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Technical Specifications

AD629

D-0106991-H – 2024/07

Interacoustics

Included and optional parts

Included parts	DD45 Audiometric headset[1] B71 Bone conductor[1] APS3 Patient response button[1] Goose neck microphone Power cable Operation manual Multilingual Instructions for Use
Optional parts	Diagnostic Suite software OtoAccess® database Carrying case (Standard or Trolly Style) IP30 Audiometric insert phones[1] TDH39 Audiometric headset[1] DD450 Audiometric headset[1] DD65v2 Audiometric headset[1] B81 Bone conductor[1] Talk back microphone Sound field speakers SP90 (with external power amp) AP12 Power Amplifier 2x12 Watt AP70 Power Amplifier 2x70 Watt

1) Applied parts according to IEC60601-1

General technical specifications

AD629 technical specification

Medical CE-mark:	The CE-mark in combination with MD symbol indicates that Interacoustics A/S meets the requirements of the Medical Device Regulation (EU) 2017/745 Annex I. Approval of the quality system is made by TÜV – identification no. 0123.	
Standards:	Safety:	IEC 60601-1 2005/EN 60601-1 2006 and A1 2012 ANSI/AAMI ES60601-1:2005/(R)2012 CAN/CSA-C22.2 No. 60601-1:14 Class II, Type B applied parts
	EMC:	IEC 60601-1-2 (2014)
	Audiometer:	Tone Audiometer: IEC 60645 -1 (2017), ANSI S3.6 (2010), Type 2 Speech Audiometer: IEC 60645-1 (2017)/ANSI S3.6 (2010) type B or B-E. Auto threshold tests: ISO 8253-1 (2010)
Calibration	Calibration information and instructions are located in the AD629 Service manual	
Air Conduction	DD45: TDH39: DD65 v2 IP 30:	PTB/DTU report 2009 ISO 389-1 1998, ANSI S3.6-2010 PTB 1.61-4091606 2018 & AAU 2018 ISO 389-2 1994, ANSI S3.6-2010 DES-2361
Bone Conduction	B71: Placement:	ISO 389-3 1994, ANSI S3.6-2010 Mastoid
Free Field	ISO 389-7 2005, ANSI S3.6-2010	
High Frequency	ISO 389-5 2004, ANSI S3.6-2010	
Effective masking	ISO 389-4 1994, ANSI S3.6-2010	
Transducers	DD45 TDH39 DD450 DD65 v2 B71 Bone IP30	Headband Static Force 4.5N ±0.5N Headband Static Force 4.5N ±0.5N Headband Static Force 10N ±0.5N Headband Static Force 10N ±0.5N Headband Static Force 5.4N ±0.5N
Patient Response switch	One hand held push button.	
Patient communication	Talk Forward (TF) and Talk Back (TB).	
Monitor	Output through built-in speaker or through external earphone or speaker.	
Special tests/test battery	SISI. ABLB. Stenger. Stenger Speech. Langenbeck (tone in noise). Békésy Test. Weber. 2 channel speech, 2 channels Master Hearing Aid, Auto threshold. Auto threshold tests: Available time for patient to respond: Increment of hearing level: Auto threshold test (Békésy): Mode of operation: Rate of level change: Smallest increment of level:	 Same as tone presentation 5dB. Békésy 2.5 dB/s ±20% 0.5 dB

Stimuli	
Tone	125-20000Hz separated in two ranges 125-8000Hz and 8000-20000Hz. Resolution 1/2-1/24 octave.
Warble Tone	1-10 Hz sine +/- 5% modulation
Wave file	44100Hz sampling, 16 bits, 2 channels
Masking	Automatic selection of narrow band noise (or white noise) for tone presentation and speech noise for speech presentation. Narrow band noise: IEC 60645-1:2001, 5/12 Octave filter with the same centre frequency resolution as pure Tone. White noise: 80-20000Hz measured with constant bandwidth Speech Noise. IEC 60645-2:1993 125-6000Hz falling 12dB/octave above 1KHz +/-5dB
Presentation	Manual or Reverse. Single or multiple pulses.
Intensity	Check the accompanying Appendix Available Intensity Steps is 1, 2 or 5dB Extended range function: If not activated, the Air Conduction output will be limited to 20 dB below maximum output.
Frequency range	125Hz to 8kHz (Optional High Frequency: 8 kHz to 20 kHz) 125Hz, 250Hz, 750Hz, 1500Hz and 8kHz may freely be deselected
Speech	<u>Frequency Response:</u>

(Typical)	*Frequecy (Hz)*	*Linear (dB)*		*FFequv (dB*	
		Ext sign[1]	*Int. Sign[2]*	*Ext sign[1]*	*Int. Sign[2]*
TDH39 (IEC 60318-3 Coupler)	125-250 250-4000 4000-6300	+0/-2 +2/-2 +1/-0	+0/-2 +2/-1 +1/-0	+0/-8 +2/-2 +1/-0	+0/-8 +2/-2 +1/-0
DD65v2 (IEC 60645-1 Coupler)	125-250 250-4000 4000-6300	+0/-2 +1/-1 +0/-2	+1/-0 +1/-1 +0/-2	+0/- +2/-2 +1/-1	+0/-7 +2/-3 +1/-1
IP 30 (IEC 60318-5 Coupler)	250-4000	+2/-3	+4/-1	(Non linear)	
B71 Bone Conductor (IEC 60318-6 Coupler)	250-4000	+12/-12	+12/-12	(Non linear)	

2% THD at 1000 Hz max output +9 dB (increasing at lower frequency)
Level range: -10 to 50 dB HL

1. Ext. sign: CD input

2. Int. sign: Wave files

External signal	Speech replaying equipment connected to the CD input must have a signal-to-noise ratio of 45 dB or higher. The speech material used must include a calibration signal suitable for adjusting the input to 0 dBVU.	
Free Field	<u>Power amplifier and loudspeakers</u> With an input of 7 Vrms - Amplifier and loudspeakers must be able to create a Sound Pressure Level of 100 dB in a distance of 1 meter - and meet the following requirements: Frequency Response 125-250 Hz +0/-10 dB 250-4000 Hz ±3 dB 4000-6300 Hz ±5 dB Total Harmonic Distortion 80 dB SPL < 3% 100 dB SPL < 10%	
Internal storage	1000 clients / 50.000 sessions	
Signal Indicator (VU)	Time weighting: 300mS Dynamic range: 23dB Rectifier characteristics: RMS Selectable inputs are provided with an attenuator by which the level can be adjusted to the indicator reference position(0dB)	
Data Connections (sockets)	4 x USB A (compatible with USB 1.1 and later) 1 x USB B (compatible with USB 1.1 and later) 1 x LAN Ethernet	
External devices (USB)	Standard PC mouse and keyboard (for data entry) Supported printers: Standard PCL3 printers (HP, Epson, Canon)	
Input Specifications	TB	100uVrms at max. gain for 0dB reading Input impedance: 3.2KOhm
	Mic.2	100uVrms at max. gain for 0dB reading Input impedance: 3.2KOhm
	CD	7mVrms at max. gain for 0dB reading Input impedance: 47KOhm
	TF (side panel)	100uVrms at max. gain for 0dB reading Input impedance: 3.2KOhm
	TF (front panel)	100uVrms at max. gain for 0dB reading Input impedance: 3.2KOhm
	Wave files	Plays wave file from hard disk drive
Output Specifications	FF1 & 2	7Vrms at min. 2KOhm load 60-20000Hz -3dB
	Left & Right	7Vrms at 10 Ohms load 60-20000Hz -3dB
	Ins. Left & Right	7Vrms at 10 Ohms load 60-20000Hz -3dB
	Bone	7Vrms at 10 Ohms load 60-10000Hz -3dB
	Ins. Mask	7Vrms at 10 Ohms load 60-20000Hz -3dB
	Monitor (side panel)	2x 3Vrms at 32 Ohms / 1.5Vrms at 8 Ohms load 60-20000Hz -3dB
Display	5,7 inch high resolution color display 640x480 pixels	
Compatible software	Diagnostic Suite - Noah, OtoAccess and XML compatible	
Dimensions (LxWxH)	36.5 x 29.5 x 6.5 cm / 14.4 x 11.6 x 2.6 inches	
Weight	3.3kg/6.3lb	
Power supply	100-240 V~, 50-60Hz max 0.5A	
Operation environment	Temperature: 15-35°C Re. Humidity: 30-90% Non condensing	

Transport and storage	Transport temperature: Storage temperature: Re. Humidity:	-20-50°C 0-50°C 10-95% Non condensing