

# SURROUND SOUND SOLUTIONS

FROM DPA MICROPHONES



**DPA**   
MICROPHONES

Please visit our website to learn more about DPA Microphones.

## Content

|  |    |
|--|----|
| Mobile Surround Microphone .....       | 4  |
| Matched Surround Microphone Kits ..... | 8  |
| Decca Tree & Surround Mount .....      | 10 |
| Accessories .....                      | 12 |
| Specifications .....                   | 14 |



### **Close your eyes and listen**

Absolutely immersed in breathtakingly full, 3-dimensional surround sound, as if you were present while the recording was being made, you find that you keep opening your eyes for a "reality check" in case your ears are deceiving you. The microphones responsible for that illusion? DPA, of course.

### **B&K and beyond**

Our company draws on more than five decades of world-class microphone design experience going back to the first range of measurement microphones created by our progenitor, Brüel & Kjær, in the 1950s.

### **Unprecedented growth**

Over the past 16 years, we have expanded from a tiny staff to well over 100 people and are now represented by professional audio distributors and dealers in more than 40 countries around the world. During the past five years alone, we have experienced an average annual growth of 25 percent, and continue development through innovation and attention to detail that's unmatched in the industry. In 2007, we were presented with the prestigious King Frederik IX's award for outstanding contribution to Danish export.

### **No shortcuts or compromises**

The reason for our success is simple: DPA's ultimate goal is to provide you—whether you're in live sound, recording, theater or broadcast—with the absolute finest possible microphone solutions for your tasks. We take no shortcuts in our design processes nor make any compromises in our manufacturing, which is all done in Denmark. As a result, our products are globally praised for their exceptional clarity and transparency, superb specifications, supreme reliability and, above all, pure, uncolored and undistorted sound.

### **Surround yourself with DPA**

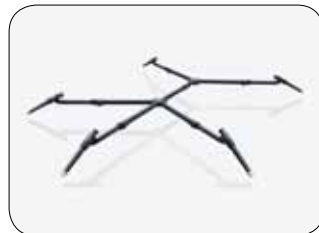
Those enviable qualities, are carried over into our range of products and accessories for surround sound applications. Regardless of whether you are a longtime DPA user or potential new customer, we thank you for your interest in our products and look forward to delighting you beyond your sonic expectations.

### **Five-year warranty**

DPA Microphones has now made its already exceptional customer support program even better. DPA's typical two-year warranty on all microphones is extended for Standard and Compact microphones to an unprecedented five years, free of charge!



Professional microphone solutions for any need



Handcrafted in Denmark

## **DPA 5100 Mobile Surround Microphone**

The DPA 5100 is an exciting mobile surround microphone whose compact size and ease of use are achieved with no sacrifice to its stunning sound quality. Ideal for bringing a truly enveloping surround experience to HDTV production, with no additional signal processing required. The versatile 5100 can be mounted, flown, or simply handheld via a hand grip. It is equally suitable for studio as for location recording. Extremely lightweight and portable, the unit sports a robust build quality that is also highly resistant to inclement weather conditions.

### **Perfect performance**

A completely self-contained plug-and-play solution for 5.1 audio capture, the 5100 employs five miniature pressure transducers that exhibit low susceptibility to wind and mechanical noise, low distortion, highly consistent low frequency response and enormous dynamic range. Appropriate channel separation and directionality are achieved through a combination of DPA's proprietary DiPMic™ (Directional Pressure Microphone) technology, which mounts interference tubes on the L/C/R capsules, and the use of acoustic baffles that further preserve the directional accuracy of the discrete analog output channels.

### **Front to rear**

The 5100's three front microphones are time coincident to eliminate comb filtering and ensure paramount frequency consistency when downmixing to stereo or mono. In contrast, the rear microphones, which feature standard omnidirectional capsules are optimally spaced from each other and the front array to capture the most natural time arrival differences. The LFE (.1) channel is comprised from a L/R sum, which is then attenuated 10 dB in comparison with the signal from the main channels, this in accordance with the 5.1 format specification.

### **Absolute immersion**

The end result of DPA's innovative design approach is a surround experience that is clear, dynamic and fully enveloping, exemplary in its coherence, channel separation and localization accuracy.

### **The right path**

The 5.1 output of the 5100 runs through a multi-pin Lemo connector that carries all six electronically balanced channels, while the supplied five-meter (16 ft), Mogami cable breaks out to six gold plated Neutrik XLR-M connectors.



### DPA 5100 Key Features

- Plug-and-play solution
- Clear, dynamic, and fully enveloping sound experience
- Lightweight and portable
- Discrete 5.1 analog output – no processing needed

# **DPA 5100 Mobile Surround Microphone**

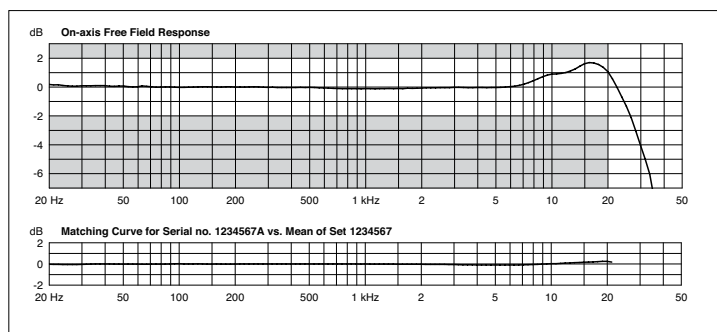
Shown with the supplied OC5100 Outdoor Cover





## Matched Surround Microphone Kits

The ultimate goal of a five-channel microphone array is to foster a palpable sense of reality by capturing the entire sound field of an environment, not simply presenting direct sound sources in the front channels and reverb in the surrounds. To do so, one must employ exceptional microphones with a highly neutral and transparent character, and authentic reproduction - mics that have extended dynamic and frequency ranges to accommodate today's high-resolution digital formats. The symmetry and precise matching of more than two microphones is also crucial when recording surround acoustics, separating an average production from a true masterpiece. Each of DPA's three Surround Kits exceeds these requirements on all counts. The matching process is substantiated with a Matching Curve, showing the deviation in frequency response for each specific microphone to a mean-of-set curve, proving that all omni microphones are within  $\pm 0.5$  dB in frequency response and sensitivity. Read more on [www.dpamicrophones.com/surround](http://www.dpamicrophones.com/surround)



### Classic sound improved

The 5006 Surround Kit features five matched 4006-TL, omnidirectional microphones plus five L50B acoustic pressure equalizers, which perfectly replicate the highly desired vintage sound of the early Decca recordings, but with dramatically improved clarity. Designed for spaced omni configurations, this kit captures exceptional tonality, full frequency response in all channels, and a truly remarkable sensation of envelopment.

### Ultra-natural reproduction

The 5006-II Surround Kit is equipped with three matched 4006-TL omni microphones, three L50B acoustic pressure equalizers, two matched 4011-TL cardioid microphones, and two UA0898 shock mounts. Intended for use in omni Decca Tree setups with rear-facing cardioids for surrounds, this kit delivers vivid dynamics and clarity, extremely uncolored reproduction, and relatively little direct sound in the rear channels, preventing the front sound sources from emanating from behind.

### Widen your audio perspective

The 5015 Surround Kit is comprised of five matched 4015-TL wide cardioid microphones and five UA0898 shockmounts. Perfectly suited for Wide Cardioid Surround Array (WCSA) applications, this kit delivers a very stable front image, excellent localization accuracy, and an intense, dynamic, and enveloping sound experience.



DPA 5006



DPA 5006-11



DPA 5015



### DPA 5006/5006-11/5015 Key Features

- Five precisely matched microphones
- Dedicated accessories for each kit
- Three ready to go kit solutions
- Fits the S5 Surround Mount

### **Decca Tree (D3)/Surround Mount (S5)**

The DPA Decca Tree (D3) and Surround Mount (S5) are highly versatile and stylish microphone mounts that allow for two, three, or five microphones. The unique building block design of the D3 and S5 mounts provides extreme flexibility to offer numerous configurations, while an integrated custom length cable option contributes to the product's visual elegance.

### **Unobtrusive and uncompromising**

On location, the mount is barely visible, being completely non reflective. The mount is equally suitable for fixed installations and mobile setups and can be neatly packed away into the supplied briefcase for easy transportation. Compact and extremely lightweight, the DPA mount is also very strong and stable.

### **Plays well with others**

Although the array is optimized for use with DPA microphones, the standard 5/8" thread can accommodate all microphone holders, allowing a wide variety of surround microphone arrays to be set up. In the Decca Tree configuration, all three microphones can be spaced 60 – 210 cm (2 – 7 ft) apart, either in a straight line, in a normal Decca Tree T-shape, or in an equilateral triangle with a centralized mounting thread for optimum balance.

### **Limitless applications**

The modularity of the S5 really comes into its own when configuring surround arrays. Standard formations, like spaced omnis, as well as a Decca Tree with front-mounted omnis and backward-facing cardioids are obvious, while arrays such as the OCT2, Hamasaki Square, Fukada Tree, and the DPA Wide Cardioid Surround Array are also possible using the S5. Its elegantly unobtrusive design, ability to recreate any array accurately, and limitless possibility for expansion make the S5 an outstanding choice.

### **Clutter-free precision**

The mounts come with a measuring tape and the unique DPA protractor, making precise distance and angle measurements possible without having large or unsightly devices permanently fixed on the booms.



### **D3 Decca Tree & S5 Surround Mount Key Features**

- Flexible, lightweight, and unobtrusive
- Accommodates DPA surround microphone kits
- Integrated cable option enhances elegant appearance
- Configures to all standard miking arrays

## **Microphone accessories**

The DPA microphone accessory lineup has continued to progress from the initial offering of its 1992 catalog, which consisted of one shock mount and a stereo boom. Today, there are over 150 microphone accessory products available, giving musicians and engineers the tools needed to determine where and how they use their microphones.

## **Solutions for any task**

Whether you spend most of your time in the studio, on the stage, or in the field, DPA is constantly developing new microphone accessory solutions to best meet your needs. Our current lineup includes a wide variety of stands, mounts, clips, cables, adapters, converters, headbands, holders, windshields, acoustic modification devices (acoustic pressure equalizers and interchangeable grids), power supplies, and amplifiers to complement our microphones. Many of these accessories are conveniently bundled with microphones that encompass the entire DPA range to provide practical yet elegant solutions in convenient kit form.

## **Quality across the board**

Here at DPA, we approach the design of our microphone accessories in much the same way as we do our microphones: by crafting products that represent a stellar combination of flexibility, durability, and elegance in both form and function. This philosophy extends itself into all aspects of our microphone accessories, even down to the finish, which is designed to seamlessly blend with our microphones.

## **Something for everyone**

So whether you require a tiny clip for a miniature lapel microphone or a large multi-microphone mount for stunning surround sound capture, be assured that DPA has exactly what you need in its broad inventory of microphone accessories to make your miking tasks easier, better, and more enjoyable.

Read more about our lineup of microphone accessories on [www.dpamicrophones.com](http://www.dpamicrophones.com).

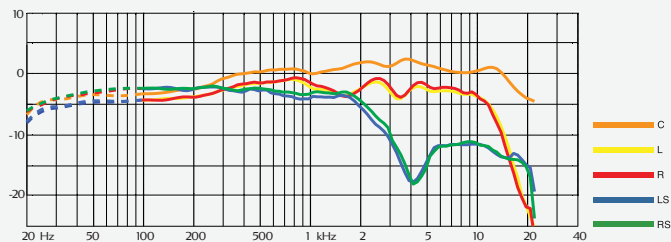


# Specifications for DPA 5100

| CRITERIA   | LEFT, CENTER & RIGHT  | LEFT SURROUND & RIGHT SURROUND   | LFE                               | UNIT                                    |
|--|---|--|-----------------------------------|---|
| Directional characteristics                              | Directional   | Directional  |                                   | 3 / 2 / 1                               |
| Principle of operation                                   | DIPMic <sup>®</sup> (Pressure, with interference tube) and separation baffles | Pressure, with separation baffles                                      | Electronically derived from L + R |   |
| Cartridge type   | Pre-polarized condenser element   | Pre-polarized condenser element  |                                   |   |
| Frequency range  | 20 Hz - 20 kHz<br>200 Hz-16 kHz (±3 dB)                                       | 20 Hz - 20 kHz<br>100 Hz-12 kHz (±3 dB)                                | 20 Hz - 120 kHz (±3 dB)           |   |
| Sensitivity, nominal ±3 dB at 1 kHz                      | 26 mV/Pa  | 28 mV/Pa   |                                   |   |
| Equivalent noise level, A-weighted                       | Typ. 18 dB(A) (max 21 dB(A))  | Typ. 20 dB(A) (max 23 dB(A))   |                                   |   |
| S/N ratio (A-weighted), re. 1 kHz at 1 Pa (94 dB SPL)    | Typ. 76 dB(A)   | Typ. 74 dB(A)  |                                   |   |
| Total Harmonic Distortion (THD)                          | <1% up to 123 dB  | <1% up to 123 dB   |                                   |   |
| Dynamic range  | 103 dB  | 103 dB   | 100 dB                            |   |
| Max SPL, peak before clipping                            | 132 dB  | 132 dB   |                                   |   |
| Output impedance   | 50 Ohm  | 50 Ohm   | 50 Ohm                            |   |
| Cable drive capability                                   | 100 m (328 ft)  | 100 m (328 ft)   | 100 m (328 ft)                    |   |
| Output balance principle                                 |   |  |                                   | Active signal balanced                  |
| Common Mode Rejection Ratio (CMRR)                       | 60 dB, 50 Hz - 20 kHz   | 60 dB, 50 Hz - 20 kHz  | 60 dB, 50 Hz - 20 kHz             |   |
| Power supply   |   |  |                                   | Phantom power P48                       |
| Current consumption                                      | Typ. 5 mA (max. 5.5 mA)   | Typ. 5 mA (max. 5.5 mA)  | Typ. 5 mA (max. 5.5 mA)           |   |
| Connector  |   |  |                                   | Lemo multipin                           |
| Color  |   |  |                                   | Black                                   |
| Dimensions   |   |  |                                   |   |
| Weight   |   |  |                                   | 530 g (18.7 oz)                         |
| [LxWxH]  |   |  |                                   | 195/240/140 mm (7.7/9.4/5.5 in)         |
| Capsule diameter   | 5.4 mm (0.2 in)   | 5.4 mm (0.2 in)  |                                   |   |
| Cable (length/color/diameter/connector)                  |   |  |                                   | 5 m (16.4 ft)/black/9.3 mm (0.4 in)/XLR |
| Maximum output voltage                                   | 1.8 Vrms/2.5 Vpeak  | 1.8 Vrms/2.5 Vpeak   | 1 Vrms/1.4 Vpeak                  |   |
| Polarity   | Positive  | Positive   | Positive                          |   |
| For L/R og LS/RS   |   |  |                                   |   |
| Matching front/back (frequency response and sensitivity) | All 3 microphones are factory selected to the unit typical within 1 dB.       | Both microphones are factory selected to the unit typical within 1 dB. |                                   |   |

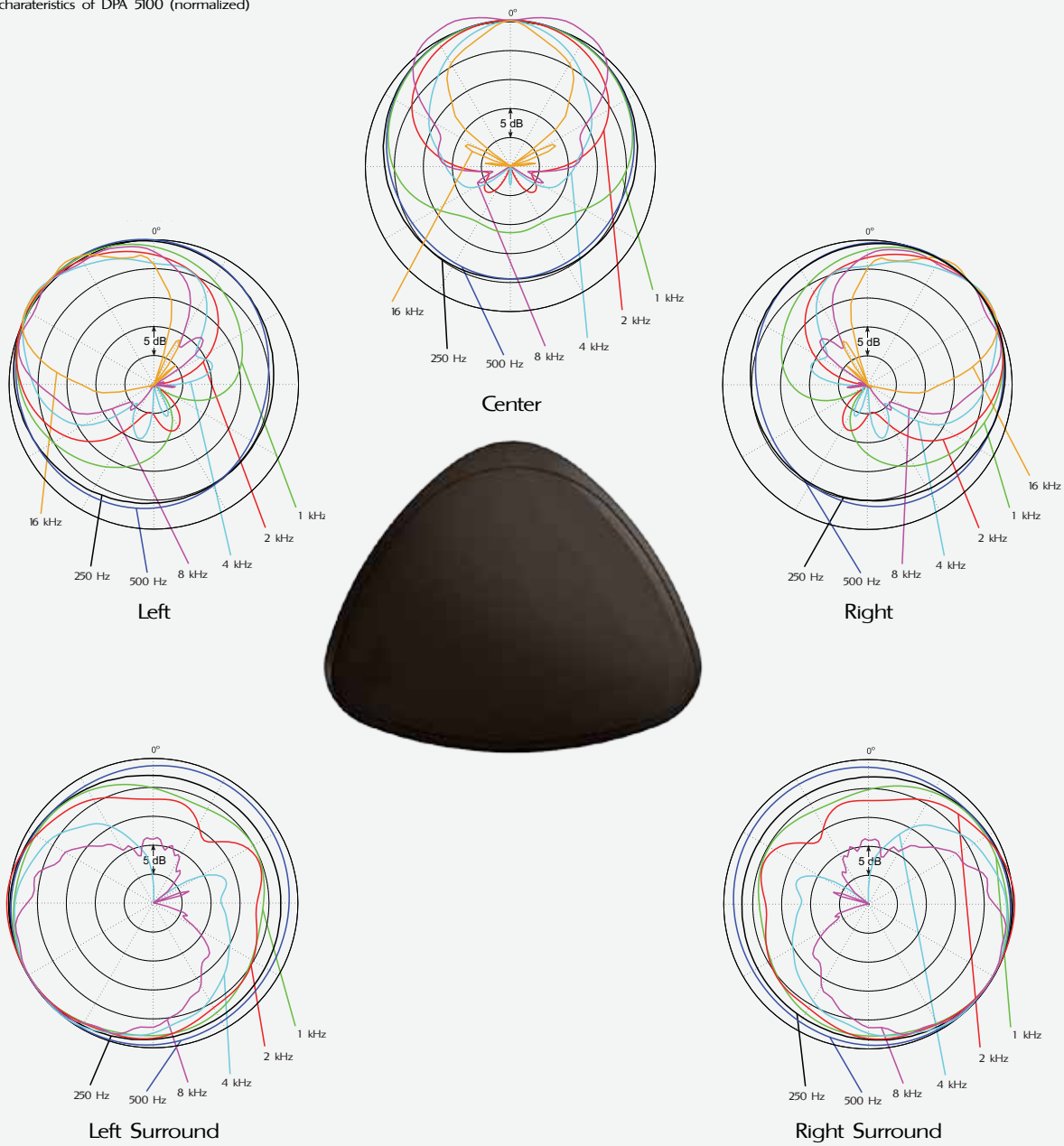
## Frequency response

Typical frequency response of DPA 5100 at 0 degrees

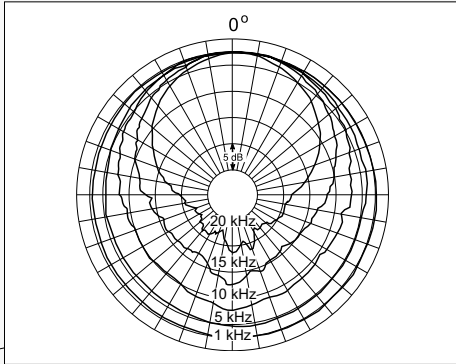


## Polar patterns

Typical directional characteristics of DPA 5100 (normalized)

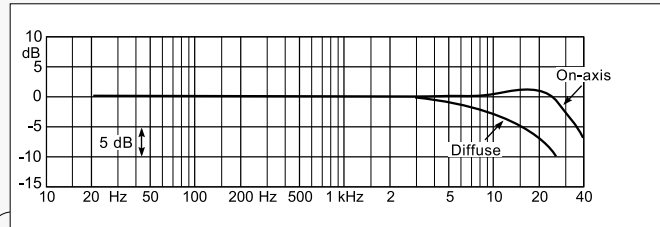


# Specifications for DPA 4006-TL



## Polar pattern

Directional characteristics of the 4006-TL with Free-field Grid DD0251 fitted (normalised).



## Frequency response

On-axis and diffuse-field responses of 4006-TL with Free-field Grid DD0251 fitted.

## Directional characteristics

Omnidirectional

## Principle of operation

Pressure

## Cartridge type

16 mm (0.63 in) pre-polarized condenser

## Frequency range, $\pm 2$ dB

15 Hz - 20 kHz

## Sensitivity, nominal, $\pm 2$ dB (at 250 Hz)

35 mV/Pa; -29 dB re. 1 V/Pa

## Equivalent noise level A-weighted

Typ. 15 dB(A) re. 20  $\mu$ Pa (max. 17 dB(A))

## Equiv. noise level ITU-R B5.468-4

Typ. 27 dB (max. 29 dB)

## S/N ratio, re. 1 kHz at 1 Pa (94 dB SPL)

79 dB

## Total Harmonic Distortion (THD)

<0.5% THD up to 129 dB SPL peak

<1% THD up to 135 dB SPL peak

## Dynamic Range

Typ. 120 dB

## Max. SPL, peak before clipping

143 dB

## Output impedance

<200 Ohm

## Cable drive capability

Up to 100 m (328 ft)

## Power supply

Phantom P48

## Current consumption

260 mA

## Operating temperature range

-10 to +70° C (+14 to 158° F)

## Connector

3-pin XLR-M (Standard P48)

## Dimensions

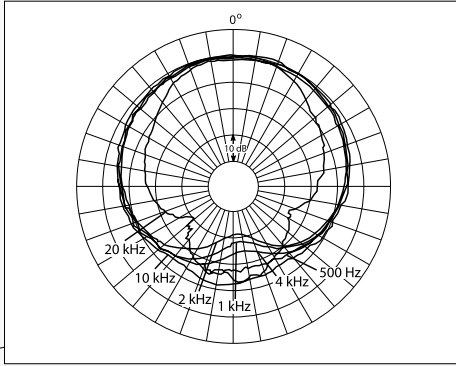
Weight 150 g (5.29 oz)

Diameter 16 mm (0.63 in)

Length 165 mm (6.5 in)

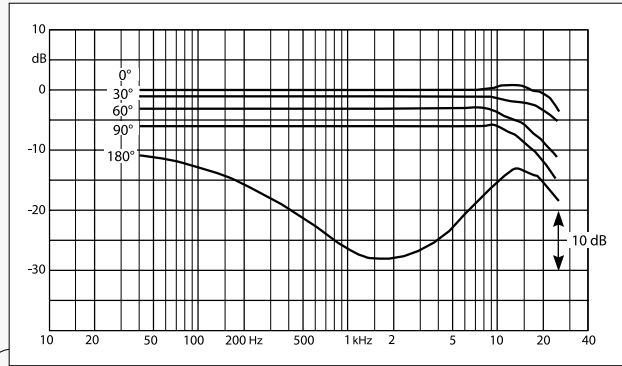


# Specifications for DPA 4011-TL



## Polar pattern

Directional characteristics of 4011-TL (normalized).



## Frequency response

On- and off-axis responses of 4011-TL measured at 30 cm (11.8 in).

## Directional characteristics

Cardioid

## Principle of operation

Pressure gradient

## Cartridge type

19 mm (0.75 in) pre-polarized condenser

## Frequency range, $\pm 2$ dB

40 Hz - 20 kHz

## Sensitivity, nominal, $\pm 2$ dB (at 1 kHz)

10 mV/Pa; -40 dB re. 1 V/Pa

## Equivalent noise level, A-weighted

Typ. 19 dB(A) re. 20  $\mu$ Pa

## Equivalent noise level ITU-R BS.468-4

Typ. 25 dB

## S/N ratio (A-weighted), re. 1 kHz at 1 Pa (94 dB SPL)

75 dB(A)

## Total Harmonic Distortion (THD)

<0.5% up to 110 dB SPL peak

<1% up to 116 dB SPL peak

## Dynamic range

Typ. 97 dB

## Max. SPL, peak before clipping

158 dB

## Switchable attenuator

0 dB, -20 dB

## Output impedance

<200 Ohm

## Cable drive capability

Up to 100 m (328 ft)

## Power supply

48 V Phantom power

## Current consumption

260 mA

## Connector

3-pin XLR-M (Standard P48)

## Dimensions

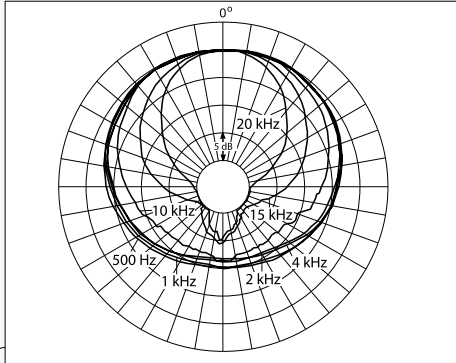
Weight: 165 g (5.82 oz)

Diameter: 19 mm (0.75 in)

Length: 175 mm (6.89 in)

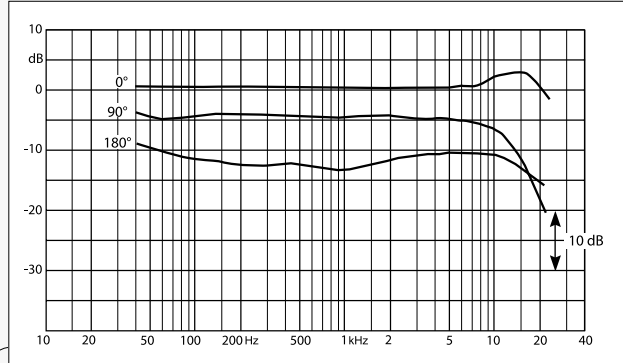


# Specifications for DPA 4015-TL



## Polar pattern

Directional characteristics of 4015-TL (normalized).



## Frequency response

On and off-axis responses of 4015-TL. Measured at 60 cm (236 in).

## Directional characteristics

Wide cardioid

## Principle of operation

Pressure gradient

## Cartridge type

19 mm (0.75 in) pre-polarized condenser

## Frequency range, $\pm 2$ dB

40 Hz – 20 kHz

## Sensitivity, nominal, $\pm 2$ dB (at 1 kHz)

10 mV/Pa; -40 dB re. 1 V/Pa

## Equivalent noise level, A-weighted

Typ. 19 dB(A) re. 20  $\mu$ Pa

## Equivalent noise level ITU-R BS.468-4

Typ. 25 dB

## S/N ratio (A-weighted), re. 1 kHz at 1 Pa (94 dB SPL)

75 dB(A)

## Total Harmonic Distortion (THD)

<0.5% up to 110 dB SPL peak

<1% up to 116 dB SPL peak

## Dynamic range

Typ. 97 dB

## Max. SPL, peak before clipping

158 dB

## Switchable attenuator

0 dB, -20 dB

## Output impedance

<200 Ohm

## Cable drive capability

Up to 100 m (328 ft)

## Power supply

48 V Phantom power

## Current consumption

260 mA

## Connector

3-pin XLR-M (Standard P48)

## Dimensions

Weight: 165 g (5.82 oz)

Diameter: 19 mm (0.75 in)

Length: 175 mm (6.89 in)







## DPA Microphones

From recording and broadcast environments to theatres and concert halls, the paramount objective at DPA remains the same: to provide you with the absolute finest possible micro-phone solutions for your needs. As a result, our products are internationally recognized for their exceptional clarity and transparency, superb specifications, superb reliability and above all, the pure, uncolored and undistorted sound.





**DPA**   
MICROPHONES









**DPA**  
MICROPHONES

**Headquarters:**

DPA Microphones A/S  
Gydevang 42-44  
DK-3450 Allerød, Denmark  
Tel: +45 4814 2828  
Fax: +45 4814 2700  
info@dpamicrophones.com  
www.dpamicrophones.com

**US Sales Office:**

DPA Microphones, Inc.  
2432 N. Main St., Suite 200  
Longmont, CO 80501, USA  
Tel: +1 303-485-1025  
Fax: +1 303-485-6470  
info-usa@dpamicrophones.com  
www.dpamicrophones.com

