

## USER'S MANUAL

### Cardioid Headband 4088

Type **4088**



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## INTRODUCTION

To ensure optimal performance of your 4088, please follow the simple instructions of care, maintenance, and mounting below. The Cardioid Headband 4088 from DPA is designed to be very resistant to humidity, moisture and sweat. Highly resistant materials are used in construction of the microphones, to avoid damage by hostile fluids. In any case, it is still a good idea to keep the 4088 microphone away from any kind of cleaning, unnecessary exposure to water and cleaning fluids, and to keep the microphone element dry at all times.



## PLACEMENT

In general, to ensure the optimal sound of the 4088, it must be mounted at about 2-3 cm (1 inch) from the corner of the mouth. Correct placement ensures that you avoid air noises from the nose and mouth from being captured by the micro-

phone. Avoid any contact with beards or moustaches. Please note that the 4088 is not designed for placement directly in front of the mouth. The sound timbre and pressure is as good at the corner of the mouth as it is directly in front of it. See the pictures below.



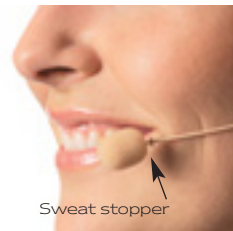
Correct placement of microphone at corner of mouth.



Correct placement of microphone at corner of mouth

## CLEANING GUIDE

When mounting the 4088 on a performer, care should be taken to avoid sweat from running directly into the microphone. If the microphone gets filled up with water or sweat it will possibly turn deaf while the water is captured inside the microphone, behind the fixed protection grid.



Sweat stopper to hinder sweat reaching the capsule by running down the boom.

## Care of the microphone element

The microphone diaphragm is protected inside the microphone housing and there is no access to the diaphragm. It is well protected from dust build-up and no attempt should be made to remove the protection grids to clean the diaphragm. The protection grids are not removable, therefore no attempt should be made to clean the grid surface and extreme care should be taken not to clog the grids with make-up or other such substances.

If water or sweat has entered the microphone element, remove it by shaking the microphone gently. When it is left to dry out it will recover to its original specifications. Drying out the 4088 between exposures to humidity will also help to extend its lifetime. Do not use any kind of cleaning fluid. Use of ultra-sonic baths must be avoided. Avoid all kinds of spray or fluids, which contain chemical components to remove static electricity on or close to the microphone as this could cause damage to the electret layer.

## Cleaning the microphone cable

Residue from tape, glue or make-up on the cable must be removed after use. Leaving these substances on the cable over longer periods of time may etch into the cable jacket and will make the cable more susceptible to breaks. The cable can easily be cleaned using organic oil (e.g. olive oil) or lukewarm, distilled water. Do not bend the cable or rub it harshly since this may stress the inner cores of the cable and cause them to break over time.

## CORRECT USE OF THE CARDIOD HEADBAND 4088

It is important to observe the following guidelines concerning the daily use of the microphone.

### Correct treatment of the microphone element

The diaphragm in the microphone element is the most sensitive part of the unit and as emphasized earlier, it must be left untouched to preserve its original characteristics. Do not spray any substances such as hair spray directly into the microphone and avoid getting make-up or paint on the microphone element and housing.

### Correct treatment of the microphone cable

The cable is usually longer than required for its actual purpose. Ensure that superfluous cable is wound up in soft loops (preferably 6-8 cm in diameter). Avoid 'kinks' in the cable. Exposing the cable to stretching beyond its specifications or stressing it by winding it tightly over sharp edges will reduce the microphone's operational life.

**Tip: The place where the cable enters the MicroDot connector will sometimes be exposed to excessive stress and after long term heavy-duty use, the cable might show signs of wear at this point. As a preventive maintenance procedure, it may be advisable to replace the con-**

**ductor in this instance. Contact the nearest DPA Microphones representative for maintenance advice or assistance.**



Correct way to wind up the cable of the Miniature Microphone. Please note the slack after the connector.

## Correct use of adapters and MicroDot connectors

To provide users with safe and compact mounting of connectors, all Miniature Microphones from DPA are fitted with the MicroDot connector as standard. A broad range of connection adapters is offered as optional accessories for most VHF and UHF systems for professional use. The adapters are ultra-compact and will in most cases take up no more space than the original connectors.

A connector tightening tool is supplied with each adapter and should be employed whenever the MicroDot connector needs to be tightened safely onto the adapter for long periods of time. Tighten the MicroDot until the cable can no longer be turned at the cable relief. Never attempt to loosen or tighten the connector by the cable or its strain relief! Despite the use of Kevlar®, the cable might be damaged if twisted with excessive force. Tighten the MicroDot using finger torque or the recommended tightening tool only. Do not use glue.



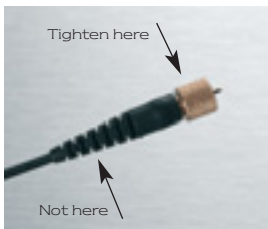
A connector tightening tool is supplied with each adapter



A connector tightening tool is supplied with each adapter and is to be turned clockwise.

Do not mount any other connector onto

the cable than the standard MicroDot connector from DPA Microphones. The DPA MicroDot connector is specially designed for use with the Kevlar® reinforced cable, ensuring the maximum possible tensile strength in the design. In case of failure, MicroDot spare parts tool, and assembly tool and assembly guide can be acquired. Various wireless systems require the use of electronic components inside the adapter to optimise the signal level, the DC-offset filtering and powering of the built-in microphone preamplifier. Using the adapters from DPA Microphones ensures the correct electronic circuit with the listed types of wireless systems at all times. Do not attempt to employ non-standard adapters or connectors as you might damage the microphone preamplifier.



MicroDot connector

### Adjusting the 4088 headband

The headband mount is telescopic and is easily adjusted to fit almost any headsize. The mount can also be widened by carefully expanding the distance between the ear hooks.

The 4088 headband is supplied with the boom mounted. To change sides simply click the boom out of the clips and follow the instructions below.



· Hold the boom in your right hand when mounting on the right side and vice versa. Hold the boom by the cable relief.



· Position your hand with the boom between the ear hooks and turn the boom around in the loop. Take your hand with the boom under the headband and draw it towards you.



· Secure the microphone boom into the two clips next to the ear hook beneath which the boom is to be mounted. Next, secure the boom in the clip in the middle of the headband. This clip is movable and should be placed near the end of the microphone boom, before the cable relief (where the

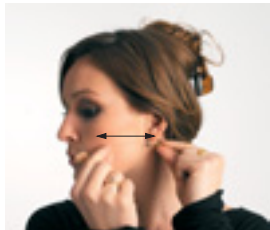
soft cable begins to be visible). The remaining two clips are not used (unless two booms are to be mounted on the same headband).



**The soft cable must not be attached into the clips. The clips are sharp and you will risk damaging the cable.**



Take up the 4088 and adjust the size of the headband so that it fits the size of your head: Start with mounting an oversized headband and use both hands simultaneously, holding your index fingers on the back of the headband while pushing in the ear hook parts inwards with your thumbs. The ear hooks are also adjustable.



If you want the position of the microphone boom to be altered at this point, adjustments are still possible, simply by drawing the boom while holding a firm grip with the other hand on the headband. Do not bend by holding on to the capsule itself. Instead, bend the wire boom, making a smooth curve with your thumb, to best fit the profile of the face at the corner of your mouth.



Correctly mounted 4088 →

## SPECIFICATIONS

Directional characteristics:  
Cardioid

Cartridge type:  
Pre-polarized condenser element with vertical diaphragm

Principle of operation:  
Pressure gradient

Power supply:  
Min 5V - max 50V through the adapter system from DPA Microphones

Frequency range:  
20Hz - 20kHz ( $\pm 2$ dB between 500 Hz and 20 kHz; 4.6 dB soft boost at 15 kHz)

Sensitivity ( $\pm 3$ dB at 1 kHz):  
Nominally 6 mV/Pa

Equivalent noise level A-weighted:  
Typ. 26dB(A) re. 20 $\mu$ Pa  
(max.28dB(A))

Equivalent noise level ITU-R BS. 468-4:  
Typ. 38dB (max. 40dB)

Max SPL:  
144 dB SPL peak before clipping

Total Harmonic Distortion:  
123dB SPL peak (<1% THD)  
120dB SPL RMS sine (<1%THD)

Polarity:  
Positive going sound pressure produces positive going voltage on MicroDot pin.

Operating temperature range:  
-10 to 45°C (+14 to 113°F)

Output impedance:  
30-40 Ohm

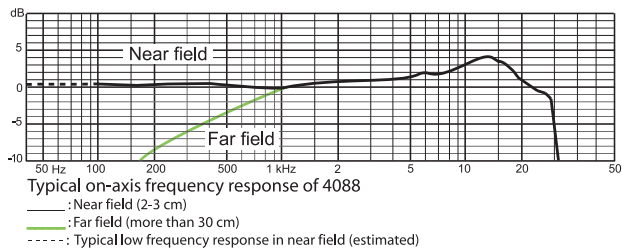
Cable drive capability:  
Up to 300m (984ft)

Microphone length: 11mm (0.5in)

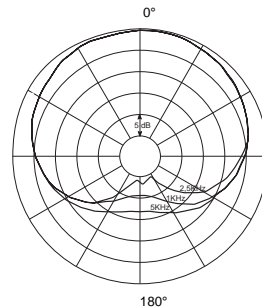
Microphone diameter: 5.5mm (0.25in)

Weight: 14g (0.49oz) ncl. cable, windscreen, and MicroDot connector

Finish: Black or beige



Typical on-axis frequency response of Cardioid Headband 4088



## ACCESSORIES AVAILABLE

### Miniature Windscreens

- DUA0560** 5pcs, Black
- DUA0561** 5pcs, Red
- DUA0562** 5pcs, Blue
- DUA0563** 5pcs, Yellow
- DUA0564** 5pcs, Green
- DUA0566** 5pcs, White
- DUA0567** 5pcs, Beige
- DUA0570** 7pcs, Colour Mix

### Connection Adapters

- DAD3050** TOA WM360/4310 (for low DC Microphones)
- DAD3051** Ramsa WX-RP410 (for low DC Microphones)
- DAD3050** AKG PT40 (for low DC Microphones)
- DAD6001** MicroDot to 3-pin XLR (P48)
- DAD6001-BC** MicroDot to 3-pin XLR (P48) w. Belt Clip
- DAD6002** Sennheiser BF1083-U/BF1053-U
- DAD6003** Sennheiser SK50/SK250/SK3063
- DAD6004** Audio Ltd. Tx 2000/Tx 2020
- DAD6006** Beyerdynamic TS42/TS85/TS190/TS900
- DAD6007** AKG PT 300
- DAD6008** Sony WRT820/WRT860
- DAD6009** Samson CT-2/TX-3/UT4/UT5/UT6
- DAD6010** Shure U1/UT1/SC1,TOA WM4300
- DAD6011** Vega T-66/T-677,Shure U1L
- DAD6012** Lectrosonics M185
- DAD6013** Micron TX501.x/TX502.x
- DAD6014** Pastega TMA16/TMU20 (2 wire preset)

- DAD6015** Vega T-37
- DAD6017** AKG PT 40/60/80/81, Samson UT1L/ VT2L
- DAD6018** Pastega TMA16/TMU20 (3 wire preset)
- DAD6019** Sony Freedom WRT805, Sennheiser Evolution Series
- DAD6020** Postar, Telex UHFUB12
- DAD6021** AT ATW-T101 (System U100), Lectrosonics UHF systems for low SPL
- DAD6022** Audio-Technica,ATWT51 (1400Series)
- DAD6024** MicroDot to 3-pin XLR (P48) w. Mid Range Attenuation
- DAD6025** Micron TX700
- DAD6026** Beyerdynamic TS500/600, Trantec
- DAD6027** Beyerdynamic OPUS 100-200
- DAD6028** Audio-Technica ATWT75 (7000 Series)
- DAD6030** Electro-Voice CSB-1000 (RE1) TELEX
- DAD6032** Beyerdynamic TS800, Mipro ACT707T/TE/TM/TS/MT103/303/801/808

### Miniature Power Supplies

- MPS6001** 1-channel, 3-pin XLR
- MPS6010** 2-channel, 3-pin XLR
- MPS6020** 2-channel, Phono
- MPS6030** 2-channel, Mini-Jack
- MPS6040** 2-channel, 1/4 in. Jack

### Extension Cables

- DAO6005** 3.5m
- DAO6010** 10m
- DAO6020** 20m

### Parts for 4088 headband

- AHM6000** Adjustable Headband Mount, Beige
- AHM6001** Adjustable Headband Mount, Black
- MMB4088-B** Boom for Cardioid Headband, Black
- MMB4088-F** Boom for Cardioid Headband, Beige

### Miniature Microphone Amplifier

#### MMA6000

### Microphone Summation System

#### MSS6000

### Miscellaneous

- DQA0035** Tool for MicroDot
- DUA6010** Sweat Stopper, Beige, 10pcs.
- DUA6011** Sweat Stopper, Black, 10pcs.
- DUA6015** Clips for AHM6000, Beige, 5pcs.
- DUA6016** Clips for AHM 6001, Black, 5pcs.



## SERVICE & REPAIR

Products from DPA Microphones are extremely stable, and there should not be any significant change in the specifications with time and use. If, however, you are not totally satisfied with the characteristics exhibited by these products, contact your nearest DPA Microphones representative for further details of service and the repair facilities that are available.

DPA Microphones has a maximum seven working days in-house service policy, usually ensuring that no more than seven working days will elapse from the day we receive the item for service to the day we are ready to return it to you. Please contact DPA Microphones for your nearest representative on

**TEL: + 45 48 14 28 28**  
**FAX: + 45 48 14 27 00**

You can also get in touch with DPA Microphones at:

**info@dpamicrophones.com**  
or visit our website at  
**www.dpamicrophones.com**

## WARRANTY

All products from DPA Microphones are covered by a two-year limited warranty on both mechanical functionality and documented specifications as long as the items are not mistreated, abused or modified in any way. In case of a warranty claim your invoice is your warranty registration.

## CE STANDARD

The CE-mark guarantees all products conform with relevant standards approved by the European Community. The products described in this User's Manual comply with current relevant standards when used with cables from DPA Microphones. EMC Directive: 89/336/EEC, amended by 92/31/EEC and 93/68/EEC Low Voltage Directive: 73/23/EEC, amended by 93/68/EEC.



Available Through CP Communications - [www.cpcomms.com](http://www.cpcomms.com)

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Product features and specifications are subject to change without notice.



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