

# Axent Custom Digital Signal Processor

Adaptive digital signal processing algorithms designed to greatly enhance performance and fitting flexibility.



## Feature Summary:

**4 WDRC Channels** with 3 adjustable crossover frequencies and 8 Bands to optimize fine-tuning of the response for the most unique hearing loss configurations.

**Dynamic Precision Directional Imaging (PDI)** automatically activates advanced directional microphone technology to enhance speech understanding in noisy environments.

**Adaptive Feedback Cancellation** eliminates feedback without degrading incoming speech signals or compromising gain. More gain is provided prior to the onset of feedback.

**Feedback Frequency Detector** indicates the primary frequency of feedback to permit manual reduction of gain in a specific band with minimal effect on channel gain.

**Adaptive Noise Management** reduces gain of steady-state noise only in channels where noise is detected.

**MultiChannel Expansion** technology reduces circuit and low-level environmental noise typically associated with WDRC hearing aids.

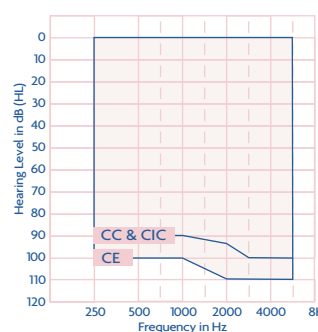
**In Situ Audiometry and Loudness Verification** administers pure tones through the hearing aid to establish threshold, UCL, or to verify soft and loud inputs.

**Programmable Indicator Tones** for low battery, MultiMemory, and optimal user volume control setting.

**Programmable Power-On Delay** sets the length of time it takes for the hearing instrument to power up once it is turned on.

## Standard Features:

Available in custom CE, LP, HS, CC, SE and CIC styles.



**Volume Control** standard for all styles, excluding CIC. Optional disable VC and optimal setting indicator tone features within PFS.

**Single and MultiMemory** options for all styles with up to 3 fully programmable memories accessed via a push button.

## Options:

**Dynamic PDI** available on single memory and multimemory CE, LP, HS and CC styles and activated in Memory 1 of a single memory device and in any memory of a multimemory device within PFS.

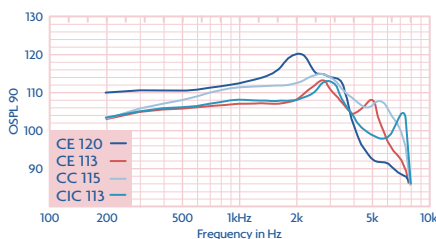
**Dynamic PDI with Autocoil** available on multimemory CE, LP, HS and CC styles. PDI is activated in Memory 1 and the Autocoil is activated in Memory 2 within PFS.

**Programmable Telecoil or Autocoil** available on MultiMemory CE, LP, HS, and CC styles. Telecoil turned on in any memory within PFS and accessed via a push button. Autocoil is programmed within Memory 2 and Memory 3 will not be accessible.

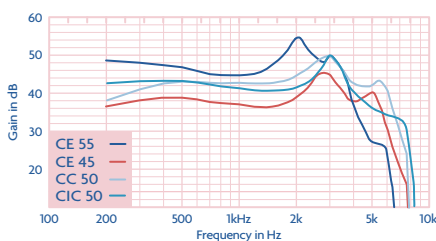
**Automatic Telephone Response (ATR)** available on multimemory CIC, SE and CC styles. The ATR is programmed within Memory 2 and Memory 3 will not be accessible.



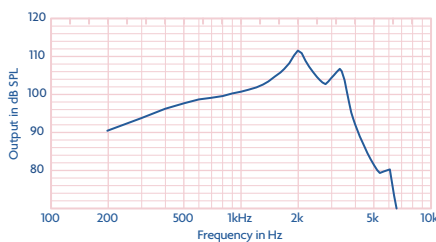
	FULL CONCHA (CE, LP)		CANAL (HS, CC, SE)		TYMPANETTE (CIC)	
	ANSI	IEC	ANSI	IEC	ANSI	IEC
Peak OSPL90 (dB SPL)	113-120	121-128	110-115	119-123	110-113	119-122
HFA OSPL90 (dB SPL)	108-114	NA	105-112	NA	105-108	NA
RTF OSPL90 (dB SPL)	NA	116-124	NA	113-120	NA	113-116
Peak Gain (dB SPL)	30-55	39-63	30-50	40-60	30-50	40-60
HFA Full On Gain (dB SPL)	24-48	NA	22-45	NA	22-42	NA
RTF Full On Gain (dB SPL)	NA	31-57	NA	31-53	NA	31-50
Frequency Range (kHz)	0.2-7.0	NA	0.2-8.0	NA	0.2-8.0	NA
Ref. Test Frequency (kHz)	1.0, 1.6, 2.5	1.6	1.0, 1.6, 2.5	1.6	1.0, 1.6, 2.5	1.6
RTG (dB SPL) (ansi-hfa; iec-rtf)	24-37	24-49	22-35	24-45	22-31	24-41
<b>Harmonic Distortion</b>						
500 Hz	<3%	<3%	<3%	<3%	<3%	<3%
800 Hz	<3%	<3%	<3%	<3%	<3%	<3%
1600 Hz	<3%	<3%	<3%	<3%	<3%	<3%
Equivalent Input Noise (dB SPL)	<28	<28	<28	<28	<28	<28
<b>(55-90 ANSI) (55-80 IEC) – Test Mode</b>						
Attack Time (ms)	5	5	5	5	5	5
Release Time 0.1-s (ms)	5-150	5-250	5-150	5-250	5-150	5-250
Release Time 2.0-s (ms)	5-150	5-250	5-150	5-250	5-150	5-250
<b>Induction Coil Sensitivity</b>						
HFA SPLITS (dB SPL) (ansi 96)	90-103	NA	89-102	NA	NA	NA
MASL (dB SPL) (iec I18-1)	NA	63-88	NA	63-85	NA	NA
Battery Current (mA)	.88-.97	.88-.97	.89-1.33	.88-1.23	.89-1.10	.88-1.05
Idle (mA)	.85-.91	.85-.91	.86-1.10	.86-1.10	.86-.93	.86-.93
<b>Estimated Battery Life for 16 hour day</b>						
I3 Zinc Air (days)	19-21	19-21	NA	NA	NA	NA
312 Zinc Air (days)	10-11	10-11	7-11	7-11	NA	NA
10A Zinc Air (days)	NA	NA	4-6	4-6	5-6	5-6



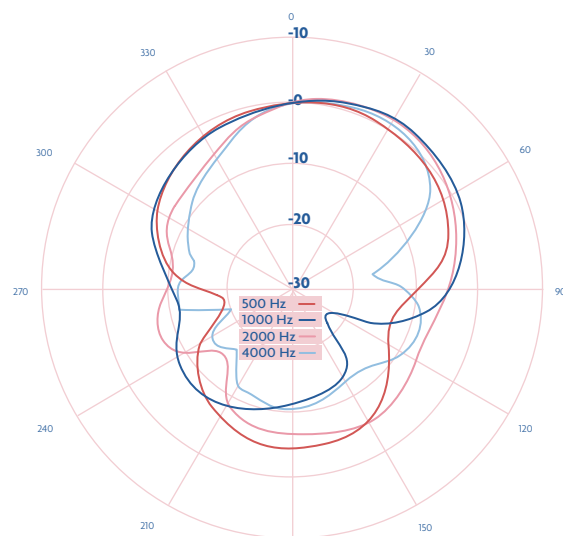
OSPL90 curves for the Power CE 120 and the highest standard matrix of the CE 113, CC 115, and the CIC 113.



Full On Gain curves for the Power CE 55 and the highest standard matrix of the CE 45 dB, CC 50 dB and the CIC 50 dB.



TELECOIL: Induction Coil Sensitivity at Full On Gain for the CE matrix 120/50. Data obtained in RMS magnetic field strength of 31.6 mA/meter.



KEMAR POLAR PLOTS

	500 Hz	1000 Hz	2000 Hz	4000 Hz
KEMAR DI Values	5.3	5.2	4.7	6.3
Freefield DI Values	6.1	6.0	5.9	5.4

#### Measurement Conditions and Recommendations

The data for Axent are obtained and performance is expressed according to ANSI S3.22 (1996) and IEC 60118-0 (1983), 60118-1 (1999), and 60118-2 (1997). Electro-acoustic data are measured on a Starkey proprietary Real Time Analyzer. 2D polar plots and DI data are measured on a B&K PULSE 3560C in an anechoic chamber. Data may be subject to change with product refinement.

Axent hearing instruments may be set to Test Mode within PFS by reading the hearing aid and choosing Set to Full On Gain (Test Mode) from the Activity drop down menu. Test data results may vary from these specifications due to adaptive signal processing effects and available measurement equipment.

