

Harmony[®] HiResolution[®] Bionic Ear System

Technical Specifications



HiResolution[®] Sound Processing HiRes[®]-P with Fidelity 120[®]

Capture	
Microphone Frequency Range	150 Hz–8000 Hz
Effective Audio Sampling Rate	17.4 kHz
Mapping Input Dynamic Range	20 dB–80 dB programmable (60 dB default)
Pre-Emphasis Filtering	Platinum Series[™] Processor: cascade of highpass Butterworth filters Auria[®] Harmony[®] BTE: second order BiQuad filter
Automatic Gain Control (AGC) (Enabled, default)	Cambridge dual loop AGC (AGC II)
Automatic Gain Control (AGC) (disabled)	Functions as linear peak clipping for signal above the maximum specified system limit
Sensitivity	+/-10 dB (0 dB default)

Compose	
Spectrum Filtering	256 point FFT (68 Hz bin)
Acoustic Equalization (Gain)	+/-10 dB (0 dB default)

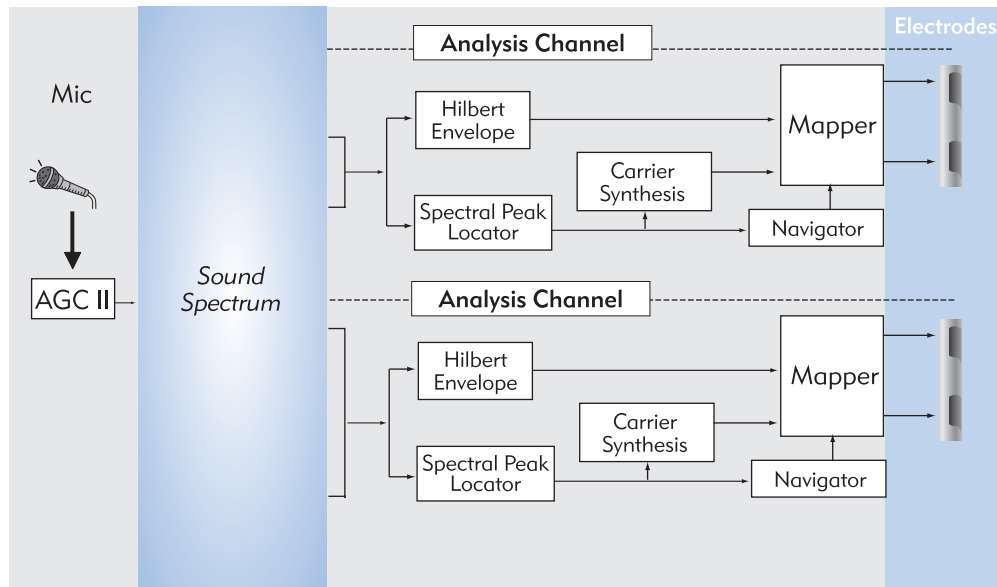
Detail	
Envelope Extraction	Hilbert
Rectification	Half wave
Navigator	Locates maximum bin energy

Deliver	
Telemetry	1.0 Mbps bandwidth Continuous bi-directional
Output Circuits (Channels)	16 independent current sources to form 15 paired channels
Electrodes	16 maximum programmable
Spectral Bands	120 maximum programmable, logarithmically spaced bands
Spectrum Mapping	Full capture range
Output Current	0 μ A–2040 μ A (0.25 μ A resolution), 0-6000 CU scale
Pulse Width	18.0 μ s- 229 μ s, automatically or manually programmable
Firing Order	Staggered
Simultaneity	2 Simultaneous Pairs (2 pairs or 4 electrodes at a time)
Rate	3712 pps per channel /55,680 pps total maximum—programmable

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Fidelity 120 Signal Processing Path



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