

Pro

KUDUwave™

thinking out the booth



now including



The KUDUwave Pro is a portable diagnostic audiometer offering diagnostic audiological testing without the need of a sound booth up to 16kHz.

The KUDUwave Pro combines the sound booth, audiometers, bone conductor, and extended high-frequency headset in a single, lightweight device. It includes pure tone air and bone conduction, high-frequency testing with auto masking and speech testing, and is capable of accurately testing without a sound booth.



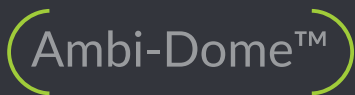
Standard Features

- Manual Tone Threshold Testing (Air- Bone Conduction, Masking, MCL, UCL).
- Automatic Tone Threshold Testing (Air- and Bone Conduction and Masking).
- Digital Frequency Accuracy.
- Air Conduction Intensity Range: -20 dB HL to 110 dB HL in Midrange Frequencies.
- Forehead Bone Conduction Intensity Range: -20 To 70 dB HL in Midrange Frequencies.
- Integrated Speech Audiometry With Preloaded Word Lists (WR and SRT).
- Talk Forward.
- False Positive Response Indicator.
- Telemedicine Enabled.
- PC Controlled.
- Extended High Frequency up to 16kHz

Software

- KUDUwave 5 operating and patient management system. (EMR)
- Secure cloud data storage, backup and synchronisation
- Intuitive and simple to use interface
- Print, export or email reports
- Assistive interpretations
- Touchscreen compatible
- Regular Updates

Kuduwave Software Is Provided Free Of Charge With No Annual Licensing Fees.



Ambi-dome™ sound blocking technology allows for testing to be performed without a soundproof booth. It also includes Active Noise Monitoring which uses integrated microphones to monitor ambient environmental noise levels and can pause testing until the noise subsides and/or report on affected frequencies for possible retesting.

	KUDUwave™	KUDUwave™ + Standard Sound-booth
Standard Audiology Headsets	Standard Sound-booth	Double Walled Sound-booth

Purchase Includes

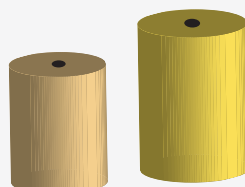
- KUDUwave™ Pro Device
- Bone Transducer
- Extended High Frequency Range
- USB Patient Response Button
- KUDUwave™ Dual USB Cables
- Spare Sound Tubes & Couplers
- Shock Absorbing Carrying Case
- KUDUwave™ Memory Foam Ear Tips (Starter Pack)
- User Manual & Quickstart Guide
- Calibration Certificate
- Free Online Product Training (Within 30 Days Of Purchase)
- Free Online Access To KUDUwave™ Academy (Video Driven Training And Product Content)
- Free KUDUwave 5 Software (Downloaded From Kuduwave.com)

Consumables

KUDUwave™ Foam Eartips (Disposable)

Supplied in packs of 200 (100 tests)

- Pediatric Size (Beige)
- Adult Size (Yellow)
- Mixed (Beige & Yellow)



Specifications

Audiometry

Pure Tone Testing	
Air Conduction Transducer	Built-In Insert Earphone
Air Conduction Calibration Coupler	IEC 60318-4 (IEC 711) Ear Simulator RETSPL as per ISO 389-2, ISO 389-4*
Bone conduction transducer	Radio Ear B71, B71W or B81
Bone conduction calibration coupler	IEC 60318-1 Ear Simulator with IEC 60318-6 Artificial Mastoid, RETFL as per ISO 389-3
Bone conductor placement	Forehead
Bone conduction total harmonic distortion	< 6 %
Bone conduction headband static force	5.4 N ±0.5 N
Tone Presentation	Pure Tone Or Warble Tone
Air Conduction Frequency Range	125 - 8 kHz Standard
Warble Tone Waveform	Sinusoidal
Warble Tone Repetition Rate	4 - 20 Hz Default = 5 Hz
Frequency Accuracy	< 0.05 %
Warble Tone Frequency Deviation	5 - 25 % Default = 10 %
Air Conduction Total Harmonic Distortion	< 3 %
Masking	Narrow band noise automatically centered at the test frequency

Speech Testing	
Transducer	KUDUwave Built-In Insert Earphone
Calibration	All Pre-Recorded Words In Word Lists Calibrated Against 1 kHz Calibration Signal

Specifications

Standards	
Audiometry	Pure Tone: BS EN 60645-1 (Type 3) Speech: EN 60645-2 (Type B)
Other standards	BS EN 60601-1, BS EN 60601-1-2, BS EN 60601-1-6, BS EN ISO 13485, BS EN ISO 14971, BS EN ISO 14155, BS EN ISO 15223-1, EN 1041:2008
Medical CE mark	European Council Directive 93/42/EEC
Medical device class	Ila
Calibration	Laboratory calibrated in accordance with: BS EN 60645-1, EN 60645-2, SANS 10154-1 and SANS 10154-2

Instrument			
Dimensions	210 x 260 x 110 mm	Shipping Dimensions	410 x 320 x 190 mm
Net Weight	250 g	Shipping Weight	1627 g
Power Supply	2x Standard Laptop USB Ports (5 V, 500 mA Max Per Port) Unplug Laptop From Mains While Testing		
Data Transfer	Kuduwave™ USB Cable 2x Standard 3 Meter A Male To Mini B Male USB Cables		
Operational Temperature	15 - 35 °C	Operational Ambient Pressure	98 - 104 kPa
Operational Humidity	30 - 90 % (Non-Condensing)	Shipping And Storage Temperature	10 - 40 °C
Shipping And Storage Humidity	30 - 75 % (Non-Condensing)	Shipping And Storage Ambient Pressure	70 - 106 kPa
Warm-Up Time	10 - 20 Sec	Patient Response	Handheld Tactile Push Button (USB)
Sound Tube	Medical Grade Pvc 80 Shore, Clear With White X-Ray Line, L 180 mm, ID 1.5 mm, OD 2.9 mm		
Talk Forward	40 - 100 dB HL adjustable		

Specifications

Modes Of Operation	
<ul style="list-style-type: none"> Manual Automatic Shortened Ascending (Hughson And Westlake Method - ISO 8253-1) 	<ul style="list-style-type: none"> Automatic Standard Ascending Shortened And Standard Bracketing Fixed Frequency Békésy Sweep (Optional) Pure Tone Stenger (Optional)

Attenuation		
KUDUwave air conduction system sound attenuation characteristics	31.0 dB at 125 Hz 37.7 dB at 250 Hz 43.8 dB at 500 Hz 40.8 dB at 1000 Hz	38.1 dB at 2000 Hz 52.3 dB at 4000 Hz 45.8 dB at 8000 Hz
Operational background sound pressure levels to test down to 0 dBHL	< 70 dB SPL at 125 Hz < 69 dB SPL at 250 Hz < 58 dB SPL at 500 Hz < 53 dB SPL at 1000 Hz	< 50 dB SPL at 2000 Hz < 59 dB SPL at 4000 Hz < 59 dB SPL at 8000 Hz

Controller PC	
Software	KUDUwave 5
Minimum PC System Requirements	Windows® 7, 8 Or 10 (32 Or 64-Bit), Intel® Celeron® Processor N3050 or Better, 2 GB RAM, 700 MB Free HDD Space, 2 Available USB 2.0 Ports (3 Recommended)



X-check is an additional tool that is built into your device that verifies the calibration of your KUDUwave digitally. Like biological checks, X-check does not replace the need for regular calibrations as per the prevailing standards. It is, however, an accurate and objective test that is quicker and more accurate than your standard subjective biological calibration check.

X-check uses the following specifications for the pass criteria of the amplitude errors of the pure tones.

- +/- 5.0 dB difference for frequencies between 125 Hz and 4 kHz
- +/- 6.2 dB difference for frequencies between 4 kHz and 8 kHz
- +/- 6.5 dB difference for frequencies between 8 kHz and 16 kHz

Please note: Xcheck is not a replacement of the need for device calibrations as per local standards.

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