

DAC4 Digital Range

The **DAC4** range offers a four-channel **100% DIGITAL** hearing aid with zero biased receivers. Each device may be programmed via a flex connector and **Puretone Fitting Software**. An optional push button (standard on CIC) switch may be used to select internal memories or a telecoil. The telecoil is independently programmable. Three modes of compression may be selected in each memory for better understanding in noise. An automatic feedback manager constantly scans for instability, preventing potential feedback. Active noise reduction is software controlled.

- Options
 Multi-memory push button
 Telecoil
 Trimmer volume control

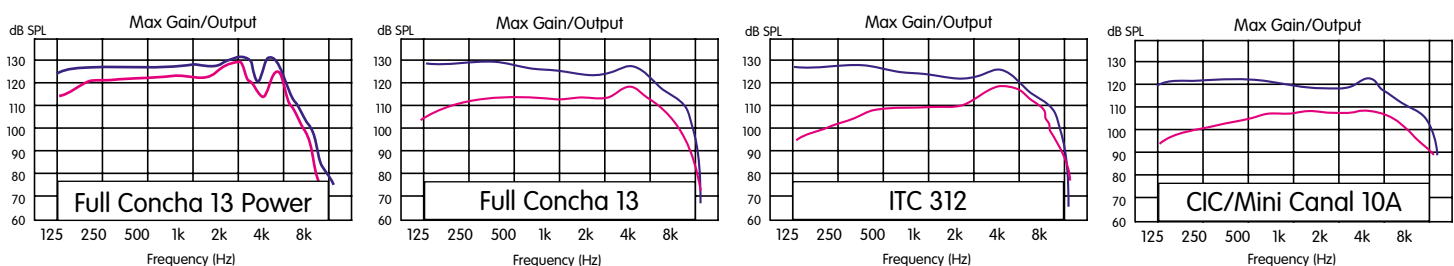


4 channel, 12 band digital systems

This device is manufactured in accordance with the Medical Device Directive 93/42/EEC, ISO 9001:2000/ISO 13485:2003. Puretone's policy is one of continuous development and improvement which may cause the data herein to vary without prior notice.

Specifications <small>(ANSI 3.22 1987 & IEC 118-7 (Coupler))</small>		Wonder Ear PP Super DAC4		Wonder Ear DAC4		CE2000 DAC4		CE2005 DAC4		CIC2010 DAC4	
		ANSI	IEC	ANSI	IEC	ANSI	IEC	ANSI	IEC	ANSI	IEC
Output	Peak	124 dB	132 dB	114 dB	122 dB	114 dB	122 dB	110 dB	116 dB	110 dB	116 dB
	HFAvg	122 dB		110 dB		110 dB		102 dB		100 dB	
Gain	Peak	62 dB	70 dB	50 dB	58 dB	50 dB	58 dB	40 dB	48 dB	40 dB	48dB
	HFAvg	56 dB		46 dB		46 dB		38 dB		39 dB	
Frequency Range		250-5600 Hz		200- 7500 Hz		200-7500 Hz		200-7000 Hz		180-7500 Hz	
Total	500Hz	3.0%		3.0%		1.8%		0.7%		1.8%	
Harmonic	800Hz	2.5%		2.0%		1.0%		0.8%		1.0%	
Distortion	1000Hz		1.0%		1.0%		< 2%		< 2%		< 2%
	1600Hz	0.8%		0.8%		0.8%		0.5%		0.8%	
Battery Current		2.0 mA		0.85 mA		0.8 mA		0.8 mA		0.85 mA	
Battery Size		13		13		312		10A		10A	
Style		Full concha		Full concha		Canal		Mini canal		CIC	
Typical Bat. Life		100-140 Hours		260-300 Hours		120-160 Hours		60-85 Hours		50-80 Hours	
Push Button Memory Switch		Optional		Optional		Optional		Optional		Standard	
Programs		4		4		4		4		4	
Telecoil		Optional		Optional		Optional		Optional		Optional	

Graphs illustrate the response to a pure tone signal using an ITE occluded ear simulator coupler with a 5mm receiver tube fixed to the receiver



Programmable Parameters:-

1. 12 Band frequency shaping equaliser.
2. Overall gain.
3. Volume control on/off.
4. Feedback manager on/off.
5. MPO (0 to -20dB).
6. 10dB reserve gain on autofit.
7. Program change tones on/off.
8. Compression mode.
9. Compression ratio in each channel.
10. Threshold Kneepoint in each channel.
11. Expansion Threshold (microphone noise reduction).

Compression Mode:-

Allows long time constants for improved speech in noise.

- ★ Fast mode detects loud transients and releases quickly to prevent instantaneous discomfort, followed by loss of information due to a fast release time after the noise has relinquished.
- ★ This mode recognises alternating loud and soft sounds, then adjusts both to provide comfortable listening without loss of information due to insufficient gain at the start of the soft sound. Typically, a hearing aid user (loud voice) talking to a quietly spoken person.
- ★ The software allows for the compression mode to be set in each channel for each memory.

Single mode = Compression mode 1 above

Dual mode = Compression mode 1 & 2 above

Trio mode = Compression mode 1, 2 & 3

To prevent distortion due to clipping, the signal path is continuously monitored for loud transients. The system gain can then be automatically reduced before the loud transient reaches the output stage.

Simple single screen programming with full functionality.

Adaptive Feedback:-

The amplifier is monitored for instability using an adaptive LMS (digital FIR) filter. This reduces the feedback without lowering gain or losing frequency spectrum information. This allows for higher gain fittings, larger vents, looser fittings and acoustic telephone use.

(((Multi-Mode)))

(Digital Compression)

Multi-Mode

Three modes of digital compression for accurate fitting, user comfort and easier listening

(((N.I.S.E.)))

(Noise Reduction Algorithms)

N.I.S.E

Noise Inhibiting Speech Enhancement. Digital algorithms detect the presence of speech and the level of noise reacting by emphasising speech signals and reducing noise levels.

(((RSA-FBM)))

(Automatic Feedback Management)

RSA – FBM

Another unique feature to DAC4: the Feedback Management System is not only adaptive, but is also "Response – Secured" thus retaining all the important frequency responses for the individual hearing loss.