



# Metal Works

**Adam Smith listens to Usher's new Be718 loudspeakers, featuring a Beryllium tweeter...**

**R**ecently I found myself watching a television programme about the world's ten wildest rollercoasters. Now not only did this have me making notes on my next holiday destinations in order to try a few out (with Cedar Point, Ohio and the "Top Thrill Dragster" being top of my list!) but it started me pondering how we manage to advance our lives, both in technological and social terms, by adding an element of danger, or an aspect that makes you realise that one wrong move and something major will go wrong.

Even in the world of audio, a hint of this can add more to the listening experience. Whether it be a big valve amplifier that will burn or electrocute you if you touch it in the wrong place, an exposed Ionofane tweeter, or even an expensive and delicate moving coil cartridge with exposed innards that only requires a

briefest slip of a cueing hand to kiss goodbye to the cantilever, there is a lot to be said for that little something that makes you tread carefully and respect what you have even more. So, how do these strange musings fit into the new Usher Be718s I hear you ask? Simply put - beryllium.

Element number 4 in the periodic table, with the chemical symbol Be, it's an alkaline earth metal that has the properties of being strong and light in weight, although rather brittle. Obviously its strength and lightness make it an ideal candidate for use as a membrane material in loudspeaker drive units, as Yamaha realised back in the 1970s, equipping the NS1000s with beryllium dome midrange and treble units. The problem with beryllium is that it is not very nice stuff to work with. The dust that arises from its processing is carcinogenic, and some people have an innate sensitivity to it that can result in Chronic Beryllium

Disease, which is treatable but not curable.

However, in the same way that technology has made those wild rollercoasters possible, beryllium can now be processed under controlled conditions and with negligible risk to life and limb; you will all no doubt be glad to know that beryllium compounds are no longer tasted for their sweetness in order to verify the metal's presence, as early researchers did!

Consequently there was inevitably going to be a resurgence in the element's use and Usher are one of the most notable to get their foot into the door with the new, upgraded Beryllium Dancer series of loudspeakers, the smallest of which are the standmounting Be718s here.

Using a one inch (25mm) tweeter, the dome of this is made from Beryllium Oxide Ceramic, giving a stiffness to weight ratio of over five times greater than that of aluminium

or titanium. As a result, the tweeter should be sensitive and have a fast transient response, but without the alarming and often audible breakup that accompanies such a low mass item made from a less sympathetic material.

Accompanying this is a new seven inch (170mm) bass driver made from a damped paper material impregnated with carbon fibre, so this should match the tweeter well - the surest way to ruin a fast and responsive tweeter is to mate it to a big, slow bass driver, but the Be718s look very promising in this respect.

The Be718s are large standmounters, measuring 387x258x428mm (HxWxD) and tipping the scales at a very sturdy 17.2kg. Their construction is very

is something of a peach and its low mass and high stiffness can be heard in the crisp and spry nature it imparts to high frequencies. Never harsh or clanky, the Be718s exhibit a pleasing neutrality across their top end and actually have a quite subtle nature to the way in which they deal with the minutiae of high frequency detail.

Many loudspeakers utilise a rising response towards 20kHz to add sparkle and atmosphere, and ensure that everything is picked up within the performance, whereas the Be718s do this naturally by virtue of their well designed tweeter - you really feel that you are hearing everything you are supposed to, without any areas being artificially boosted. A quick blast of Vivaldi's



**REFERENCE SYSTEM**

Pioneer PLC-590/SME M2-10 turntable  
Ortofon 2M Black cartridge  
Trichord Diablo Phono Stage  
Eastern Electric MiniMax CD player  
Anatek A50R amplifier

"the Be718s offer an expertly balanced performance..."

impressive - as an example, the panel containing the crossover and terminals is a solid sheet of metal over 5mm thick and the bi-wire links wouldn't look out of place on a car battery. The main cabinet is available in gloss black or ivory white with wooden side cheeks.

**SOUND QUALITY**

Listening to a loudspeaker with a measurably flat response is often and interesting experience, as that flatness can often tell you little about the speaker's overall character. Hence a design like this can involve a certain amount of holding your breath in nervous anticipation.

Fortunately, the Be718s didn't have me turning blue, as their particular flat response imparts a very impressive even-handedness to their performance across the frequency range, but without sucking the life out of the sound, as I have heard some do. That tweeter really

'Four Seasons - Spring' presented violins with a pleasing effortlessness and ensuring that they never sounded strained or screechy - a sure sign of a good tweeter.

This sense of evenness continues into the midrange, where the Be718s deal expertly with both vocals and instrumentation. They project an impressively wide and deep soundstage into the room which permits easy placement of musicians within the recording. Jackson Browne's vocals on 'The Pretender' were magnificently rendered, and the backing drum strikes were snappy and solid, adding verve and pace to the performance.

Finally, the new mid/bass driver works a treat down at the bottom end, too. The Be718s have excellent extension and offer a bass scale and impact that belies their size. They can occasionally come a little unstuck at the very bottom with a hint of ponderousness that makes low notes stay a little longer than they should, but this never affects the overall timing and can be managed by judicious placement and choice of partnering equipment.

**CONCLUSION**

The Usher Be718s are a fine loudspeaker and a considerable improvement over the

X718s. Their use of a light yet stiff metal in their tweeter has given them a lightness of touch in the upper registers that is quite striking and yet they do not miss any detail at all in this area.

Equally impressive is the new bass/mid driver, which underpins the sound with a sturdy sense of authority and matches the character of the tweeter perfectly. All in all, the Be718s offer an expertly balanced performance across the frequency range that gives that *frisson* of excitement with the right material but without any risk of danger to life and limb. Unless you drop one onto your foot, of course...

**VERDICT**

Technically accomplished loudspeakers that use their exotic materials to excellent effect.

**USHER BE718** £1,600

Distributed by HiAudio

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**FOR**

- subtle, detailed treble
- smooth, emotive midrange
- bass weight
- build quality

**AGAINST**

- occasional bass bloom



**MEASURED PERFORMANCE**

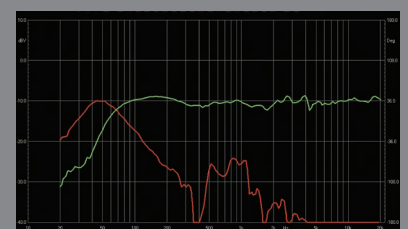
The Usher Be718s show an almost textbook result when under measurement. Their response is virtually flat across the spectrum from 100Hz to 20kHz with only a small undulation in the midrange region which should barely be noticeable. As a result the Ushers should have a very even nature across the frequency bandwidth.

Bass output is fine from the Be718s with the seven inch main driver working down to 70Hz and the front-mounted slot port tuned to around 40Hz. This port also shows a nice clean measurement and should give good bass reinforcement without making the Be718s sound boxy.

Electrically, the Be718s are not so well damped in the bass, but have no particular nasties lurking in their impedance trace. Average measured impedance is high at 9.4 Ohms, dipping to a minimum of around 6 Ohms, so they are quite an easy load. Sensitivity is on the low side, however, at 84dB,

so the Be718s will benefit from an amplifier of at least 50 watts. AS

**FREQUENCY RESPONSE**



Green - driver output  
Red - port output

**IMPEDANCE**

