

# Technical Data

## Ace binax™



7bx

5bx



### S-Receiver

- 55 dB / 118 dB SPL (ear simulator)
- 45 dB / 108 dB SPL (2 ccm coupler)

### M-Receiver

- 65 dB / 123 dB SPL (ear simulator)
- 55 dB / 113 dB SPL (2 ccm coupler)

### P-Receiver

- 70 dB / 126 dB SPL (ear simulator)
- 60 dB / 118 dB SPL (2 ccm coupler)

### HP-Receiver

- 72 dB / 130 dB SPL (ear simulator)
- 65 dB / 123 dB SPL (2 ccm coupler)

## Data Sheet

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## Ace 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	–	108 dB SPL	–	116 dB SPL
Peak	108 dB SPL	118 dB SPL	113 dB SPL	123 dB SPL
HFA-OSPL 90	102 dB SPL	–	107 dB SPL	–
Gain				
Full-on gain (FOG) at 1.6 kHz	–	44 dB	–	52 dB
Full-on gain (peak)	45 dB	55 dB	55 dB	65 dB
HFA-FOG	37 dB	–	44 dB	–
Reference test gain	25 dB	33 dB	30 dB	41 dB
Frequency, noise and directivity				
Frequency range 7bx 5bx	100 - 10000 Hz 100 - 8200 Hz	100 - 10500 Hz 100 - 8300 Hz	100 - 8700 Hz 100 - 8000 Hz	100 - 10000 Hz 100 - 8200 Hz
Equivalent input noise	19 dB SPL	22 dB SPL	19 dB SPL	22 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	1 / 1 / 1 %	1 / 1 / 2 %	1 / 2 / 1 %	2 / 3 / 2 %
Tinnitus noiser broadband	65 dB SPL	–	70 dB SPL	–
AI-DI	3.5 dB		3.5 dB	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	–	–	–	–
HFA MASL (1 mA/m)	–	–	–	–
HFA SPLITS (left/right)	–	–	–	–
RSETS (left/right)	–	–	–	–
Battery				
Battery voltage	1.3 V	1.3 V	1.3 V	1.3 V
Battery current drain	0.9 mA	0.9 mA	1.0 mA	1.0 mA
Battery (cell zinc air)	~ 75 h	~ 75 h	~ 70 h	~ 70 h
Battery life (rechargeable)	–	–	–	–
IRIL IEC 118-13:2004 (bystander)				
800-960 MHz	< -27 dB		< -27 dB	
1400-2000 MHz	< -24 dB		< -24 dB	
ANSI C63.19	M4		M4	

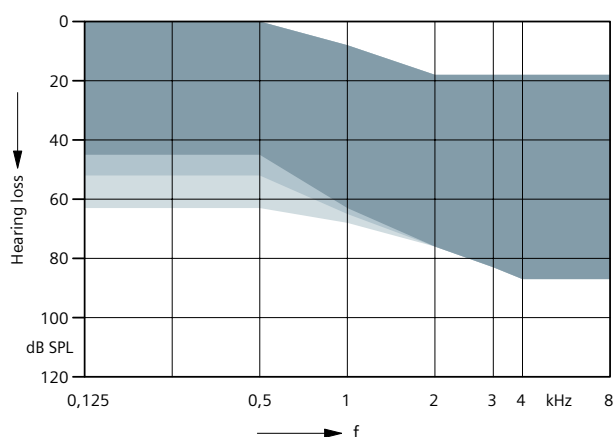
# Ace binax · Technical Data

Type	P-Receiver		HP-Receiver	
				
	2 ccm coupler	Ear simulator	2 ccm coupler	Ear simulator
Output sound pressure level				
at 1.6 kHz	–	123 dB SPL	–	119 dB SPL*
Peak	118 dB SPL	126 dB SPL	123 dB SPL	130 dB SPL
HFA-OSPL 90	112 dB SPL	–	115 dB SPL	–
Gain				
Full-on gain (FOG) at 1.6 kHz	–	61 dB	–	63 dB*
Full-on gain (peak)	60 dB	70 dB	65 dB	72 dB
HFA-FOG	51 dB	–	58 dB	–
Reference test gain	35 dB	47 dB	38 dB	44 dB*
Frequency, noise and directivity				
Frequency range 7bx 5bx	100 - 7800 Hz 100 - 7800 Hz	120 - 8500 Hz 120 - 8200 Hz	100 - 7400 Hz 100 - 7400 Hz	120 - 8200 Hz 120 - 8100 Hz
Equivalent input noise	19 dB SPL	22 dB SPL	15 dB SPL	18 dB SPL
Total harmonic distortion at 500 / 800 / 1600 Hz	1 / 2 / 1 %	1 / 2 / 1 %	1 / 1 / 1 %	2 / 2 / 1 %
Tinnitus noiser broadband	75 dB SPL	–	85 dB SPL	–
AI-DI	3.5 dB		3.5 dB	
Inductive coil sensitivity				
MASL (1 mA/m) at 1.6 kHz	–	–	–	–
HFA MASL (1 mA/m)	–	–	–	–
HFA SPLITS (left/right)	–	–	–	–
RSETS (left/right)	–	–	–	–
Battery				
Battery voltage	1.3 V	1.3 V	1.3 V	1.3 V
Battery current drain	0.9 mA	0.9 mA	0.9 mA	0.9 mA
Battery (cell zinc air)	~ 75 h	~ 75 h	~ 75 h	~ 75 h
Battery life (rechargeable)	–	–	–	–
IRIL IEC 118-13:2004 (bystander)				
800-960 MHz	< -27 dB		< -27 dB	
1400-2000 MHz	< -24 dB		< -24 dB	
ANSI C63.19	M4		M4	

\* measured at 2.5 kHz RTF

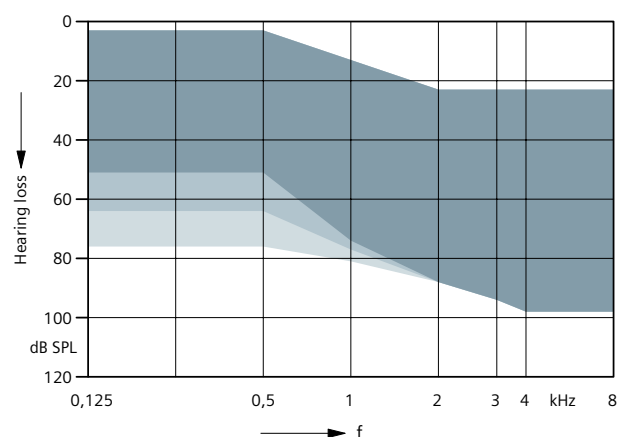
# Fitting Range

## S-Receiver



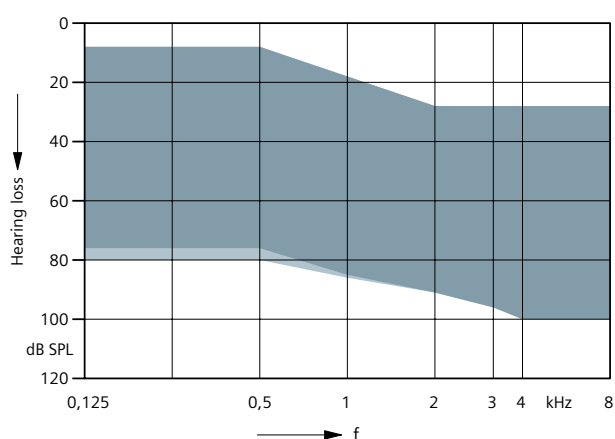
Open Click Domes  
 + Closed Click Domes  
 + + Click Mold (no vent)

## M-Receiver



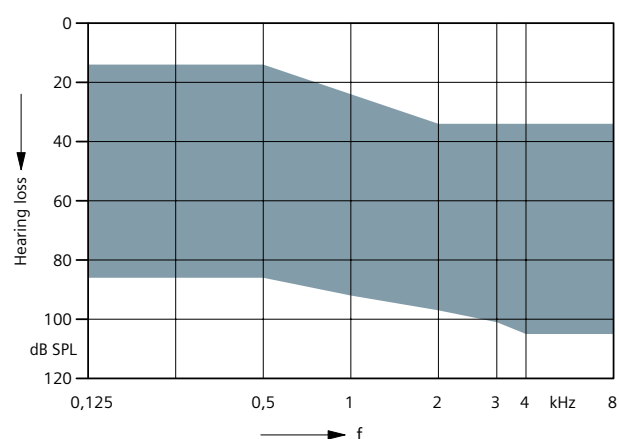
Open Click Domes  
 + Closed Click Domes  
 + + Click Mold (no vent)

## P-Receiver



Double Click Domes  
 + Click Mold (no vent)

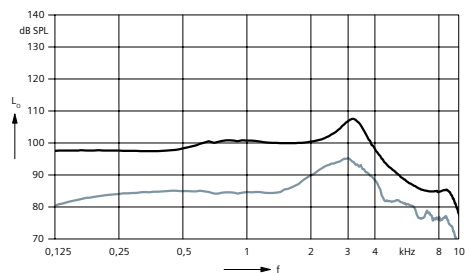
## HP-Receiver



Custom Shell (no vent)

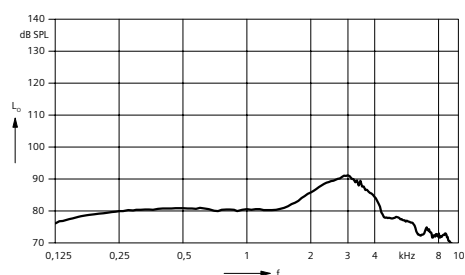
# S-Receiver (Closed Click Dome) · Basic Data

## 2 ccm coupler



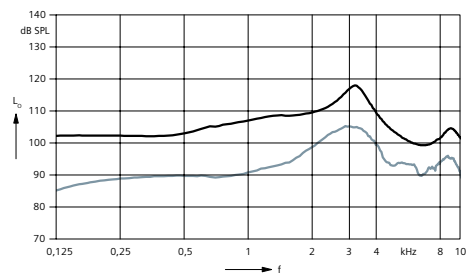
Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)



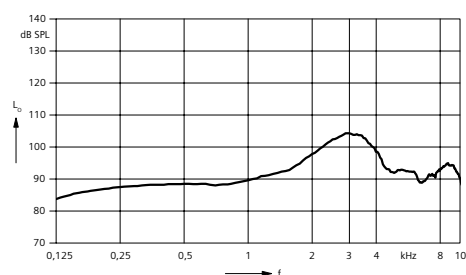
Frequency response  
( $L_1 = 60$  dB)

## Ear simulator



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

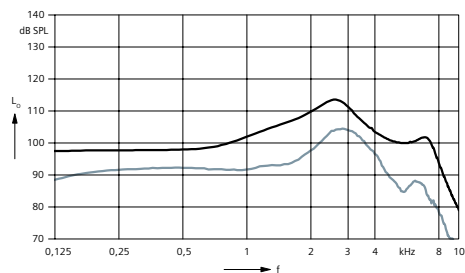
Full on gain  
( $L_1 = 50$  dB)



Basic acoustic response  
( $L_1 = 60$  dB)

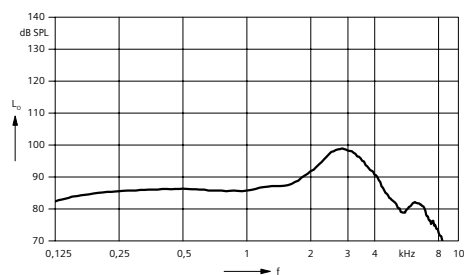
# M-Receiver (Closed Click Dome) · Basic Data

## 2 ccm coupler



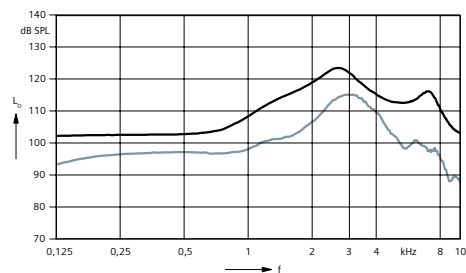
Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)



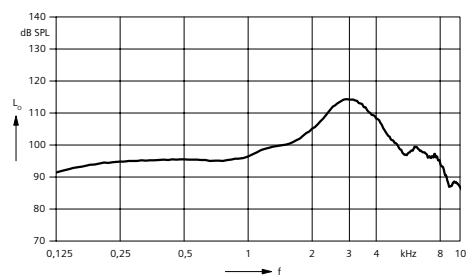
Frequency response  
( $L_1 = 60$  dB)

## Ear simulator



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

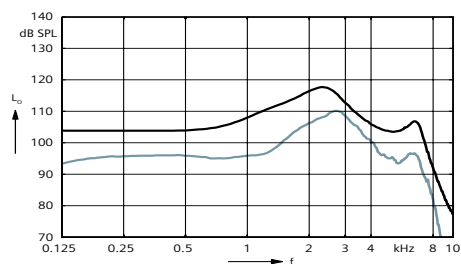
Full on gain  
( $L_1 = 50$  dB)



Basic acoustic response  
( $L_1 = 60$  dB)

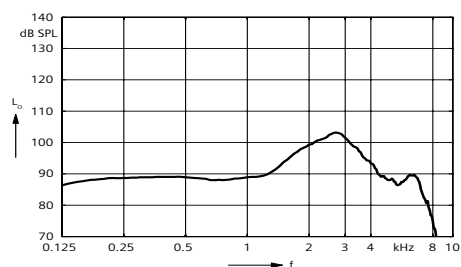
# P-Receiver (Click Mold) · Basic Data

## 2 ccm coupler



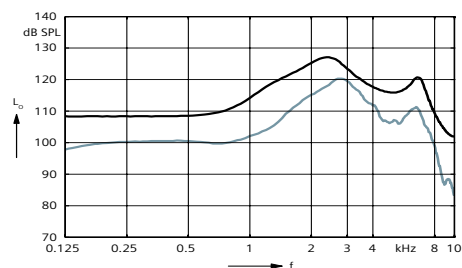
Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)



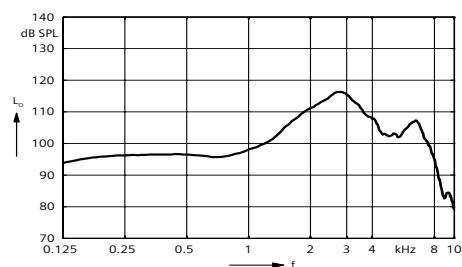
Frequency response  
( $L_1 = 60$  dB)

## Ear simulator



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

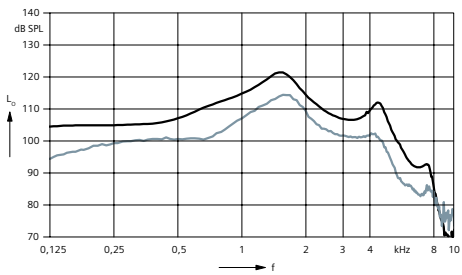
Full on gain  
( $L_1 = 50$  dB)



Basic acoustic response  
( $L_1 = 60$  dB)

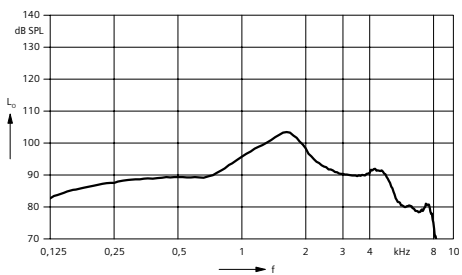
# HP-Receiver (Custom Shell) · Basic Data

## 2 ccm coupler



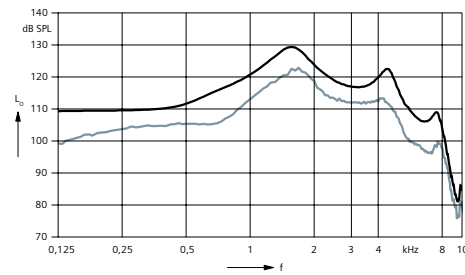
Output sound pressure level  
( $L_1 = 90$  dB)

Full on gain  
( $L_1 = 50$  dB)



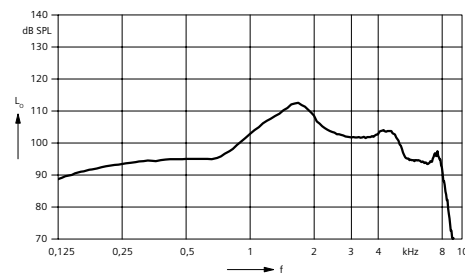
Frequency response  
( $L_1 = 60$  dB)

## Ear simulator



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

Full on gain  
( $L_1 = 50$  dB)



Basic acoustic response  
( $L_1 = 60$  dB)



## Features and Accessories

	Ace 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> (req. bilateral fitting and e2e 3.0)	—	—
<b>Spatial SpeechFocus</b> (req. bilateral fitting and e2e 3.0)	—	—
<b>SpeechFocus</b>	●	●
<b>TruEar™</b>	●	●
<b>Frequency compression</b>	●	●
Sound Quality		
<b>eWindScreen binaural</b> (req. bilateral fitting and e2e 3.0)	—	—
<b>eWindScreen™</b> (steps)	3	3
<b>Extended bandwidth</b>	●	—
<b>SoundBrilliance™</b> (streaming only, req. easyTek)	—	—
<b>Feedback cancellation</b>	●	●
<b>Speech and noise management</b> (channels / steps)	48 / 7	32 / 5
<b>SoundSmoothing™</b> (channels / steps)	48 / 3	32 / 3
<b>Directional speech enhancement</b> (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> (req. bilateral fitting and e2e 3.0)	—	—
<b>Span</b> (req. easyTek and easyTek App or Rocker switch)	—	—
<b>Direction</b> (req. easyTek and easyTek App)	—	—
<b>Tinnitus noiser</b> (frequency shaping channels)	20	16

## Features and Accessories

Style Specific Features	7bx	5bx
Ingress Protection Rating	IP67	IP67
Telecoil	—	—
AutoPhone™	—	—
Charging contacts	—	—
Battery Size	10	10
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

[illegible]

# 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>