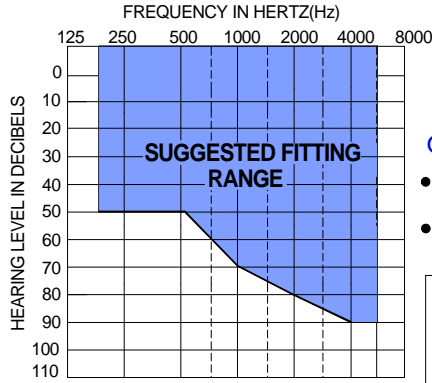


## STANDARD FEATURES

- 4 Channels
- 12 Band gain adjustment for precise target matching
- Programmable Multi-microphone directional processing
- Integrated programming Flex connection
- Uses a zinc-air size 10A battery
- Push button multi-memory (1-4) with Tone Indicator
- Push-On replaceable ear coupler tube
- On/Off Switch built into Battery Door
- Adjustable "low battery" indicator and memory tone
- Programmable with HiPro or Micro-Connect card
- 100% Digital



## OPTIONS

- The SPARO is now available in Beige.
- Additional colors of Taupe, Charcoal and Silver will be available soon.

	Coupler 2cc IEC 118-7/94	Coupler MZ (711) IEC 118-0/94	Coupler 2cc ANSI S3.22-1996	Limits
SATURATION (OSPL 90)	Peak 118 F Reference 104 HF Average	Peak 127 F Reference 112 HF Average	Peak 118 F Reference 107 HF Average	+/- 3 +/- 3 +/- 3
Full-on Gain (Input: 50dB SPL)	Peak 45 F Reference 38 HF Average	Peak 54 F Reference 47 HF Average	Peak 45 F Reference 40 HF Average	+/- 4 +/- 4 +/- 4
Nominal Reference Test Gain (RTG)	30	37	30	
Frequency Range	Hz 200-6500			
Volume Control Range	dB >45			
Total Harmonic Distortion at RTG:				
70 dB SPL in	500 Hz	%	0.5	0.3
800 Hz	%	1.0	0.5	0.5
65 dB SPL in	1600 Hz	%	0.5	0.5
Equivalent Input Noise Level	dB		27	
	dB		28	<33 <33
Supply Current at RTG	input dB SPL		60	65
	mA		0.83	0.83
				<0.90
Battery Life Type10A Zinc-Air(60mAh)	hrs		72	72
AGC @ 2KHz	Attack	mS	10	10
	Release	mS	210	210
				+/-50% +/-50%
Reference Test Frequency(RTF)	Hz		1600	1600
			1000	

## PERFORMANCE DATA:

	Coupler 2cc IEC 118-7/94	Coupler MZ (711) IEC 118-0/94	Coupler 2cc ANSI S3.22-1996	Limits
SATURATION (OSPL 90)	Peak 118 F Reference 104 HF Average	Peak 127 F Reference 112 HF Average	Peak 118 F Reference 107 HF Average	+/- 3 +/- 3 +/- 3
Full-on Gain (Input: 50dB SPL)	Peak 45 F Reference 38 HF Average	Peak 54 F Reference 47 HF Average	Peak 45 F Reference 40 HF Average	+/- 4 +/- 4 +/- 4
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AGC @ 2KHz	Attack	mS	10	10
	Release	mS	210	210
				+/-50% +/-50%
Reference Test Frequency(RTF)	Hz		1600	1600
			1000	



Shown actual size  
25.50mm H x 11.50mm W  
x 7.00mm D

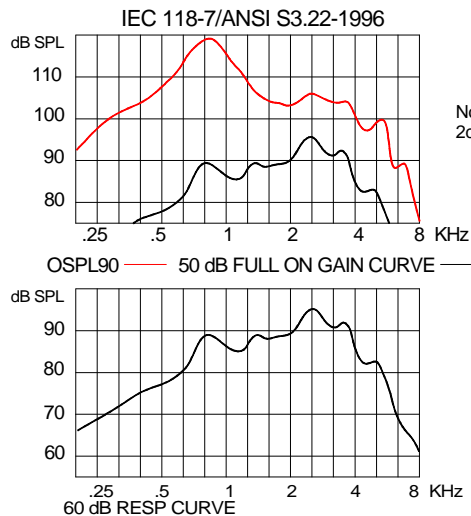
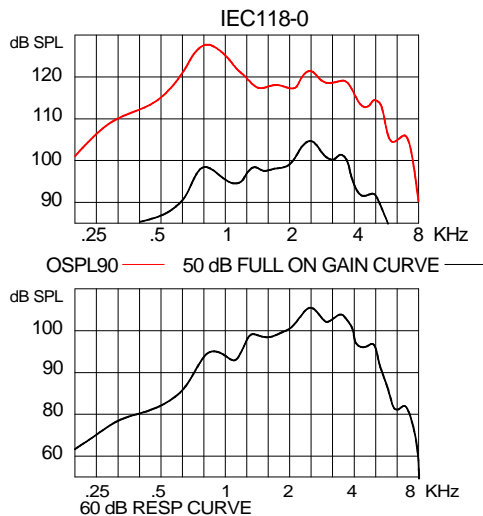
## Description

The SPARO OTE is an advanced Over-The-Ear (OTE) open-fitting hearing instrument offering a next generation hearing system. The SPARO delivers a personalized fit and excellent wearing comfort for your patient. The sleek, smooth, feather-light design provides advanced technology and reduced occlusion for outstanding performance.

With the capability of processing 2.56 Million calculations per second, the advanced DSP chip achieves its extremely high level of performance at one of the lowest battery consumption levels in the hearing industry.

- Adaptive Feedback Reduction automatically reduces feedback without reducing gain. (Spectral information is maintained)
- The unique dynamic contrast detector "reaches down" to amplify quiet speech.
- 10 bands of layered noise reduction which responds to noise of all intensities
- Look-ahead detection monitors signal path for loud transients and reduces gain in advance of oncoming transients; nearly eliminating signal clipping due to loud transients.
- Adjustable threshold levels in each of the 4 channels from 40 to 70dB
- AGC-o compression limiting

The patent pending design addresses the needs of individuals who have a wide range of hearing loss, especially high frequency loss. Because of the slim lines and available colors, the SPARO is extremely discrete and nearly invisible - perfect for those patients who don't want others to notice they are wearing a hearing instrument.



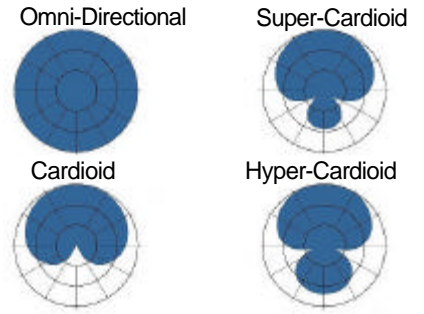
Note: Response curves obtained on 2cc Coupler with Sound tube in place.

CE  
0120

## Electronic Directional Processing

Multi-Directional patterns available:

- Omni-Directional
- Cardioid
- Super-Cardioid
- Hyper-Cardioid



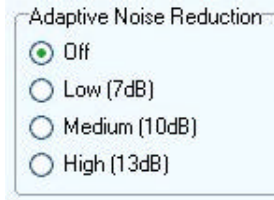
## Adaptive Feedback Reduction

- Continuously monitors amplifier system to provide additional 20+dB of stability.
- Uses adaptive LMS-type FIR filtering. Reduces feedback without lowering gain - spectral information is maintained
- Improved stability allows:
  - Higher Open Ear fittings*
  - Greater comfort from less occlusion*

## Layered Noise Reduction

Three level programmable selections to maximize comfort or maximize speech quality

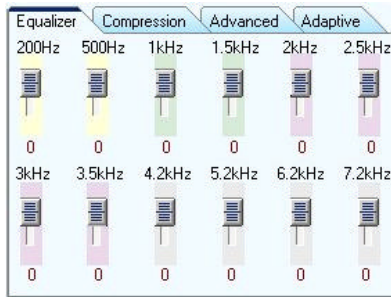
- Syllabic layer reduces noise that is embedded in speech
- Environment layer slowly reduces noise when no speech is present
- Quick-Recovery layer gives noise reduction with fast recovery for speech onset
- All layers respond to noise of all intensities- replaces low-level expansion



Concealed Directional Microphone

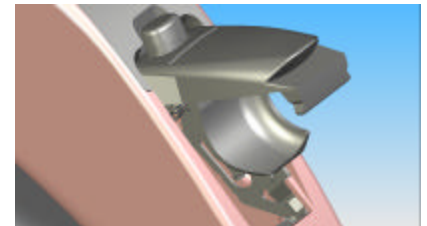


Programming interface and Multi-memory Switch integrated into Battery door

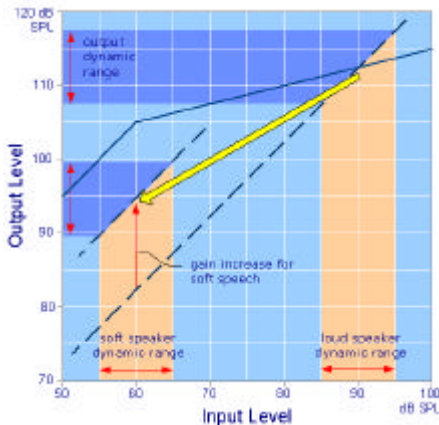


## Twelve-Band Gain Adjustment

- Precise Target Matching
- Low Frequency Shaping
- High frequency Shaping
- Resonance Smoothing
- Feedback Notches
- Peak Shifting



ON/OFF Switch built into Battery Door



## Dynamic Contrast Detector

When two detectors are not enough, the Dynamic Contrast Detector recognizes the presence of the soft speaker and "Reaches Down" to amplify the quiet speech more.

- BASIC mode allows **very** long time constants for speech in noise
- FAST mode detects loud transients and releases quickly
- REACH mode recognizes alternating loud and soft sounds

## Look-Ahead Detection

Monitors signal path for loud transients and reduces gain **in advance** of the oncoming transient- nearly eliminates signal clipping due to loud transients.



Easily replaceable Ear Coupler Assembly