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## AKG D12VR

### Dynamic Microphone

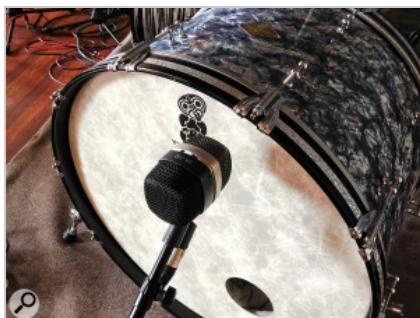
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By Jack Ruston

Published [October 2012](#)

**For their 65th anniversary, AKG have released this new take on their classic D12. We put it up alongside the original to find out if it's worthy of the name...**

In 1947, with post-war Vienna in ruins, physicist Dr Rudolph Görike and businessman Ernst Pless founded a company called 'Akustische und Kino-Geräte', or 'Acoustical and Cinema Equipment' in English — now better known as AKG. Their belief that the film industry would flourish in an environment where people sought distraction from the hardship surrounding them led to a series of products that redefined the sound of recorded music.



AKG's development of the world's first dynamic cardioid microphone, the D12, in 1953 was a significant milestone: the D12's excellent sonic qualities saw it welcomed into radio stations, theatres and recording studios, and thus began the love affair that still exists between engineers and this mic. I asked producer Sean Genockey what the D12 meant to him: "Fat, punchy, in your face, and versatile enough to use on drums, vocals, guitars and bass. If you like your shit dark and heavy, this would be a good choice." (See the 'History Of The D12' box for more info about the D12's evolution.)

In 1986, AKG introduced the D112, a more economical design that incorporated a 4kHz presence peak, tailored towards the greater level of attack that became prevalent in kick-drum sounds around that time. The D112 remains in use in studios and on stages the world over, but the original D12s are still as sought after as ever. And so we come to the subject of this review, launched to coincide with AKG's 65th anniversary: the AKG D12VR.

## Vitamin D12

As expected, the D12VR is a large-diaphragm dynamic cardioid mic, and it leans heavily on the looks of the classic D12, with the distinctive two-tone grille and dividing surround. However, closer inspection reveals some significant differences. The body is longer from end to end, and shorter from top to bottom, making it more rectangular than the blocky, square-shaped original. The fragile plastic surround of the D12E (one of the D12 revisions) has been replaced by a beautifully machined black and silver metal surround.



Sound On Sound Video ...



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AKG D12VR \$499

#### Pros

- Beautifully made addition to the AKG line, refining the sound of the current standard.
- Useful active bass circuit.
- Significant practical benefits from the design.
- Sensibly priced.

#### Cons

- Not a D12: confusing 'vintage' marketing.
- Genre-specific sound.

#### Summary

A well-made, good-sounding and versatile mic in its own right: probably best judged on its own merits, rather than against the original D12.

#### Information

\$499.

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Whereas the D12E had its XLR socket protruding directly from the bottom of the mic, doubling as a place to mount a separate clip in the same way as the D112 does, the VR has an integral thread adaptor hinged from the surround, with an XLR socket parallel to that in a double-barrel configuration, much like a Shure SM7B. The whole assembly rotates towards the rear of the mic, further lowering the profile if required. The D12E was a 'tall' microphone by dynamic standards, made taller still by the protrusion of the XLR plug and cable from the bottom. This new design allows for the whole thing to be more easily positioned through the hole in a kick-drum head, and it's a welcome change. The hinge feels solid and smooth, and the tightening bolt, with its slot for a flat-bladed screwdriver, is also metal — no fragile plastic pieces here.

On the top of the body is a three-way sliding switch with LED indicator, to select one of three active filter curves, and the text 'Kick P48', which gave me a slight sense of unease... A phantom-powered D12? An active EQ? The good old D12 that I know and love — and which I'd like to see replaced with a more consistent and readily available version — never had those circuits. "Is this mic simply trading on the D12 styling and name," I thought, "or is there more to it?" AKG have skirted this issue somewhat in their marketing literature: the VR is described as a "vintage reissue", but the original D12 is never discussed and no comparisons are drawn.

What we are told is that it's designed specifically for the recording of kick drums, that it has a very thin diaphragm in order to improve low-end performance, and that it employs the same 1970s transformer as the C414. We're also told that it has a patented, phantom-powered active filter circuit, but that it can work as a passive mic. It cancels out impedance differences between itself and other equipment when phantom-powered, it has an internal bass chamber (like the original), and the transformer enhances the audio signal at high SPLs.

A lot of those features were not part of the original's specification. When we consider that AKG used a series of different model numbers to differentiate relatively small changes in the original design, like the addition of a bass-cut switch on the D20, for example, the cynics among us might see this D12VR designation as a marketing ploy.

On the one hand, I understand why companies seek to trade on the reputation of their strongest products. But on the other, this sort of thing invariably attracts unfavourable comparisons with the 'real' version. Of course, it's entirely possible that it will sound exactly like the original in passive mode. We shall see...

I won't regurgitate all the specifications here, but it's worth pointing out that the microphone is capable of handling very high levels, quoting 164dB SPL at 0.5 percent THD. The other point of note is the on-axis frequency plot, which shows significant peaks at around 4kHz and 8kHz.

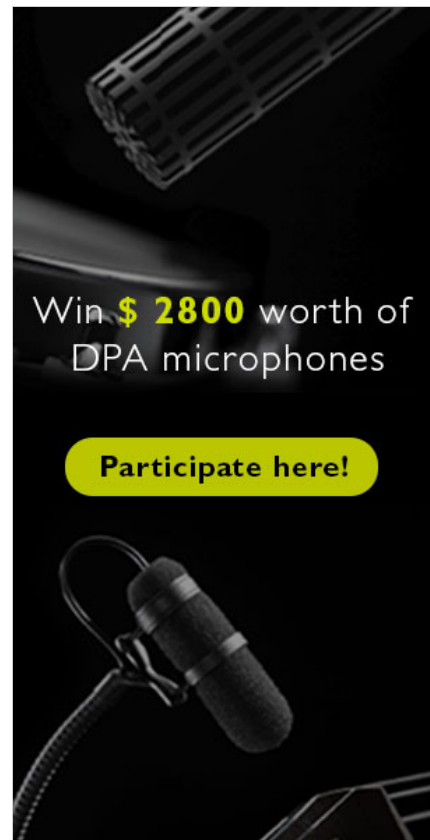
## Filter Section

The active filter warrants a more detailed explanation: the mic has a three-position switch with a coloured LED backlight and graphics denoting the three preset filter settings available. The filter circuit is active when it receives 48V phantom power from the mic amp, but if you don't supply phantom power, the mic works without the filter, so you can use it if you wish, but you don't have to. In the centre position, the switch glows red and there's a dip in the mid-range, which AKG say provides "more room for other instruments in the mix. Recommended for a vintage sound." AKG apparently based this filter setting on the last, unopened original D12 that they had. Slide to the left and the switch glows green and, in combination with the mid-range dip, a low-end boost is applied. This is "recommended for open kick drums". Slide all the way to the right, the colour changes to blue, and a combination of mid-range dip, low boost and a high-frequency boost, designed to enhance presence, results. This is "recommended for closed kick drums". On a practical note, engaging the active filter circuit results in a 10dB level drop, presumably to preserve headroom with the boosts applied. In practice, a tweak of the mic-amp gain is still required when switching between the different curves of the filter circuit, or to and from active modes.



## Testing, Testing...

Whatever this microphone might sound like, it's always



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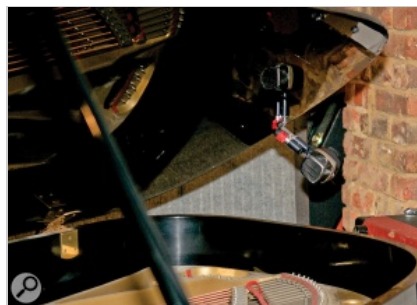
going to be compared to the D12, and this review is no exception. It also seemed appropriate to compare it to AKG's current kick-drum microphone, the D112. So I took the D12VR, a D12E and a D112 to Pablo Clements' Toyrooms studio in Hove, and made some test recordings of my kick drum. As it happened, Pablo had a vintage D25 (a D12 with an integral suspension mount), so I also took samples from that. I recorded inside the drum (with the exception of the D25, which wouldn't fit), just inside the hole in the front head, and outside the drum towards the top of the front head hoop. All audio files mentioned in this article can be downloaded at </sos/oct12/articles/akg-d12vr-media.htm>. I made every effort to ensure identical placement and similar levels as far as possible, but it's important to stress that the aim of these files is not to provide a perfect scientific comparison, but to highlight the character of the mic relative to its familiar relations. The files are all 24-bit/44.1kHz, and it's worth bringing them into your DAW for ease of comparison, and some level tweaking if desired. It's not practical to make test recordings that showcase every possible tuning, head combination, position and setting, but I hope these files allow people to get some idea of what the new mic sounds like.

While comparing, one thing became obvious in the first few seconds. The VR doesn't sound like the D12E or the D25. It's quite bright and relatively scooped sounding. It's the sort of mic that you'd use for modern rock or metal sounds, and for that it's a very appropriate choice. The active circuit certainly takes you in that direction, and the three settings work exactly as advertised, adding a subtle scoop, weight and point. It's best suited to the inside of the drum rather than the front-of-kick position.

In some positions, it sounds surprisingly similar to the D112 (for example, check out the 'hole' files), but overall I felt it offered a far more refined result than the D112, and the flexibility of the active filter circuit certainly adds practical value over that product. But it really could not be much further from the open, mid-forward D12E or D25. It's quite plain in all the sound files how much more mid-range the older mics present. They have far more of that quality, rather than focusing on the lows and highs in the way that the D12VR and D112 do. If that vintage AKG sound is what you're after, the D12VR will not do it — you can't just wind mid-range in with an equaliser to achieve that sort of punch and character — so you'll have to take your chances on eBay, I'm afraid. On a general note, it's interesting how different the D12E and D25 sound. They're closely related, but there are significant variations in the original examples which can make them quite unpredictable in a 'blind purchase'.

## Take Two

The D12 was originally a vocal mic, and must have seen use on pretty much every source you can think of over the decades, so it seemed only fair to give the D12VR a chance to shine on sources other than kick drum. For a bit of fun, Moke singer, John Hogg and I wrote a short song, and spent an afternoon at Paul Weller's studio, Black Barn in Surrey, recording bass, guitars, piano and vocals. We used the D12VR in passive mode for every source, and I also took recordings with the D12E for comparison on bass and guitar. In the time available it wasn't possible to record live drums, and I therefore used programmed drums from Native Instruments' Abbey Road 60's kit (which were recorded with a D20 and a STC4033).



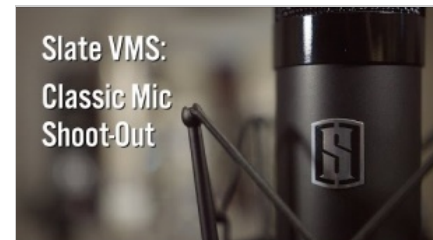
The D12VR was tested on electric guitar, vocals, a bass amp and a piano, as well as a kick drum.

The sources that fared best were ones which suited a less mid-forward presentation. The bass guitar tended towards a smooth, deep quality — almost like a Sansamp bass driver, rather than the lighter, throaty presence that you get from the older mic: that mid-range scoop can move things backwards, and it can also smooth things out. The brightness can bring a nice edge, but it can also make the wrong source brittle. I'd have preferred some more mid-range in the bass amp recording, and certainly in the vocal, which shows up some pops on the plosives (though this could have been prevented with the use of a windshield). I liked the way the mic controlled the AC15 guitar amp sound slightly, and the big surprise was how well it worked on the piano.



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## Conclusion

On a practical level, the mic is a joy to use. The changes to the dimensions and the hinged XLR/mounting thread make it possible to get the mic easily through a four-inch hole in a front head. The same cannot be said of the D12E or the D112, both of which are relatively awkward by comparison. In addition, this mic is beautifully made. The memory of the plastic surround of the D12E quickly fades when you see the metal surround on the VR. Of course, it's impossible to say at this stage how reliable the new electronics will prove to be, but AKG have a well-deserved reputation in that regard.

Nevertheless, I'm left wondering what this mic is trying to be. The voicing is really modern, but the model number and the marketing say vintage. With the current obsession for vintage sounds, and producers like Eric Valentine making incredible-sounding modern rock records with very classic kick-drum tones, I can certainly understand the need for a new D12. But is this it? I think it's the natural evolution of the D112, over which it offers significant advantages in every way. I find the marketing confusing, though, and can't escape the feeling that what amounts to a credible upgrade to AKG's product line is going to be criticised for comparing itself to an ideal that it isn't even trying to live up to from a sonic perspective.

History teaches us a lesson about microphones. In the long term, the ones that end up being the greatest for a given application are often not designed with that application in mind. It's a lesson that AKG taught us with the D12. I wonder what lesson they are teaching us with the D12VR?

## Alternatives

There are several dynamic mics around that are suitable for recording kick drums, such as the ElectroVoice RE320 and AKG's own D112. Many modern kick-drum mics are capacitor models, however, including the Milab BDM01 and Sontronics DM1B. Audio-Technica combine both mic types, with their dual-capsule ATM250DE and AE2500.

## History Of The D12

As anyone who has serviced and repaired a lot of D12's will tell you, there were many versions of the design, produced over a long period of time. The main variations were in the capsules and transformers, which allowed for different impedance ratings: versions with 60Ω, 200Ω, 250Ω and (unspecified) 'high' impedances were released. Some versions had no transformer, and many in circulation today have been modified to be that way. During the late 1950s and throughout the 1960s, myriad variations coming under different badges and model numbers followed: the D20 had a bass filter, the D25 an integrated suspension, the D30 switchable polar patterns... The list goes on.

The original production run ceased around 1976 and the mic was reissued in 1978, this time incorporating an integral XLR socket, where earlier versions had a cable wired into the chassis of the microphone. This version, the D12E, had a much-maligned plastic surround separating the two halves of the grille, a part that breaks easily and with no spares available. When you factor in nearly six decades of use, abuse, maintenance and modification, it doesn't take long to see why buying a used D12 today is an unpredictable business. These microphones can sound quite different from each other, and some are in poor condition, both cosmetically and functionally.

## Audio Examples

All the audio files mentioned in this article, including the song and clips of the isolated sources, are available for download at </sos/oct12/articles/akg-d12vr-media.htm>.

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