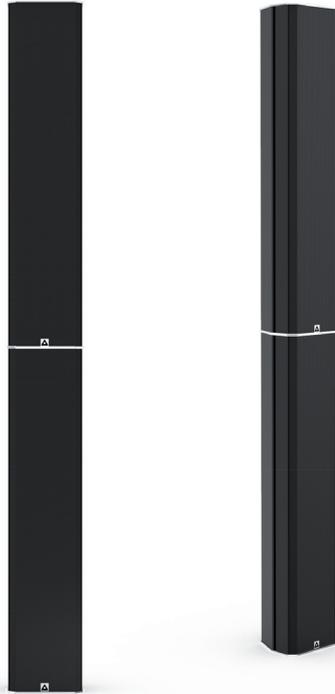DATASHEET

# PAN BEAM PB 248 | + VARIANTS

*COMPACT, ACTIVE, DIGITALLY STEERABLE LINE ARRAY WITH BEAM STEERING TECHNOLOGY*

The **Pan Beam PB 248** is an active, digitally steerable high-performance line array with beam steering technology in an attractive design that has been developed for demanding speech and music transmissions.

The **PB 248** features Pan Audio DSP and network functions such as Pan Net, AES/EBU and Dante. It is operated via user-friendly Windows software. The PB 248 is connected to the computer via a Pan Net interface or via Dante. Digital signal processing from the Pan Audio DSP can be used to enter and control the sound and delay times in real time.

The **PB 248** can generate four highly directed sound beams which can be modified using various optimizers (max. SPL, SPL + min. sidelobes, min. sidelobes). Digital signal processing can be used to precisely adjust the vertical radiation angle and the tilt angle to the area to be covered.

The **PB 248** is equipped with 12 specially manufactured 6.5" HQ woofer drivers and 36 specially manufactured 1" HQ tweeter drivers, DSP module and 32 digital amplifiers with a rated power of up to 100 watts each. A single PB 248 module can cover a listening area of up to 75 meters, with speech intelligibility and sound pressure remaining virtually constant over the entire distance.

In order to increase the lower cut-off frequency, the sound pressure and the reach, the **Pan Beam PB 224** can be cascaded to a **Pan Beam PB 248/272/296**.

Illustration in colour option, see mechanical properties

## EQUIPMENT / OPTIONS

See last page for explanation of the symbols.

## APPLICATIONS

Churches, mosques, museums, live PA, train stations, airports, sports facilities, legislative buildings, conference rooms, lecture halls, shopping centres, A/V presentation rooms

## FEATURES:

High efficiency, integrated protection circuits, high speech intelligibility and music reproduction even in acoustically challenging environments, sleek and unobtrusive design, remote monitoring, two audio inputs

## INTEGRATED DSP CONTROL FOR:

Adjustment of vertical radiation (coverage/tilt angle), 5-band parametric equalizer, volume control, internal delay up to 370 ms, connection to media controller possible, two independent line inputs with automatic priority switching

## MOUNTING ACCESSORIES

For the **Pan Beam** series, a wide range of mounting accessories is available for fixed installation and mobile use.

## EVACUATION SYSTEMS

The Pan Beam series can be integrated into voice alarm / electroacoustic emergency warning systems according to EN 50849.

All **Pan Beam** loudspeakers are designed, developed and manufactured in Germany by Pan Acoustics from high quality materials and according to strict criteria.

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## TECHNICAL DATA PAN BEAM PB 248

### ACOUSTIC PROPERTIES

| | |
|---|---|
| **Configuration:** | digitally steerable high-performance line array |
| **Frequency range:** | 85 Hz - 19 kHz |
| **Equipment:** | 12 x 6.5" HQ woofer drivers, 36 x 1" HQ tweeter drivers |
| **Horizontal radiation pattern:** | 150° |
| **Vertical radiation pattern:** | 5° - 40°, digitally steerable |
| **Number of beams:** | 4 |
| **Acoustic focus adjustable according to room length** | |
| **Tilt:** | -70° - +70° (digitally steerable) |
| **Focus distance:** | 5 m up to 75 m |
| **Typical distance:** | 50 m |
| **Maximum SPL:** | 134 dB SPL* @ 1 m (calc.) \| 110 dB SPL @ 25 m |
| **Dynamic range:** | >105 dB |

### ELECTRONIC PROPERTIES

| | |
|---|---|
| **Amplifier output/type:** | up to 32 x 100 watts max (4 ohms) / digital PWM |
| **DSP:** | 24 bit / 96 kHz sample rate |
| **Pan Net I/O:** | 2 x etherCON |
| **Audio input via Pan Net:** | transformer balanced line level +4 dBu |
| **Nominal power consumption:** | 40 VA (normal), 1600 VA (max) |
| **Temperature range:** | 0 °C to 40 °C ambient temperature (optionally -30 °C to +50 °C) |
| **Power supply:** | 90 V - 264 V, 50 Hz to 60 Hz |
| **Connection:** | powerCON TRUE1 (In/Out) |

### MECHANICAL PROPERTIES

| | |
|---|---|
| **Enclosure:** | Aluminium profile |
| **Grille:** | Powder-coated perforated metal sheet |
| **Standard colours (with silver lids):**<br>**(optional: lid in enclosure colour)** | RAL 9005 (black), silk matt<br>RAL 9010 (white), silk matt |
| **Dimensions (H x W x D):** | 2216 x 244 x 210 [mm] |
| **Weight:** | 59 kg (incl. electronics) |
| **Mounting accessories:** | Extensive range of mounting accessories available |

*under anechoic half-space conditions with DSP settings
Frequency range: -10 dB under anechoic half-space conditions

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## TECHNICAL DATA PAN BEAM PB 248 | AES

### ACOUSTIC PROPERTIES

| | |
|---|---|
| **Configuration:** | digitally steerable high-performance line array |
| **Frequency range:** | 85 Hz - 19 kHz |
| **Equipment:** | 12 x 6.5" HQ woofer drivers, 36 x 1" HQ tweeter drivers |
| **Horizontal radiation pattern:** | 150° |
| **Vertical radiation pattern:** | 5° - 40°, digitally steerable |
| **Number of beams:** | 2 |
| **Acoustic focus adjustable according to room length** | |
| **Tilt:** | -70° - +70° (digitally steerable) |
| **Focus distance:** | 5 m up to 75 m |
| **Typical distance:** | 50 m |
| **Maximum SPL:** | 134 dB SPL* @ 1 m (calc.) \| 110 dB SPL @ 25 m |
| **Dynamic range:** | >105 dB |

### ELECTRONIC PROPERTIES

| | |
|---|---|
| **Amplifier output/type:** | up to 32 x 100 watts max (4 ohms) / digital PWM |
| **DSP:** | 24 bit / 96 kHz sample rate |
| **Pan Net I/O:** | 2 x etherCON |
| **Audio input via Pan Net:** | digital 44.1 / 48 / 96 / 192 kHz (sample rates)<br>1 x analog audio |
| **Nominal power consumption:** | 40 VA (normal), 1600 VA (max) |
| **Temperature range:** | 0 °C to 40 °C ambient temperature (optionally -30 °C to +50 °C) |
| **Power supply:** | 90 V - 264 V, 50 Hz to 60 Hz |
| **Connection:** | powerCON TRUE1 (In/Out) |

### MECHANICAL PROPERTIES

| | |
|---|---|
| **Enclosure:** | Aluminium profile |
| **Grille:** | Powder-coated perforated metal sheet |
| **Standard colours (with silver lids):**<br>**(optional: lid in enclosure colour)** | RAL 9005 (black), silk matt<br>RAL 9010 (white), silk matt |
| **Dimensions (H x W x D):** | 2216 x 244 x 210 [mm] |
| **Weight:** | 59 kg (incl. electronics) |
| **Mounting accessories:** | Extensive range of mounting accessories available |

*under anechoic half-space conditions with DSP settings
Frequency range: -10 dB under anechoic half-space conditions

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## TECHNICAL DATA PAN BEAM PB 248-D (DANTE)

### ACOUSTIC PROPERTIES

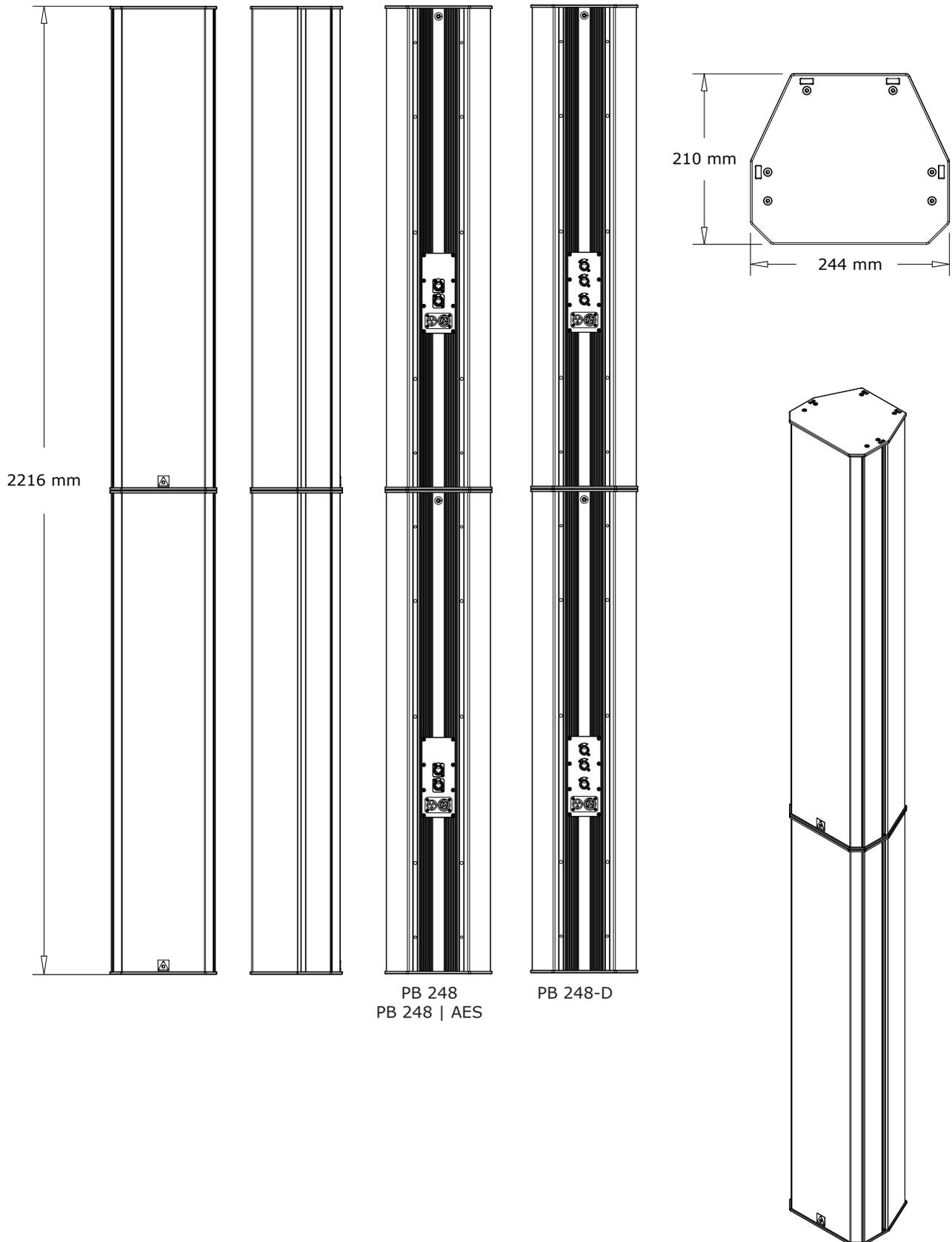| | |
|---|---|
| **Configuration:** | digitally steerable high-performance line array |
| **Frequency range:** | 85 Hz - 19 kHz |
| **Equipment:** | 12 x 6.5" HQ woofer drivers, 36 x 1" HQ tweeter drivers |
| **Horizontal radiation pattern:** | 150° |
| **Vertical radiation pattern:** | 5° - 40°, digitally steerable |
| **Number of beams:** | 2 |
| **Acoustic focus adjustable according to room length** | |
| **Tilt:** | -70° - +70° (digitally steerable) |
| **Focus distance:** | 5 m up to 75 m |
| **Typical distance:** | 50 m |
| **Maximum SPL:** | 134 dB SPL* @ 1 m (calc.) \| 110 dB SPL @ 25 m |
| **Dynamic range:** | >105 dB |

### ELECTRONIC PROPERTIES

| | |
|---|---|
| **Amplifier output/type:** | up to 32 x 100 watts max (4 ohms) / digital PWM |
| **DSP:** | 24 bit / 96 kHz sample rate |
| **Network I/O:** | 1 x etherCON primary<br>1 x etherCON secondary<br>1 x etherCON Pan Net Link |
| **Audio input via Dante:** | 44.1 / 48 / 96 sample rate |
| **Nominal power consumption:** | 40 VA (normal), 1600 VA (max) |
| **Temperature range:** | 0 °C to 40 °C ambient temperature (optionally -30 °C to +50 °C) |
| **Power supply:** | 90 V - 264 V, 50 Hz to 60 Hz |
| **Connection:** | powerCON TRUE1 (In/Out) |

### MECHANICAL PROPERTIES

| | |
|---|---|
| **Enclosure:** | Aluminium profile |
| **Grille:** | Powder-coated perforated metal sheet |
| **Standard colours (with silver lids):**<br>**(optional: lid in enclosure colour)** | RAL 9005 (black), silk matt<br>RAL 9010 (white), silk matt |
| **Dimensions (H x W x D):** | 2216 x 244 x 210 [mm] |
| **Weight:** | 59 kg (incl. electronics) |
| **Mounting accessories:** | Extensive range of mounting accessories available |

*under anechoic half-space conditions with DSP settings
Frequency range: -10 dB under anechoic half-space conditions

2216 mm

210 mm

244 mm

PB 248
PB 248 | AES

PB 248-D

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**Customised painting/colouring**
within the RAL colour range. Other colour ranges such as RAL design, Pantone, etc. are available on request.

**Made-to-measure enclosure** of the loudspeaker is possible. The enclosure dimensions of the Pan Beam series can be customised.

**Analogue audio inputs**
with balanced signal routing.

**Digital audio inputs** support 2 x AES/EBU (AES3).

**Digital Dante audio network**
including AES67 support.
Redundant network structure with Pan Net control.

**100 V audio inputs** with different power taps.

**Pilot tone evaluation** for integration in SAA/ENS systems.

**Pan Net**
Pan Acoustics' own control and monitoring protocol.

**General Purpose Output (GPO)**
Switchable contact, e.g. for status request via downstream media control.

**Priority switching**
Automatic switching of the audio inputs e.g. between programme and announcement.

**DC input**
for operation on emergency power supplies.

**Weatherproofing** of the loudspeakers in accordance with protection classes IP54 or IP65 (depending on the model) is possible.

**Accessories** such as wall, tripod and ceiling mounts, different interfaces, connection cables, weather protection hoods and connection sets are available.

**Ball impact resistance**

**Looks good, sounds good.**
Pan Acoustics' products are defined by natural sound and attractive design.

Some equipment features cannot be combined. For information about which features can be combined with each other, please send an e-mail to sales@pan-acoustics.de.

## Our quality promise

**Pan Acoustics** stands by its products and gives up to **10 years warranty** on its loudspeakers for any material or manufacturing defects. New products manufactured in accordance with protection classes IP54 and IP65 as well as digital audio interfaces (Dante®) from Audinate Pty Ltd and rechargeable batteries are excluded from the 10-year warranty. A warranty period of 3 years is granted for loudspeakers in accordance with protection classes IP54 and IP65.