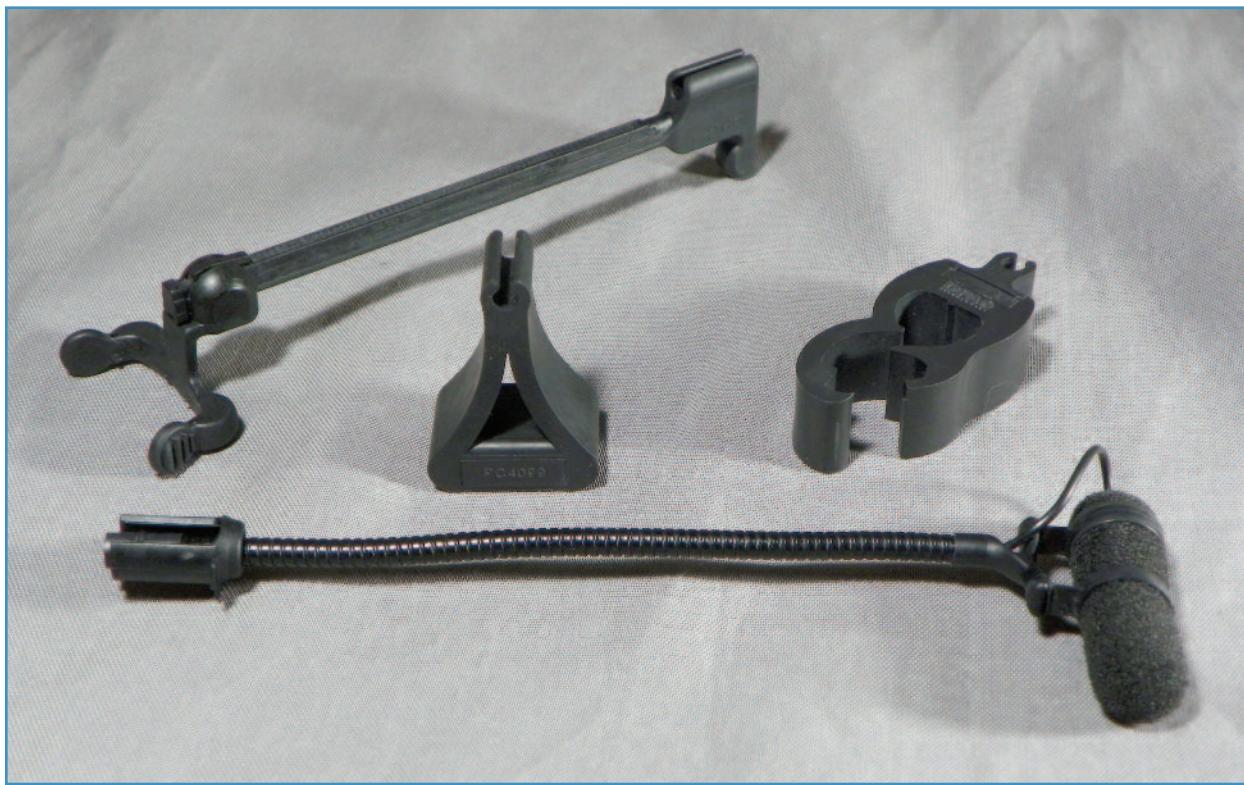


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DPA d:vote 4099 Instrument Microphone: 4099D, 4099G, and 4099P

By: Mark Johnson



The d:vote 4099 Instrument mic with DC4099 for drums, GC4099 for acoustic guitar, and tPC4099 for piano.

DPA Microphones has a rich heritage, with roots in the Danish test-and-measurement instrument manufacturer Brüel & Kjær. Commonly known in the industry as B&K, it offered a variety of vibration and acoustic measurement instruments. B&K had a reputation for making high-quality products. In the test-and-measurement business, precision and accuracy are what it's all about. Of necessity, B&K also manufactured a handful of microphones used by loudspeaker manufacturers to test their products. It was only a matter of time before someone thought to

try these mics for recording audio. In 1992, two B&K employees branched off and began Danish Pro Audio, which begat the company we know as DPA Microphones.

DPA has taken the concepts established by B&K and expanded and developed them into an extensive line of microphone products for recording, broadcast, and live sound. The results manifest themselves in some extremely high-quality products. The mics are offered in six different series for different applications. These are cleverly identified by the following: d:dictate

recording microphones, d:facto handheld microphones, d:fine headset microphones, d:screet miniature microphones, d:vote instrument microphones, and d:mension surround solutions.

One for all

One such product is the DPA d:vote 4099. DPA casually calls it an "instrument microphone." I'd go so far as to say that it is a true Swiss Army knife (Is there a Danish Army knife?) of pro audio, the thought being that if a mic is at first accurate in the capture of a

given acoustic source, it should perform equally well in a number of circumstances.

While the d:vote 4099 has been in the marketplace since 2009, DPA continues to design ancillary products that facilitate the use of the series in different situations.

The quality that we have come to expect from the design, manufacture, and performance of the mic is reflected in its specifications, and also in the accessories designed to utilize it in practical performance applications.

The d:vote rig looks like a miniature boom mic on a pole, the sort of thing you would typically see used in film and TV production, only miniaturized. In this case, the pole is a flexible gooseneck and the mic/gooseneck combination is only about 7 ½" long. On the business end, the mic is encapsulated in a foam windscreens and this assembly is attached to the gooseneck via a shock-absorbing suspension system made of rubber. It's all very cleverly designed and manufactured. A thin cable comes out of the back of the microphone and is routed through the gooseneck, which ends with one of DPA's gold-plated Microdot connectors (kind of like a miniature video "F" connector—a center pin with a threaded exterior). There is also a protective "fixation" sheath that fits over the connection point once the microphone assembly is attached to the 6' cable. (DPA offers a heavy-duty Kevlar-reinforced cable available per request or for additional purchase.) The other end of that cable terminates with another Microdot connector that attaches to a provided XLR connector. There's some serious design engineering going on here.

Now that there's this cool microphone, how do you apply it for all the different conceivable miking situations? In many ways, a mic is only as good as its mounting system. If you can't effectively mount or position it to pick up the sound of the instrument, then why bother? The diversity of

musical instruments used in live performances also requires unique microphone mounting system solutions for each instrument or type of instrument. The clever folks at DPA have designed no fewer than 12 different microphone mounts for the d:vote series. A letter following the model number of the microphone indicates the application. For example, the 4099D is the mic for drums, the 4099G is the mic for an acoustic guitar, and so on. Many of the mounting options work on more than one instrument, but you get the gist.

Microdot extension cables running 5.9' come in either the standard 1.8mm thick or heavy-duty version, which is 2.2mm thick. Additional available lengths of the 2.2mm cables are 15.4', 32.6', and 65.6'.

A plethora of MicroDot adapters can interface the 4099 with practically any wireless transmitter known to man. There are three different MicroDot-to-XLR adapters (including one that provides a second-order 80Hz low-frequency roll off to help minimize handling or wind noise, and another that provides mid-range attenuation centered at 800Hz). There is also a 2.8" gooseneck extension to provide more length to assist in optimum positioning of the mic.

Basically, DPA wanted to provide all ancillary parts needed for any application, which brings us back to the mic. To meet all the circumstances for which the company has designed mounting systems, the mic has to be pretty darn good (in a number of ways).

The d:vote 4099 features a supercardioid polar pattern and is available in two sensitivities. "Hi" sensitivity is for most situations and capable of handling SPLs up to 142dB and "lo" sensitivity is for high SPL handling (up to 152dB). The d:vote requires 12V — 48V phantom power. The hi-sensitivity model provides 100dB of dynamic range while the lo-sensitivity version provides 95dB. The frequency range (plus or minus 2dB) is 80Hz — 15kHz with a slight boost at 10 kHz — 12kHz. The mic is capable of driving up to almost 1,000' of cable (or analog snake), though with many of the digital mixing systems and accompanying stage boxes currently available, this is becoming less of a need.

One challenge when designing mic-mounting devices involves figuring out the most effective and efficient way of securing a microphone where it will do the best in capturing the tonal qualities of a given instrument. Since the mate-



The d:vote 4099 with the PC4099 piano clip. Note the metal "fixation" sheath.



The DPA d:vote 4099 with the GC4099 guitar clip and Kevlar-reinforced cable. Note the metal "fixation" sheath (not fitted).

rials that make up the instrument resonate, which is part of what gives instruments their signature sounds, a mount should not adversely affect the resonances of the instrument.

Additionally, a mount should not transfer any of the resonances to the mic. All in all, those are pretty tall orders, taking us back to the how to apply the microphone comment. DPA has done its R&D. And, just for fun, the company has thrown in some sleek stylization so its mounts not only work well, they look good while they are working.

What are you looking at?

The three options that we'll be looking at for this review are the 4099D for drums, 4099G for acoustic guitar, and 4099P for piano.

While these are the instruments that DPA had in mind when the mounts were designed, they are not necessarily restricted to just those specific instruments. Most sound people I know are very creative, so, over time, you can bet the company will come up with some additional applications for these devices. In the meantime, DPA has "Mic University," accessible via a tab on the navigation strip on its home page. There are many pages (81!) of information on all things miking. You can also filter content selections by such categories as Application Guide, Microphone Tips and Tricks, Stereo and Multichannel Techniques, and Tech Talk. You can also select by series.

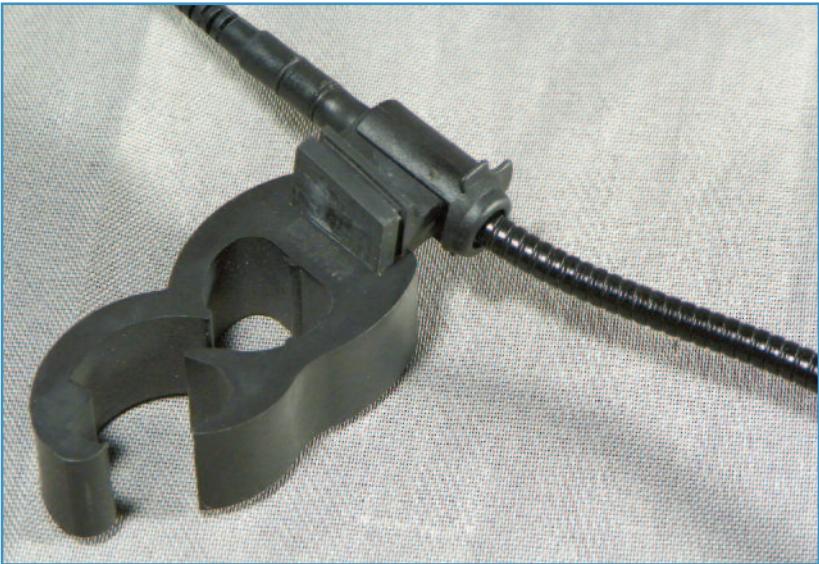
I have always appreciated any infor-

mation or insight regarding product application. It could be just something to get you started using the product to more in-depth applications or configurations. Beyond making microphones, DPA clearly gets that part of designing and manufacturing a product. It's important to provide everything needed to help support using the product.

The d:vote DC4099 (drum clip) is a two-piece device (it looks like a claw); a plastic or nylon piece that clips onto the rim of the drum is secured via the natural spring action of the mount. A rubber piece, with a square base and a groove around the base, slides into the clip. This allows for adjusting the rubber mount in 90° rotations for accurate positioning. The rubber also provides for vibration isolation. The top of the rubber has another groove that securely holds the gooseneck of the microphone. The design behind this seemingly simple clip provides myriad ways to secure the d:vote 4099D to many different types of drums. I had an opportunity to use it as the top mic for a snare drum. The mic and mount performed as expected. No muss, no fuss, and a clean, accurate snare sound.

In addition to being used for a guitar, the rather odd-looking d:vote GC4099 (guitar clip) can be used to mount the mic to a kick drum. The clip is constructed of a combination of spring steel-like material coated with hard plastic and rubber (in the places where the clip makes contact with the instrument). There is a small 4" "beam" with a rubber groove to hold the mic on one end, and a spring-steel rubber-coated device that slides along the beam to adjust to the width of the instrument. A saw tooth on one edge of the beam allows the mount to securely clamp onto the instrument. It is very unusual-looking, but it is small, lightweight, and works well.

You can't get much more basic than the d:vote PC4099 (piano clip). It has the same rubber groove to secure the gooseneck as the guitar and the



Closeup of rotatable rubber mount (partially inserted) for the DC4099 drum clip.

drum clips. The rubber forms an open triangle, with the bottom being somewhat weighted and magnetic. It's cleverly designed to hold the microphone securely while also preventing any vibrations from transferring from the instrument to the microphone. While I only received one piano clip to review, the d:vote 4099P system is generally sold as a pair of mics complete with two clips, cables, and XLR adapters.

The mic was also used to pick up an acoustic bass (even though I didn't have the d:vote BC4099 clip for upright bass). The low-frequency response was extremely smooth and, overall, sounded great.

Once the mic is fitted into the rubber groove on the mount, you slide a metal piece on the gooseneck over the top to hold everything in place. The product photos will help clear up some of these descriptions, proving once again that a picture is worth a thousand words.

All in all, there are over 12 different d:vote mounting systems. The three featured here show the ingenuity that DPA applied to make the d:vote 4099 infinitely useful in a variety of instrument miking applications. All d:vote 4099 models are sold with a standard-width cable, XLR adapter, and appropriate instrument mount/clip. As such, the list pricing for the three systems, including mic(s), reviewed here are: \$619.95 for the d:vote 4099D and d:vote 4099G, and \$1,239.95 for the d:vote 4099P, which, again, comes as a stereo pair.

What more can I say? It's an extremely flexible and useful system. Get a few d:vote 4099 mics, along with extra clips of every version DPA makes—the company even has a clip to mic up an accordion!—and you'll be able to cover just about any imaginable scenario. And, probably, along the way, you may wind up miking something that you never would have imagined as well. ☺