

## Senso Vita 100% digital power ITE

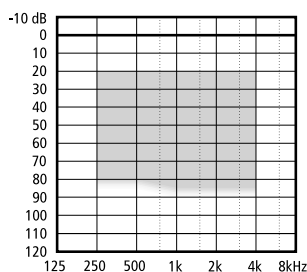
- EDRC with Sound Stabilizer in 3 flexible channels
- 3 listening programs
- Noise Manager
- Feedback Manager
- Sensogram in 4 bands



### Recommended for:

- Mild to severe losses
- All configurations of hearing losses

### Suggested fitting range:



Senso Vita SV-XP is a 100% digital hearing aid combining proven technology with new and innovative features and strategies.

- Sensogram – in-situ threshold measurement in 4 frequency bands for maximum fitting precision
- Enhanced Dynamic Range Compression in 3 channels with a low compression threshold at 20 dB HL
- OptiSlope algorithm to automatically calculate appropriate crossover frequencies
- Sound Stabilizer combines advantages of fast and slow regulation times to ensure audibility and natural sound quality
- Noise Manager – dynamic gain adjustment in 3 channels for increased listening comfort and focus on speech in noise
- Feedback Manager with automatic feedback test to minimise whistling in most environments
- MT and T programs with adjustable telecoil sensitivity and anti-hum filter
- Wide range of programmable parameters
- Easy programming with Compass/NOAH or the SP3 programmer
- Optional volume control
- Beep-tone indicator for volume adjustment, program shift and low battery
- EcoTech technology minimises power consumption
- QualiTech – sound quality enhancing features
- 2 MHz/1 bit sigma-delta converters
- 32 kHz/20 bit processing

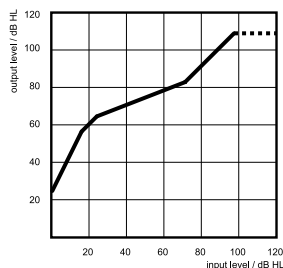
---

## The Senso Vita sound systems

Senso Vita is divided into four functional systems each addressing one of four basic design objectives: to ensure ease of listening, ease of communication, ease of customisation and ease of use. Several features contribute to each system.

## SoundShape System

### Enhanced Dynamic Range Compression



Compression over a wide input range. A very low compression threshold (20 dB HL) ensures sufficient amplification to raise soft sounds (including soft speech) above the user's threshold. Speech is amplified to a comfortable level, while gain is reduced for loud sounds to minimise distortion and discomfort. The compression characteristic for each channel and the position of the crossover frequencies are automatically calculated by the Senso Vita Amplification Rationale with OptiSlope based on in-situ threshold information. Compression ratio ranges from 1:1 to 5:1.

### Sound Stabilizer

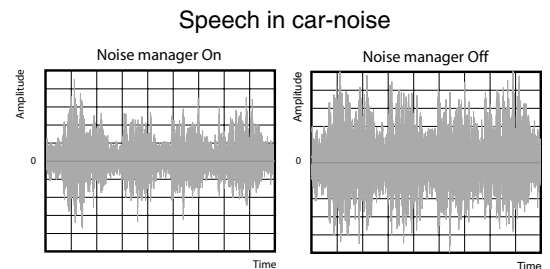
Sound Stabilizer controls the regulation speed using an adaptive strategy. Predominantly slow regulation in stable environments results in a natural sound reproduction. Fast adaptation to changes in the acoustic environment ensures audibility in all situations.

### Noise Manager with Comfort Shaping

Identifies noise based on a statistical analysis in each of the 3 channels. Whenever loud noise dominates the listening environment, gain will be reduced in the affected channels to increase listening comfort.

## SoundFocus System

### Noise Manager with Speech Focus



Identifies the presence and level of noise and speech in each of the 3 channels based on a statistical analysis. Whenever noise dominates in a channel, gain will be reduced to minimise the masking effect. Whenever speech dominates, gain will be increased in the frequency regions important for speech understanding.

### Listening programs

SV-XP has 3 listening programs. The program button on the hearing aid will allow the user to toggle between programs. The program combination can be modified using Compass.

'M' turns on the microphone and is intended for general use.

SV-XP is equipped with an efficient telecoil which can be used in combination with the microphone (MT program) or alone (T program). The telecoil is equalised to provide the same response as the microphone. An anti-hum filter reduces interference from the mains. The sensitivity of the telecoil can be adjusted using the *Tele program gain* parameter in Compass (adjustment from -12 to +10.5 dB).

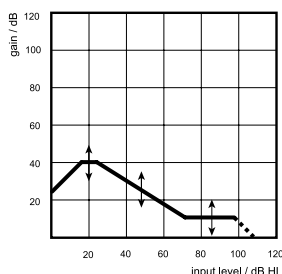
## SoundControl System

### Fitting parameters

The Sensogram is one of the most efficient and precise fitting methods available. By using the hearing aid as a miniature audiometer, in-situ thresholds of the client can be measured with the individual's shell in the ear. In this way large variabilities are eliminated compared to traditional audiogram based fittings. Sensogram thresholds are measured in four frequency bands centred at 500, 1000, 2000 and 4000 Hz using pulsed tone complexes.

The automatic feedback test serves to evaluate the fit of the individual shell in order to set the parameters of the Feedback Manager. The Feedback Manager controls the amplification characteristic in each channel in order to minimise the risk of feedback. In case of a less-than-ideal fit of the shell, maximum gain will be limited - but only in channels where the feedback risk is high.

### Fine tuning parameters



Insertion gain can be adjusted for three input ranges (Soft, Normal and Loud) in each of the 3 channels (Low, Mid and High). The three input ranges correspond to three distinct segments on the input/output curve. A Master Gain parameter allows simultaneous adjustment of overall gain in all parameter channels.

### Programmable options

A wide range of options can be modified using Compass or SP3 (options marked with \* are adjustable in Compass only).

- Number of listening programs. \*
- Noise Manager activity can be set to *Full* (maximum gain decrease 12 dB per channel), *Half* (maximum gain decrease 6 dB per channel) or *Off*. Degree of activity can be adjusted.

- Sound Stabilizer can be set to *On* or *Off*.
- Telecoil sensitivity can be adjusted using the *Tele program gain* parameter (adjustment ranges from -12 to +10.5 dB).\*
- Crossover frequencies are automatically calculated based on Sensogram information, but can also be manually locked to 600/1800, 850/2600 or 1200/3700 Hz.
- Automatic Output Control (On/Off).
- Volume control (On/Off).

### Accessories

Senso Vita SV-XP comes in:

- 3 standard colours (brown, dark beige, beige)
- Colour codes which identify hearing aids as right (red) or left (blue)

### Hearing aid options

An optional volume control is available for SV-XP. The adjustment range is +3/-12 dB.

## FreeSound System

### EcoTech

Several measures have been taken to minimise power consumption:

- EcoDrive is a patented enhancement of the digital DDD/DPD output stage from Widex. It consumes less power than similar stages available.
- Automatic Output Control reduces saturation at the output stage and therefore also reduces the current consumption.
- Improved A/D converters with a power-optimised increase of the sampling rate (2 MHz).
- Improved chip technology of smaller geometry – reduces battery drain without sacrificing functionality.



# SV-XP

## Technical data

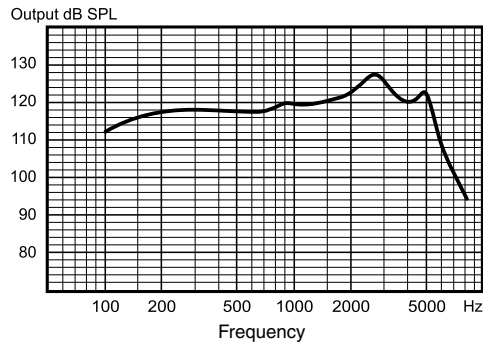
	IEC 711 Ear simulator	IEC 126 2cc coupler
OSPL90 Peak	128 dB SPL	117 dB SPL
1 kHz	120 dB SPL	112 dB SPL
HAIC	120 dB SPL	113 dB SPL
Harmonic distortion		
500 Hz	1.5 %	0.5 %
800 Hz	1.5 %	1.2 %
1600 Hz	2.0 %	2.5 %
Battery drain (st.by)	0.70 mA	
Battery drain	0.70 mA	
Battery type 312 Zn-Air (145 mAh)	200 hours	
Telecoil TLS *	+2 dB	

\* A telecoil input of 100 mA/m will be equivalent to a microphone input of 70 dB SPL.

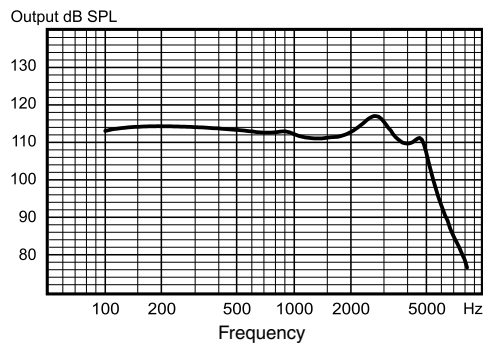
## Processing data

Sampling rate	32 kHz
Max word length	32 bits
A/D converters	2MHz/1bit sigma-delta
DDD converter	1MHz/1bit sigma-delta
Processing delay	<2msec
Processor type	Dedicated ASIC
Frequency bands	3 bands
Channels	3

## Maximum output (Ear simulator - IEC711)



## Maximum output (2cc coupler - IEC126)



## QualiTech

A superior sound quality is ensured by a combination of features:

- Automatic Feedback Manager limits the gain in each of the three channels individually so that whistling is avoided.
- Microphone squelch reduces gain below the low knee-point. This practically eliminates any circuit noise.
- Automatic Output Control reduces distortion of even the loudest sounds.
- Improved A/D converters ensure increased input dynamic range and less distortion of loud inputs
- Anti-hum filter on the telecoil removes interference from the mains in both 50 Hz and 60 Hz systems.
- High immunity from mobile phone interference.

## User friendliness

- Choice between automatic and user-controlled functions.
- Beep-tone indicator for volume adjustment, program shift and low battery at an input-related level of 70 dB SPL.
- A model-specific set of cleaning tools are available to facilitate daily maintenance.

