

FM Systems



# SmartLink™ SX

The gateway to communication

**PHONAK**

hearing systems





# SmartLink™ SX

## The new benchmark in FM communication

SmartLink SX is the first communication device to incorporate

- Advanced FM features
- Hearing Instrument remote control
- A Bluetooth link for cell phone use

Threefold solutions in one instrument!

SmartLink is the communication gateway to all situations where understanding perfectly the first time round is paramount.

The pace of today's world makes ever-increasing demands on communication. Tools such as mobile phones, voice mail systems and video-conferencing are standard in most work environments. Keeping abreast of new developments can be a daunting task for people with normal hearing. Those with hearing loss face an even greater challenge when trying to benefit from the communication capability offered by the latest technology.

Besides the need for outstanding communication capabilities with high-tech devices, people with hearing loss need to understand conversations as well as normal hearing individuals, even in the most challenging listening situations. These include noisy environments, rooms with a large reverberation or conversing over distance.

Even today's state-of-the-art hearing instruments do not offer access to all high-tech communication tools or to effective communication in difficult listening situations. People with hearing loss often are at a huge disadvantage. The more high-tech or demanding the communication environment becomes, the greater the disadvantage. Participation in business meetings, video-conferences and the use of cell phones quickly become out of bounds for even the most sophisticated hearing instruments.

SmartLink, based on Phonak breakthrough digital FM synthesizer technology, now enables people with a hearing impairment and those with normal hearing to use the same communication tools with equal effectiveness. SmartLink is a communication gateway to all situations where understanding perfectly, all of the time, is key. The unique innovation, SmartLink, meets the needs of people with hearing loss, giving them access to effective communication in difficult situations and to the many advantages off modern communication tools, via one device.

## SmartLink™ – a world of communication in one instrument



## Smart signal processing

For the first time in the industry, SmartLink combines all of the verified advantages of digital signal processing strategies with the proven Phonak miniaturized MicroLink technology.

SmartLink – the gateway to crystal-clear sound quality

## Smart calling

Integrated Bluetooth technology in SmartLink enables a bi-directional digital link between wearers' hearing instruments and their Bluetooth cellular phones.

SmartLink – the gateway to Bluetooth technology

## Smart connections to all audio sources

Any external audio input or an external microphone signal can be transmitted wirelessly via SmartLink to the hearing instrument, simply by attaching to the smart interface.

SmartLink – the gateway to the world of sound



Speech



Bluetooth link



Audio input



# Smart Input



# SmartLink™ SX

## The heartbeat of communication

### Smart control

The remote control enables discrete control of all the hearing instrument's functions – from program selection and volume control, through to full FM control.

### SmartLink – the gateway to wearer control

HI remote control



FM frequency  
synchronisation and scan



FM signal to  
MicroLink receiver



### Smart digital synthesizer technology

Multiple FM systems now can be used in one location without interference due to user frequency management, powered by the unique Phonak digital synthesizer technology.

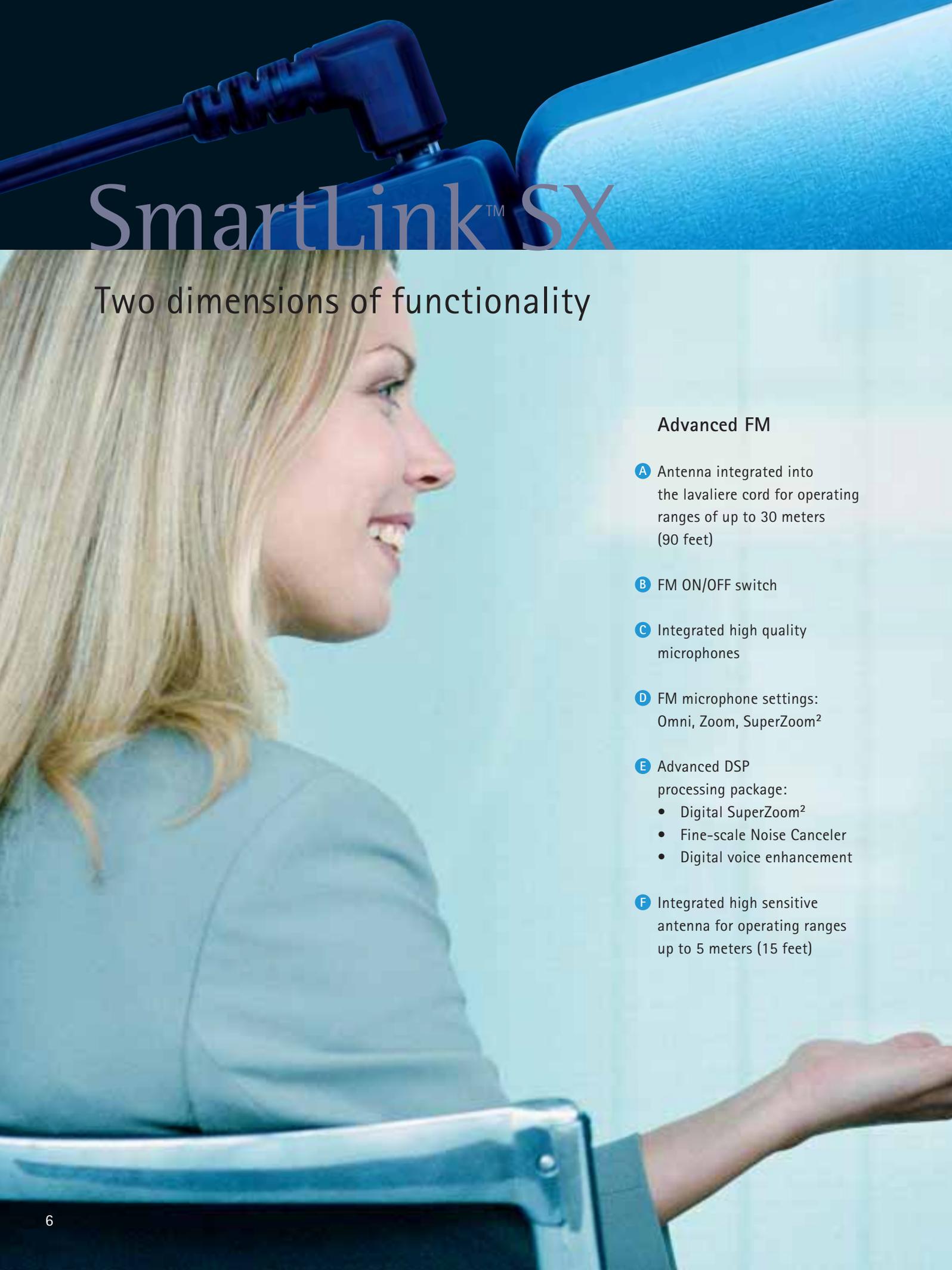
### SmartLink – the gateway to all-round communication

### Smart FM transmission

The proven Phonak FM technology clearly transmits all incoming auditory signals from SmartLink to the receiver attached to the user's hearing instrument.

### SmartLink – the gateway to understanding

# Smart Output



# SmartLink™ SX

Two dimensions of functionality

## Advanced FM

- A** Antenna integrated into the lavalier cord for operating ranges of up to 30 meters (90 feet)
- B** FM ON/OFF switch
- C** Integrated high quality microphones
- D** FM microphone settings: Omni, Zoom, SuperZoom<sup>2</sup>
- E** Advanced DSP processing package:
  - Digital SuperZoom<sup>2</sup>
  - Fine-scale Noise Canceler
  - Digital voice enhancement
- F** Integrated high sensitive antenna for operating ranges up to 5 meters (15 feet)





G

H

I

J

M

L

K



## Extended communication

- G** Retention clip
- H** Easy to read multifunction LCD display
- I** Bluetooth control keys for cellular phone use
- J** HI remote control keys

Interface with connections for:

- K** external microphone
- L** audio source
- M** power supply for fast charging



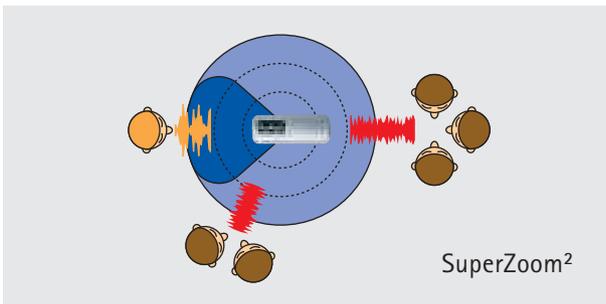


# SmartLink™ SX

## For smart communication

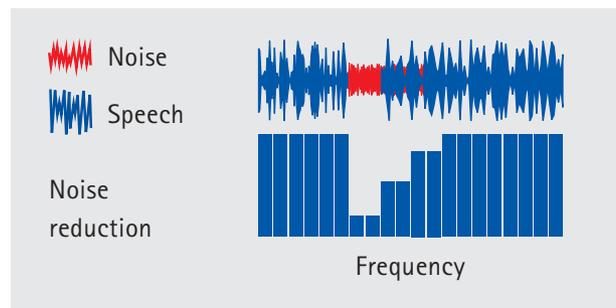
The SmartLink three-phase signal recognition and audio processing strategy is the key to creating natural, crystal-clear sound. In the first phase, the focus of reception is defined through the choice of microphone settings. Secondly, the noise cancellation eliminates disturbing noises detected within the defined beam. Finally, voices within the defined beam are enhanced through digital voice enhancement technology.

### Dedicated digital AudioZoom technology for FM



Phonak pioneered the development of directional microphone systems. With the choice of the microphone settings, Omni, Zoom or SuperZoom<sup>2</sup>, the width of the receptive beam is defined. The SmartLink digital AudioZoom has been designed specifically for use in FM transmitters. The new and extremely efficient digital SuperZoom<sup>2</sup> eliminates all signals coming from behind or from the side of SmartLink, ensuring that wearers only hear what they want to hear. Furthermore, it preserves all the low frequencies that are so important for people with a residual hearing loss.

### Digital Fine-scale Noise Canceler



The digital Fine-scale Noise Canceler (FNC) offers the ultimate in accurate background noise reduction. Noise reduction depends on the relative amounts of speech and noise in the speech-relevant frequencies. Annoying background sounds are reduced, while important sounds for speech are preserved in order to ensure that voices can be understood clearly, even in noisy environments and over distance. The noise cancellation feature is active in all microphone settings.

### Digital voice enhancement

By analyzing the acoustic characteristics of the incoming sound, the digital voice enhancement feature optimizes the perceived loudness of the transmitted FM signal.

SmartLink™ – the gateway to natural, crystal-clear sound

# SmartLink™ SX

## The gateway to communication is open

### Smart links with Bluetooth

With the inclusion of Bluetooth technology in SmartLink, Phonak now enables hearing instrument wearers to enjoy unrestricted use of all Bluetooth compatible cellular phones. One of the major complaints of hearing impaired people is now history – talking on the telephone is even easier for them than for people with normal hearing. Simply synchronizing the Bluetooth telephone and SmartLink creates the communication path. As long as the cell phone is within a 10-meter range of SmartLink, all incoming calls are automatically directed

via SmartLink to the hearing instrument. The cell phone is only needed for dialing outgoing calls. Whenever the cell phone is switched on, the Bluetooth function remains active for incoming calls, regardless of whether SmartLink is switched on or off. This guarantees that telephone calls are not missed, even when the FM function is not required. When using an external audio input to listen to music, incoming telephone calls have priority when the cell phone is switched on. The audio signal is automatically decreased so that the user hears the ringing tone clearly.





## Smart remote control

SmartLink offers the additional benefit of a comprehensive, integrated remote control. The remote control in SmartLink gives discrete access to all the controls of a Phonak hearing instrument – volume adjustments, program changes, plus full FM control. This feature can be used with all digital Phonak hearing instruments with remote control compatibility. It is active even when SmartLink is switched off.

## Smart digital synthesizer technology

Digital frequency synthesizer technology, only available with Phonak FM communication systems, enables online frequency synchronization and scanning of the frequencies used. Once a frequency is selected on the SmartLink, it automatically sends a signal to the FM receiver that adjusts the frequency of the receiver accordingly. This automatic synchronization process occurs every time the SmartLink is switched on. In cases where more than one FM transmitter is in use, at lectures or presentations for example, the SmartLink has an exclusive scan function. This seeks out the frequency being used by the other transmitter and sets the receiver frequency accordingly.

## Smart design

SmartLink provides a perfect balance of form and function. Small and discrete enough to be used everywhere; its ergonomic design enables optimal ease of use. The high-tech design with its large LCD multifunction display allows all of the feature symbols to be seen clearly. The two-sided SmartLink design facilitates easy differentiation of the functions – one side is reserved for advanced FM functions and the other for extended communications, such as remote control, telephone use and frequency management.

## Smart energy management

The intelligent energy management system, combined with a state-of-the-art lithium ion battery, enables fast battery charging – 80% charged within an hour.

SmartLink™ – the gateway  
to communication in one device



# SmartLink™ SX

The gateway to communication

- The only FM system with digital synthesizer
- Cellular phone access via Bluetooth
- Integrated remote control for hearing instruments
- Ergonomic design with visual controls
- State-of-the-art energy management

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hearing systems

[www.phonak.com](http://www.phonak.com)