

# Technical Data

## Pure binax™



7bx

5bx



### S-Receiver

- 56 dB / 119 dB SPL (ear simulator)
- 45 dB / 108 dB SPL (2 ccm coupler)

### M-Receiver

- 70 dB / 129 dB SPL (ear simulator)
- 60 dB / 119 dB SPL (2 ccm coupler)

### P-Receiver

- 80 dB / 134 dB SPL (ear simulator)
- 70 dB / 124 dB SPL (2 ccm coupler)

### HP-Receiver

- 82 dB / 138 dB SPL (ear simulator)
- 75 dB / 130 dB SPL (2 ccm coupler)

## Data Sheet

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# Pure binax · Technical Data

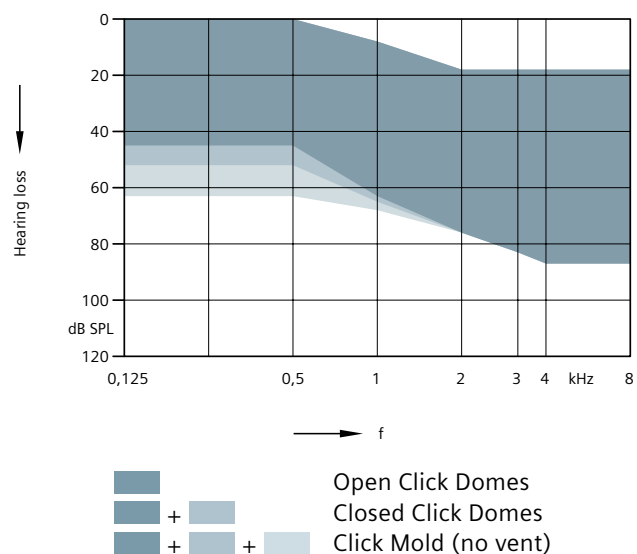
| Type  | S-Receiver  |                             | M-Receiver  |                             |
|---|---|-----------------------------|---|-----------------------------|
|   |  |                             |  |                             |
|   | 2 ccm coupler   | Ear simulator               | 2 ccm coupler   | Ear simulator               |
| Output sound pressure level                         |   |                             |   |                             |
| at 1.6 kHz  | –   | 109 dB SPL                  | –   | 122 dB SPL                  |
| Peak  | 108 dB SPL  | 119 dB SPL                  | 119 dB SPL  | 129 dB SPL                  |
| HFA-OSPL 90   | 102 dB SPL  | –                           | 114 dB SPL  | –                           |
| Gain  |   |                             |   |                             |
| Full on gain (FOG) at 1.6 kHz                       | –   | 43 dB                       | –   | 55 dB                       |
| Full on gain (peak)                                 | 45 dB   | 56 dB                       | 60 dB   | 70 dB                       |
| HFA-FOG   | 37 dB   | –                           | 50 dB   | –                           |
| Reference test gain                                 | 25 dB   | 34 dB                       | 37 dB   | 47 dB                       |
| Frequency, noise and directivity                    |   |                             |   |                             |
| Frequency range 7bx<br>5bx                          | 100-10000 Hz<br>100-8200 Hz   | 100-10500 Hz<br>100-8300 Hz | 100-8800 Hz<br>100-8200 Hz  | 100-10000 Hz<br>100-8300 Hz |
| Equivalent input noise                              | 18 dB SPL   | 22 dB SPL                   | 19 dB SPL   | 23 dB SPL                   |
| Total harmonic distortion at<br>500 / 800 / 1600 Hz | 1 / 1 / 1 %   | 1 / 1 / 2 %                 | 1 / 1 / 2 %   | 1 / 3 / 3 %                 |
| Tinnitus noiser broadband                           | 65 dB   | –                           | 70 dB   | –                           |
| AI-DI   | 3.8 dB  |                             | 3.8 dB  |                             |
| Inductive coil sensitivity                          |   |                             |   |                             |
| MASL (1 mA/m) at 1.6 kHz                            | –   | 75 dB SPL                   | –   | 85 dB SPL                   |
| HFA MASL (1 mA/m)                                   | 68 dB SPL   | –                           | 80 dB SPL   | –                           |
| HFA SPLITS (left/right)                             | 84 / 84 dB SPL  | –                           | 96 / 96 dB SPL  | –                           |
| RSETS (left/right)                                  | -1 / -1 dB SPL  | –                           | -1 / -1 dB SPL  | –                           |
| Battery   |   |                             |   |                             |
| Battery voltage                                     | 1.3 V   |                             | 1.3 V   |                             |
| Battery current drain                               | 0.9 mA  |                             | 1.0 mA  |                             |
| Battery life (cell zinc air)                        | ~130 h  |                             | ~120 h  |                             |
| Battery life (rechargeable)                         | up to 16 h  |                             | –   |                             |
| IRIL IEC 118-13:2004 (bystander)                    |   |                             |   |                             |
| 800-960 MHz   | <-6 dB SPL  |                             | <-6 dB SPL  |                             |
| 1400-2000 MHz                                       | <-24 dB SPL   |                             | <-24 dB SPL   |                             |
| ANSI C63.19   | M4 / T4   |                             | M4 / T4   |                             |

## Pure binax · Technical Data

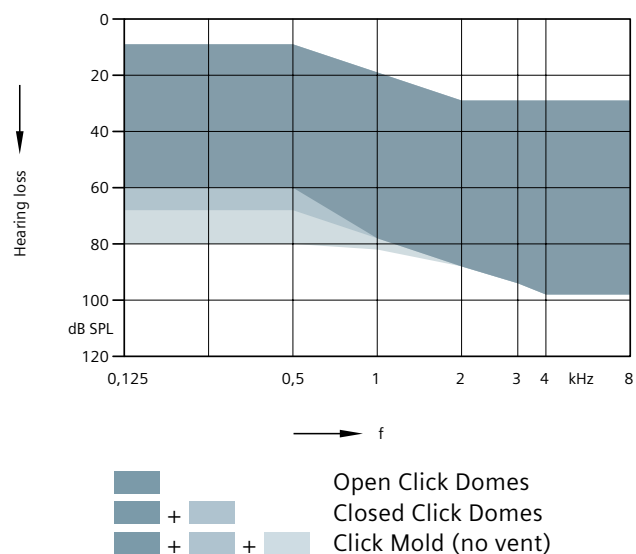
| Type  | P-Receiver  |                            | HP-Receiver   |                            |
|---|---|----------------------------|---|----------------------------|
|   |  |                            |  |                            |
|   | 2 ccm coupler   | Ear simulator              | 2 ccm coupler   | Ear simulator              |
| Output sound pressure level                         |   |                            |   |                            |
| at 1.6 kHz  | –   | 128 dB SPL                 | –   | 137 dB SPL                 |
| Peak  | 124 dB SPL  | 134 dB SPL                 | 130 dB SPL  | 138 dB SPL                 |
| HFA-OSPL 90   | 120 dB SPL  | –                          | 124 dB SPL  | –                          |
| Gain  |   |                            |   |                            |
| Full on gain (FOG) at 1.6 kHz                       | –   | 70 dB                      | –   | 82 dB                      |
| Full on gain (peak)                                 | 70 dB   | 80 dB                      | 75 dB   | 82 dB                      |
| HFA-FOG   | 63 dB   | –                          | 68 dB   | –                          |
| Reference test gain                                 | 43 dB   | 53 dB                      | 48 dB   | 62 dB                      |
| Frequency, noise and directivity                    |   |                            |   |                            |
| Frequency range 7bx<br>5bx                          | 100-7800 Hz<br>100-7800 Hz  | 100-8100 Hz<br>100-7800 Hz | 100-7500 Hz<br>100-7400 Hz  | 250-5200 Hz<br>250-5200 Hz |
| Equivalent input noise                              | 18 dB SPL   | 21 dB SPL                  | 18 dB SPL   | 12 dB SPL                  |
| Total harmonic distortion at<br>500 / 800 / 1600 Hz | 2 / 2 / 1 %   | 3 / 3 / 2 %                | 1 / 2 / 1 %   | 1 / 1 / 1 %                |
| Tinnitus noiser broadband                           | 75 dB   | –                          | 85 dB   | –                          |
| AI-DI   | 3.8 dB  |                            | 3.8 dB  |                            |
| Inductive coil sensitivity                          |   |                            |   |                            |
| MASL (1 mA/m) at 1.6 kHz                            | –   | 100 dB SPL                 | –   | 114 dB SPL                 |
| HFA MASL (1 mA/m)                                   | 91 dB SPL   | –                          | 99 dB SPL   | –                          |
| HFA SPLITS (left/right)                             | 102 / 102 dB SPL  | –                          | 107 / 107 dB SPL  | –                          |
| RSETS (left/right)                                  | -1 / -1 dB SPL  | –                          | -1 / -1 dB SPL  | –                          |
| Battery   |   |                            |   |                            |
| Battery voltage                                     | 1.3 V   |                            | 1.3 V   |                            |
| Battery current drain                               | 1.0 mA  |                            | 1.1 mA  |                            |
| Battery life (cell zinc air)                        | ~120 h  |                            | ~110 h  |                            |
| Battery life (rechargeable)                         | –   |                            | –   |                            |
| IRIL IEC 118-13:2004 (bystander)                    |   |                            |   |                            |
| 800-960 MHz   | <-6 dB SPL  |                            | <-6 dB SPL  |                            |
| 1400-2000 MHz                                       | <-24 dB SPL   |                            | <-24 dB SPL   |                            |
| ANSI C63.19   | M4 / T4   |                            | M4 / T4   |                            |

# Fitting Range

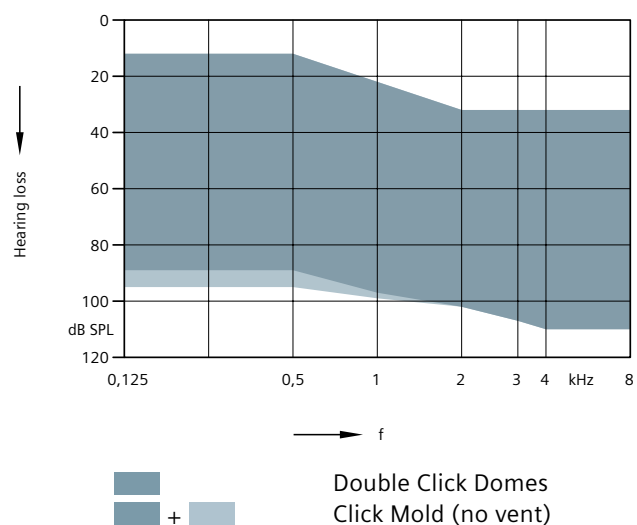
## S-Receiver



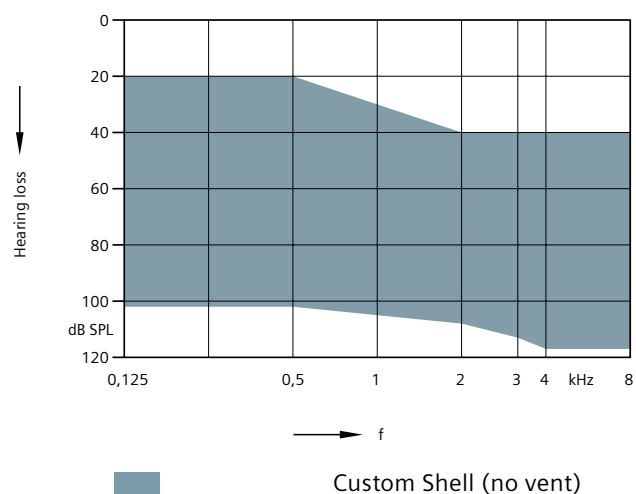
## M-Receiver



## P-Receiver

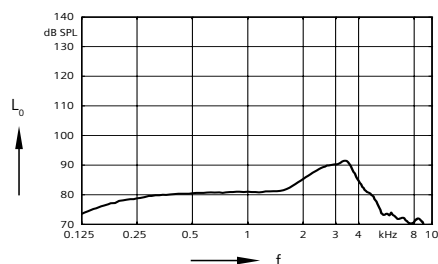
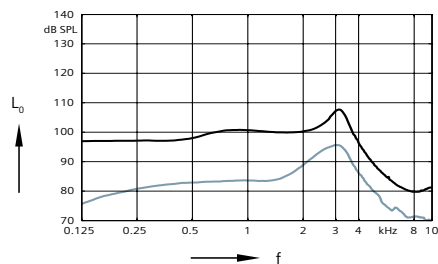


## HP-Receiver

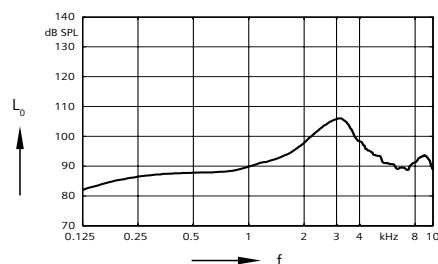
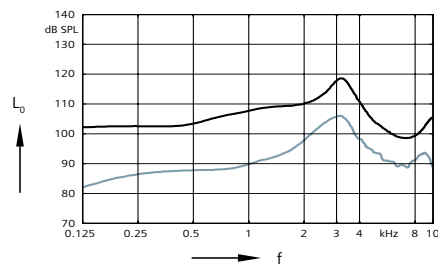


# S-Receiver (Closed Click Dome) · Basic Data

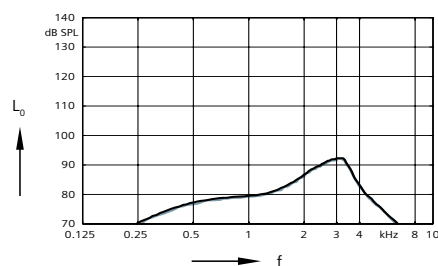
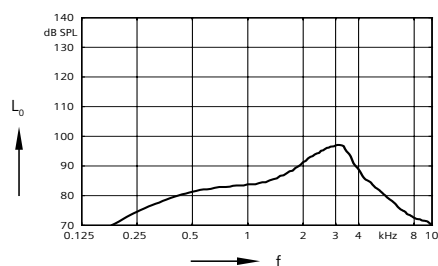
## 2 ccm coupler



## Ear simulator

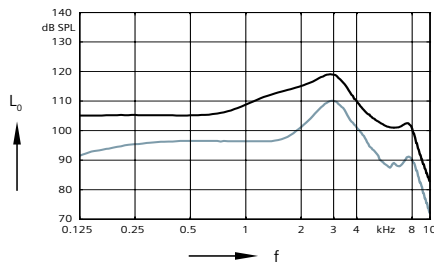


## Inductive response



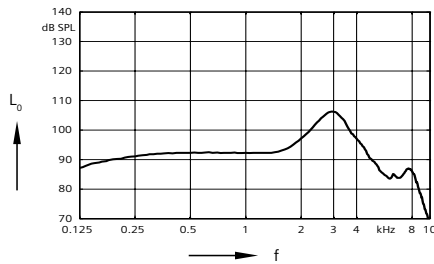
# M-Receiver (Closed Click Dome) · Basic Data

## 2 ccm coupler



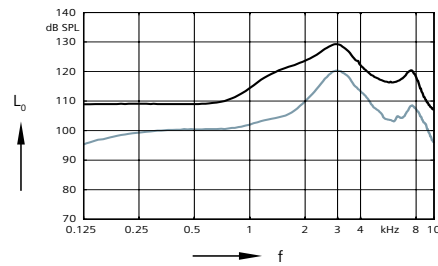
Output sound  
pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)



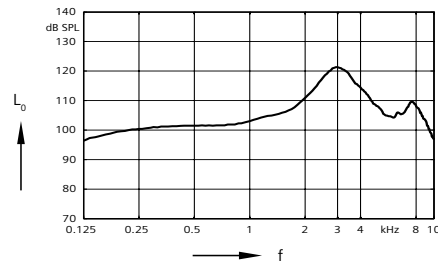
Frequency response  
( $L_i = 60$  dB)

## Ear simulator



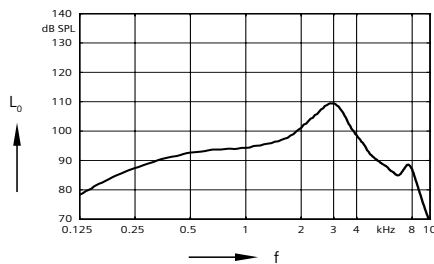
Output sound  
pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)

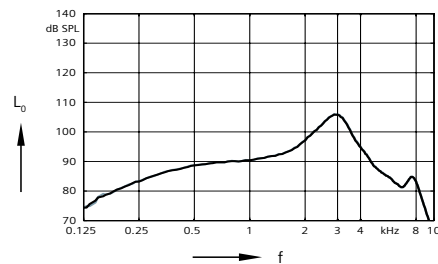


Basic acoustic  
response  
( $L_i = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)

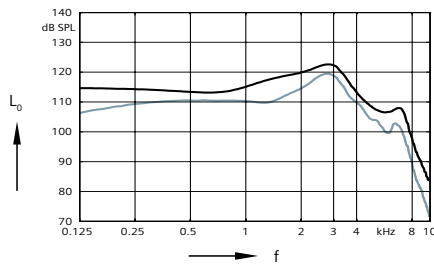


SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)

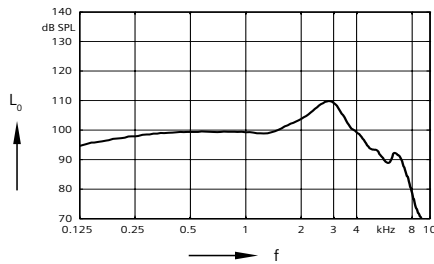
# P-Receiver (Click mold) · Basic Data

## 2 ccm coupler



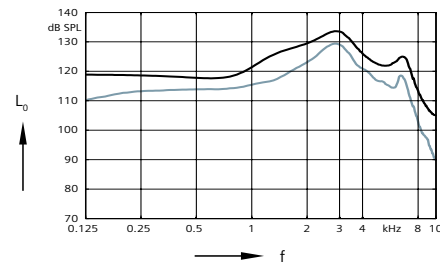
Output sound  
pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)



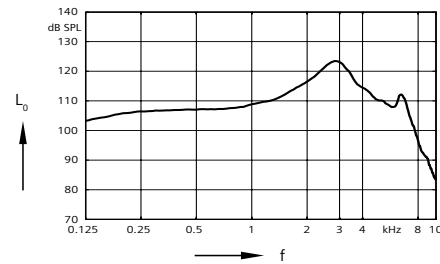
Frequency response  
( $L_i = 60$  dB)

## Ear simulator



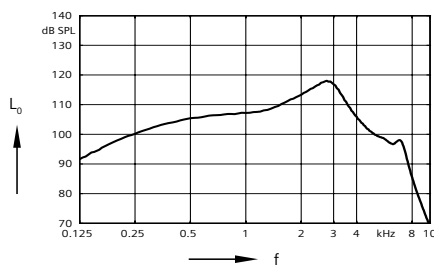
Output sound  
pressure level  
( $L_i = 90$  dB)

Full on gain  
( $L_i = 50$  dB)

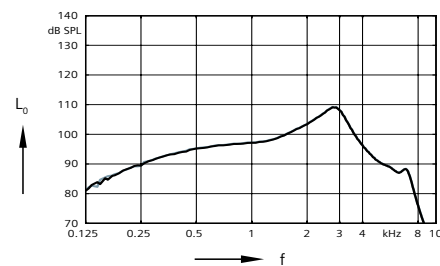


Basic acoustic  
response  
( $L_i = 60$  dB)

## Inductive response



Inductive response  
( $H = 10$  mA/m)

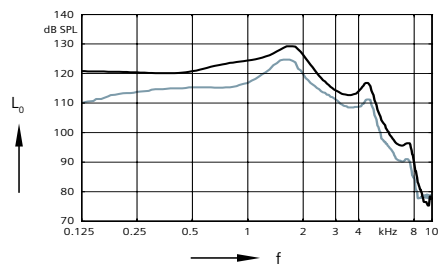


SPLITS curve left  
( $H = 31.6$  mA/m)

SPLITS curve right  
( $H = 31.6$  mA/m)

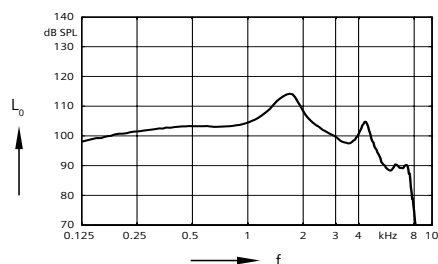
# HP-Receiver (Custom Shell) · Basic Data

## 2 ccm coupler



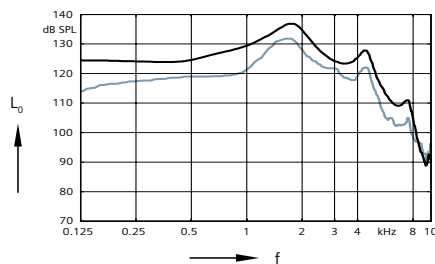
Output sound pressure level ( $L_1 = 90$  dB)

Full on gain ( $L_1 = 50$  dB)



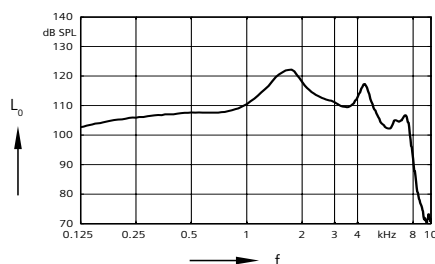
Frequency response ( $L_1 = 60$  dB)

## Ear simulator



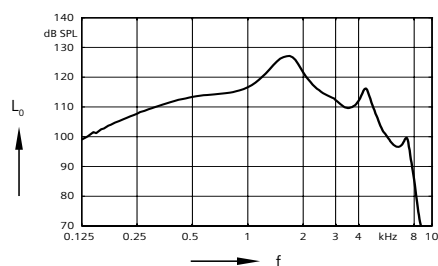
Output sound pressure level ( $L_1 = 90$  dB)

Full on gain ( $L_1 = 50$  dB)

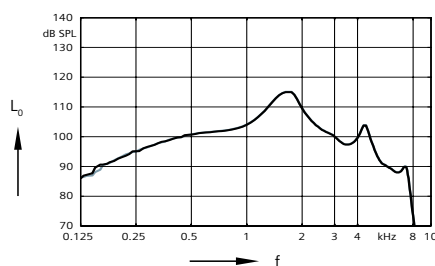


Basic acoustic response ( $L_1 = 60$  dB)

## Inductive response



Inductive response ( $H = 10$  mA/m)



SPLITS curve left ( $H = 31.6$  mA/m)

SPLITS curve right ( $H = 31.6$  mA/m)



## Features and Accessories

|  | Pure binax |        |
|--|------------|--------|
| General  | 7bx        | 5bx    |
| <b>Signal processing</b> (channels)                                  | 48         | 32     |
| <b>Gain/MPO</b> (handles)  | 20         | 16     |
| <b>Hearing programs</b>  | 6          | 6      |
| <b>touchControl App</b> (iOS / Android)                              | ●          | ●      |
| Audibility   |            |        |
| <b>Directional microphone</b> (channels)                             | 48         | 32     |
| <b>Narrow Directionality</b><br>(req. bilateral fitting and e2e 3.0) | ●          | ●      |
| <b>Spatial SpeechFocus</b><br>(req. bilateral fitting and e2e 3.0)   | ●          | —      |
| <b>SpeechFocus</b>   | —          | ●      |
| <b>TruEar™</b>   | ●          | ●      |
| <b>Frequency compression</b>   | ●          | ●      |
| Sound Quality  |            |        |
| <b>eWindScreen binaural</b><br>(req. bilateral fitting and e2e 3.0)  | ●          | —      |
| <b>eWindScreen™</b> (steps)  | 3          | 3      |
| <b>Extended bandwidth</b>  | ●          | —      |
| <b>SoundBrilliance™</b><br>(streaming only, req. easyTek)            | ●          | ●      |
| <b>Feedback cancellation</b>   | ●          | ●      |
| <b>Speech and noise management</b><br>(channels / steps)             | 48 / 7     | 32 / 5 |
| <b>SoundSmoothing™</b><br>(channels / steps)                         | 48 / 3     | 32 / 3 |
| <b>Directional speech enhancement</b><br>(channels / steps)          | 48 / 3     | 32 / 1 |
| Individuality  |            |        |
| <b>Sound equalizer</b> (classes)                                     | 6          | 3      |
| <b>Data logging</b>  | ●          | ●      |
| <b>Learning</b> (classes)  | 6          | 3      |
| <b>Acclimatization manager</b>                                       | ●          | ●      |
| <b>binax fit</b>   | ●          | ●      |
| <b>Spatial Configurator</b><br>(req. bilateral fitting and e2e 3.0)  | ●          | ●      |
| <b>Span</b><br>(req. easyTek and easyTek App or Rocker switch)       | ●          | ●      |
| <b>Direction</b><br>(req. easyTek and easyTek App)                   | ●          | ●      |
| <b>Tinnitus noiser</b><br>(frequency shaping channels)               | 20         | 16     |

## Features and Accessories

| Style Specific Features               | 7bx  | 5bx  |
|---------------------------------------|------|------|
| Ingress Protection Rating             | IP67 | IP67 |
| Telecoil                              | ●    | ●    |
| AutoPhone™                            | ●    | ●    |
| Charging contacts                     | ●    | ●    |
| Battery Size                          | 312  | 312  |
| Battery door on/off function          | ●    | ●    |
| Nanocoated housing                    | ●    | ●    |
| e2e wireless™ 3.0                     | ●    | ●    |
| Audio streaming                       | ●    | ●    |
| User controls coupling via e2e™       | ●    | ●    |
| Wireless programming via ConnexxLink™ | ●    | ●    |
| Instrument configurations             |      |      |
| Flat cover                            | ○    | ○    |
| Push button                           | ○    | ○    |
| Rocker switch                         | ○    | ○    |
| Color conversion kit                  | ○    | ○    |
| Battery door – direct audio input     | —    | —    |
| Battery door – child lock             | —    | —    |
| Programming Accessories               |      |      |
| ConnexxLink™                          | ●    | ●    |
| Programming pill                      | ●    | ●    |
| Accessories                           |      |      |
| eCharger                              | ○    | ○    |
| easyPocket™                           | ○    | ○    |
| easyTek™                              | ○    | ○    |
| Transmitter (req. easyTek™)           | ○    | ○    |
| VoiceLink™ (req. easyTek™)            | ○    | ○    |
| App                                   |      |      |
| easyTek™ App (req. easyTek™)          | ○    | ○    |
| touchControl™ App                     | ○    | ○    |

● available ○ optional — not available

This image shows a full page of blank, lined paper. It features approximately 20 horizontal blue lines spaced evenly across the page, typical of notebook paper. The lines are thin and light blue, set against a plain white background. There is no handwriting or other markings on the page.

# Abbreviations and Standards

## Abbreviations

The following abbreviations are used in this datasheet:

|        |  |
|--------|--|
| OSPL   | Output Sound Pressure Level                      |
| HFA    | High Frequency Average                           |
| FOG    | Full-On Gain                                     |
| MASL   | Magneto Acoustical Sensitivity Level             |
| SPLITS | Coupler SPL for an Inductive Telephone Simulator |
| RSETS  | Relative Equivalent Telephone Sensitivity        |
| AI-DI  | Articulation Index - Directivity Index           |
| IRIL   | Input Related Interference Level                 |
| RTF    | Reference Test Frequency                         |

## Standards

- ▶ All measurements with the 2 ccm coupler were performed according to ANSI S3.22-2009 and IEC 60118-7:2005.
- ▶ All measurements with an ear simulator were performed according to IEC 118-0/A1 and to DIN 45605 (frequency range).
- ▶ The following ear pieces were used:
  - S-Receiver Unit and M-Receiver Unit: Closed Click Dome
  - P-Receiver Unit: Click Mold
  - HP-Receiver Unit: Custom Shell
- ▶ Extended frequency range up to 12 kHz for 7bx devices only.

### WARNING

Choking hazard posed by small parts.

- ▶ This instrument is not intended for the fitting of infants, small children and persons of mental incapacity.

### WARNING

Instrument has an output sound pressure level of 132 dB SPL or more.

Risk of impairing the residual hearing of the user.

- ▶ Take special care when fitting this instrument.

The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases and are subject to change without prior notice. The required features should therefore be specified in each individual case at the time of conclusion of the respective contract.

Find the current issue of this document under: <http://factsandfigures.hearing-siemens.com>