dB žingsniu
Precision	Level Steps: 1 dB, 2 dB or 5 dB (selectable in settings)
Stimuli	Note: For details regarding frequencies and levels see section 6.4.
Tone	AC: Standard: 125 Hz to 8 kHz, High Frequency: 9 kHz to 16 kHz BC: 125 Hz to 8000 Hz
Warble Tone	5 Hz sine $\pm 5 \%$ modulation
Pediatric Noise	Special narrowband noise stimulus. The bandwidth is frequency depended: 125 Hz to 250 Hz – 29 %, 500 Hz – 24%, 750 Hz – 20%, 1 kHz – 17 %, 1.5 kHz – 13 %, 2 kHz 11 %, 3 kHz – 9 % from 4 kHz and up is fix 8 %
Pulse Tone	250 ms or 500 ms on/off time (selectable in settings)
Presentation	Presenter or Interrupter
Level	AC: -10 dB HL to 120 dB HL AC HF: -20 dB HL to 115 dB HL BC: -10 dB HL to 85 dB HL Insert earphones: -10 dB HL to 120 dB HL Sound field speaker with Amplifier: -10 dB HL to 115 dB HL Safety limit: Level > 100 dB HL
Calibration	Calibration information and instructions are located in the MA 42 Service Manual.

Speech Audiometry

Speech Tests	SRT, WRS, MCL, UCL, SRT Aided, WRS Aided
Special Tests	Speech Stenger Master Hearing Aid (High Pass filters of -6 dB, -12 dB, -18 dB, -24 dB per octave with cut off frequency of 1 kHz, HFE filter (High Frequency Emphasis): High Pass filter of -12 dB per octave with cut off frequencies of 1 kHz and 2 kHz, which results in -24 dB per octave) Freiburger Speech Test (Germany only) QuickSIN™ (USA only)