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Technical Specifications

AD629



D-0106991-F – 2021/08



Interacoustics



License overview

International configuration AD629		
	Basic license	Extended license
Licenses Audiometry		
Basic Audiometry	x	x
Békésy		x
SISI	x	x
Langenbeck (tone-in-noise)		x
Stenger	x	x
Modified Hughson-Westlake	x	x
Weber	x	x
ABLB	x	x
Speech testing with CD/Mic	x	x
Build-in wave files	x	x
Binaural Speech		x
Hearing Loss Simulator (HLS)		x
MHA		x
QuickSIN	optional	optional
TEN test	optional	optional
High Frequency (HF)	optional	optional
Freefield Lineout	x	x
Hyrbid mode - PC controlled mode	optional	optional
Sync mode - Audiogram transfer	optional	optional
Fuctions available only in Diagnostics suite		
MaskingHelper	x	x



Languages supported in IMP and AUD

	Chinese	Czech	English	Finnish	French	German	Greek	Italian	Japanese	Korean	Norwegian	Polish	Portuguese	Russian	Spanish	Turkish
IMP																
MT10			X		X	X										
Existing AT235			X			X										
New AT235	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Existing AA222			X			X										
New AA222	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Titan	X	X	X		X	X		X	X	X			X	X	X	
AUD																
AS608			X		X	X									X	
AD226	X		X		X	X		X				X	X	X	X	X
AD629 / AD229	X*	X*	X	X*	X	X	X*	X	X*	X*	X*	X	X*	X*	X	X
AC40	X*	X*	X	X*	X	X	X*	X	X*	X*	X*	X	X*	X*	X	X
Suites																
Titan suite	X	X	X		X	X		X	X			X	X	X	X	X
DS	X	X	X		X	X	X	X	X	X		X	X	X	X	X



Included and optional parts

Included parts	DD45 Audiometric headset B71 Bone conductor APS3 Patient response button Goose neck microphone Power cable Operation manual CD Multilingual CE instructions for use
Optional parts	Diagnostic Suite software OtoAccess® database 21925 Amplivox audiocups, noise reducing headset Carrying case (Standard or Trolley Style) EARTone3A/5A Audiometric insert phones IP30 Audiometric insert phones HDA300 Audiometric headset with double mono 6.3mm jack TDH39 Audiometric headset DD450 Audiometric headset DD65v2 Audiometric headset Talk back microphone Sound field speakers SP90 (with external power amp) AP12 Power Amplifier 2x12 Watt AP70 Power Amplifier 2x70 Watt



General technical specifications

Safety standards	IEC 60601-1, ES60601-1, CAN/CSA-C22.2 No.60601-1 Class I, Applied parts type B, Continuous operation	
EMC standard	IEC 60601-1-2:2001 + A1:2004	
Audiometer standards	Tone audiometer: IEC 60645 -1, ANSI S3.6 -2010, Type 2, HF IEC 60645-4 Speech audiometer: IEC 60645-2/ANSI S3.6 type B or B-E Auto threshold tests: ISO 8253-1	
Calibration	Calibration information and instructions is located in the AD629 Service manual	
Air conduction	DD45: TDH39: HDA300: HDA280 DD65 v2 E.A.R Tone 3A/5A: IP 30:	PTB/DTU report 2009 ISO 389-1 1998, ANSI S3.6-2010 PTB report PTB 1.61 – 4064893/13 PTB report 2004 PTB 1.61-4091606 2018 & AAU 2018 ISO 389-2 1994, ANSI S3.6-2010 ISO 389-2 1994, ANSI S3.6-2010 DES-236
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 HDA300 HDA280 DD450 DD65 v2 B71 Bone E.A.R Tone 3A/5A: IP30	Headband Static Force 4.5N ±0.5N Headband Static Force 4.5N ±0.5N Headband Static Force 4.5N ±0.5N Headband Static Force 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	<p>SISI. ABLB. Stenger. Stenger Speech. Langenbeck (tone in noise). Békésy Test. Weber</p> <p>2 channel speech, 2 channels master hearing aid, auto threshold</p> <p>Auto threshold tests:</p> <p>Available time for patient to respond: Same as tone presentation</p> <p>Increment of hearing level: 5 dB</p> <p>Auto threshold test (Békésy):</p> <p>Mode of operation: Békésy</p> <p>Rate of level change: 2.5 dB/s \pm20%</p> <p>Smallest increment of level: 0.5 dB</p>
Stimuli	
Tone	125-20000 Hz separated in two ranges 125-8000 Hz and 8000-20000 Hz Resolution 1/2-1/24 octave
Warble tone	1-10 Hz sine +/- 5% modulation
Wave file	44100 Hz sampling, 16 bits, 2 channels
Masking	<p>Automatic selection of narrow band noise (or white noise) for tone presentation and speech noise for speech presentation</p> <p>Narrow band noise: IEC 60645-1:2001, 5/12 octave filter with the same centre frequency resolution as pure tone</p> <p>White noise: 80-20000 Hz measured with constant bandwidth</p> <p>Speech Noise. IEC 60645-2:1993 125-6000 Hz falling 12 dB/octave above 1 KHz +/-5 dB</p>
Presentation	Manual or Reverse. Single or multiple pulses
Intensity	<p>Check the accompanying appendix</p> <p>Available intensity steps is 1, 2 or 5 dB</p> <p>Extended range function: If not activated, the air conduction output will be limited to 20 dB below maximum output.</p>
Frequency range	<p>125 Hz to 8 kHz (optional high frequency: 8 kHz to 20 kHz)</p> <p>125 Hz, 250 Hz, 750 Hz, 1500 Hz and 8 kHz may freely be deselected</p>



Speech	<u>Frequency response:</u>													
	<i>(Typical)</i>	<i>Frequency (Hz)</i>	<i>Linear (dB)</i>		<i>FFeq_{uv} (dB)</i>									
			<i>Ext sign¹</i>	<i>Int.</i>	<i>Ext sign¹</i>	<i>Int.</i>								
			<i>Sign²</i>		<i>Sign²</i>									
<i>TDH39 (IEC 60318-3 Coupler)</i>	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									
<i>DD65v2 (IEC 60645-1 Coupler)</i>	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									
<i>E.A.R Tone 3A (IEC 60318-5 Coupler)</i>	250-4000	+2/-3	+4/-1	(Non linear)										
<i>IP 30 (IEC 60318-5 Coupler)</i>	250-4000	+2/-3	+4/-1	(Non linear)										
<i>B71 Bone Conductor (IEC 60318-6 Coupler)</i>	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 V _{rms} - 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: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Frequency response</td> <td style="width: 50%;">Total harmonic distortion</td> </tr> <tr> <td>125-250 Hz +0/-10 dB</td> <td>80 dB SPL < 3%</td> </tr> <tr> <td>250-4000 Hz ±3 dB</td> <td>100 dB SPL < 10%</td> </tr> <tr> <td>4000-6300 Hz ±5 dB</td> <td></td> </tr> </table>						Frequency response	Total harmonic distortion	125-250 Hz +0/-10 dB	80 dB SPL < 3%	250-4000 Hz ±3 dB	100 dB SPL < 10%	4000-6300 Hz ±5 dB	
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125-250 Hz +0/-10 dB	80 dB SPL < 3%													
250-4000 Hz ±3 dB	100 dB SPL < 10%													
4000-6300 Hz ±5 dB														
Internal storage	1000 clients / 50.000 sessions													



Signal indicator(VU)	Time weighting: 300 mS Dynamic range: 23 dB Rectifier characteristics: RMS Selectable inputs are provide with an attenuator by which the level can be adjusted to the indicator reference position(0 dB)	
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	100 uVrms at max. gain for 0 dB reading Input impedance : 3.2 KOhm
	Mic.2	100 uVrms at max. gain for 0 dB reading Input impedance : 3.2 KOhm
	CD	7 mVrms at max. gain for 0 dB reading Input impedance : 47 KOhm
	TF (side panel)	100 uVrms at max. gain for 0 dB reading Input impedance : 3.2 KOhm
	TF (front panel)	100 uVrms at max. gain for 0 dB reading Input impedance : 3.2 KOhm
	Wave files	Plays wave file from hard disk drive
Output specifications	FF1 & 2	7 Vrms at min. 2 KOhm load 60-20000 Hz -3 dB
	Left & Right	7 Vrms at 10 Ohms load 60-20000 Hz -3 dB
	Ins. Left & Right	7 Vrms at 10 Ohms load 60-20000 Hz -3 dB
	Bone	7 Vrms at 10 Ohms load 60-10000 Hz -3 dB
	Ins. Mask	7 Vrms at 10 Ohms load 60-20000 Hz -3 dB
	Monitor(side panel)	2x 3 Vrms at 32 Ohms / 1.5 Vrms at 8 Ohms load 60-20000 Hz -3 dB
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	3.3 kg/6.3 lb	



Power supply	100-240 V~, 50-60 Hz max 0.5 A
Operation environment	Temperature: 15°-35°C Relative humidity: 30-90% non condensing
Transport and storage	Transport temperature: -20°-50°C Storage temperature: 0°-50°C Relative humidity: 10-95% non condensing