

DPA 4099 Guitar Microphone

DPA is a name that is synonymous with most audio professionals. The company's origins date back to the 1950s, with the original company Brüel & Kjær designing some of the first reference microphones available. Are they still setting the standard with their new acoustic guitar mic?

Brüel & Kjær set the audio benchmark that audiophiles and engineers now continue to use in order to set up studio and loudspeaker acoustics using these 'flat response' microphones as a reference. With DPA taking over from B&K in 1992 they took with them many years experience and knowledge, continuing to produce a highly respected and varied range of products. One area that DPA have paid particular attention to is the design of smaller capsule and miniature microphones.

Supplied in a tough and durable rubberised case (with zip-up soft bag also included) are: microphone, windshield, cable (including low-pass filter), guitar mounting system which includes a rubber-

nosed clip and gooseneck for positioning the microphone at a suitable point on the body of the guitar. The DPA 4099 is a supercardioid 48-volt powered condenser-type microphone suitable for amplifying acoustic guitar, saxophone or trumpet. Its supercardioid design allows for superior gain before feedback. In layman's terms, the 4099 has a tailored directional pickup rejecting signals that arrive at the rear and side of the microphone making it more suitable for stage use. The 4099 comes with a cable and MicroDot connector to plug into the DAD4099 XLR connector, which comes complete with a low-cut filter. Mild attenuation of the low frequencies helps reduce boom and low-frequency rumble and



both the pickup and microphone signals to be fed via one cable.

The sound produced by the 4099 is as I would expect: clear, noise-free, natural and fully representative of the instrument. Depending on the instrument, your style and the microphone position, a small degree of low-frequency attenuation may be helpful. This is typical for closely mic'd acoustic guitar and will ultimately reduce low-frequency rumble and feedback. I was also impressed by the degree I could crank the 4099 before feedback was apparent. When compared to other condenser microphones it performed very well indeed. All in all, a beautiful, natural and high-quality open sound was achieved.

DPA are clearly a company who take great pride in designing and manufacturing their products, as is evident from the 4099 microphone system sound and build quality. The simple yet efficient design of the 4099 system offers musicians a no-compromise means of expressing their own unique tone and sound on stage and in the recording studio. If you are searching for ultimate reality in the sound of your amplified acoustic instrument, the DPA 4099 may just be the answer. Whether fitted to a mandolin, bouzouki, mandocello or just about any acoustic guitar, the resulting sound is full, detailed and, more importantly, an honest representation of the natural sound of the instrument. What more could any musician ask for? The DPA 4099 is in my opinion the best clip microphone system for acoustic guitar currently available, and it will be hard to beat by any measure.

Mark Tucker

feedback.

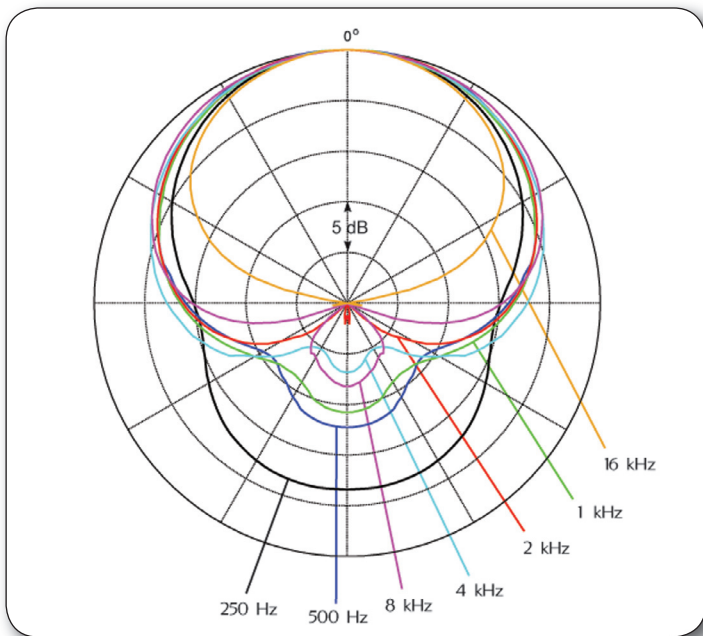
The clip mounts easily to any guitar including my deep-bodied 12-string. This (as DPA claim) can be done (with a little practice) with one hand. The rubber noses on the clip offer excellent grip without marking your beloved instrument, and left me feeling confident that with reasonable usage it would not fail. The cable from the 4099 has a clip in order to fix it to your belt or similar and can successfully be used with wireless transmitter systems, allowing unhindered mobility. I found the best position to be the lower upper shoulder of the guitar but, depending on your strumming style, the upper shoulder would produce good sounding results; nonetheless it could be more prone to being knocked. DPA offer an optional DAO4099-G Guitar Double Cable which allows

DPA 4099 GUITAR CLIP MICROPHONE

STAGES, PA AND MONITORING SYSTEMS

There is little doubt that a microphone sounds more natural than most alternative electronic means of amplifying acoustic instruments. As most musicians have experienced at some time or other, usage of microphones as high-sound pressure levels on stages with PA systems and monitors can pose major issues with feedback. This is all highly dependent on the instrument you play, how loud you play, the type of venue you are playing and the type of monitoring you use. These simple rules of thumb apply in most situations: the nearer the speaker and the louder the microphone signal, the more likely feedback will occur. In-ear monitors will allow much higher levels of microphone signal, as will putting only the microphone signal through the PA and not feeding into the floor wedge/monitor.

Polar Pattern:



Directional characteristics of 4099 (normalized)



If you are searching for ultimate reality in the sound of your amplified acoustic instrument, the DPA 4099 may just be the answer

58 Acoustic April 2009



OPTIMUM CHOICE FOR A NATURAL SOUND WHEN PERFORMING LIVE

Some pickup systems allow a mix of transducer and internal microphone. In this situation the natural sound of the microphone is compromised by virtue of the microphone being inside the guitar. As a result the sound has to be radically tonally modified in order to create a more natural and acceptable sound.

DPA offer the most transparent solution in achieving a natural guitar sound whilst still allowing full mobility when performing live. Unlike other manufacturers of internal guitar microphone systems, the DPA 4099 is fitted externally to the instrument and as a result it sounds very natural. The DPA 4099 is reasonably discreet and can be fitted to just about any acoustic instrument. The 4099 will produce feedback if used at excessive levels, as will any microphone pushed to its limit. An ideal way of combining the natural sound of your instrument and maintaining control of your sound and feedback is to combine the DPA 4099 with a transducer, or acoustic pickup system. Typically the microphone signal is only used through the PA (front-of-house) system, with often just the pickup being used exclusively for monitoring purposes. This is not to say that a blend of each signal in a front-of-house PA can't also be very successful in achieving a combination of punch and natural tone. In-ear monitoring systems will allow more microphone signal level to be fed into your monitors than via traditional floor wedges or side fills before feedback occurs. It's really only in extreme circumstances that any engineer will use a microphone exclusively on an amplified acoustic guitar. In the studio the DPA 4099 also finds suitable applications, particularly in the case of the instrumentalist who just won't stand still, and the recorded tone changes during takes.

4099 GUITAR CLIP MICROPHONE

- Directional characteristics:** Supercardioid
- Principle of operation:** Pressure gradient
- Cartridge type:** Pre-polarized condenser
- Frequency range, ± 3 dB:** 6 mV/Pa; -44,5 dB re. 1 V/Pa
- Sensitivity, nominal, ± 3 dB:** 6 mV/Pa; -44,5 dB re. 1 V/Pa
- Equivalent noise level A-weighted:** Typ. 23 dB(A) re. 20 μ Pa (max. 26 dB(A))
- S/N ratio, re. 1 kHz at 1 Pa (94 dB SPL):** 71 dB
- Total harmonic distortion (THD):** <1 % up to 123 dB SPL peak, <1% up to 120 dB SPL RMS sine
- Dynamic range:** 100 dB
- Max. SPL, peak before clipping:** 142 dB
- Output impedance:** From MicroDot: 30 - 40 Ohm, from DAD4099: 50 Ohm
- Cable drive capability:** 30 m (98 ft) with DAD4099
- Power supply:** For wireless systems: Min. 5 V - max. 50 V through DPA adapter, with DAD4099: 48 V phantom power
- Power consumption:** 1.5 mA, 3.5 mA with DAD4099
- Connector:** MicroDot
- Colour:** Black
- Weight:** 36 g (1.27 oz)
- Microphone length:** 45 mm (1.8 in)
- Cable length:** 1.8 m (6 ft)
- Cable colour:** Black
- Operating temperature range:** -10 - +50°C (14 - 122°F)

Contact Details

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

United States
 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

What we think

- Pros:** A high-quality, thoughtfully designed and well-built product. Allows untainted expression to the acoustic musician. Great value
- Cons:** Not recommended for thrashers and rockers who play at high volume
- Overall:** Lovely. Great value for money at under £400 for a truly transparent sound

Acoustic rating out of five

BUILD QUALITY	★★★★
SOUND QUALITY	★★★★
VALUE FOR MONEY	★★★★