

Hi Chris,

Please find below Mr. Tsai's answers to your questions. Do feel free to let us know if you have any further questions.

Best Regards,
Fred Wu

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[TWEETER:]

[How does Usher's Beryllium Oxide tweeter construction differ, say, from Focal's Beryllium tweeter. What is different/better about BeO as used by Usher? What performance improvements does BeO bring vs. fabric dome tweeter used in CP 8571 MkI?]

As far as we know all the Beryllium drivers on today's market use the same diaphragm material, because there is only one supplier (Brush Wellman) who can provide Beryllium foil in useful thickness for speaker diaphragms. The main differences therefore lie in the design and execution of the driver. The 8571's Beryllium tweeter employs a large (1") voice coil (with ultra-light aluminum wire and former), which drives the diaphragm on its entire circumference and achieves minimum break-up/resonance behavior. Some manufacturers went with the less costly approach and simply used a voice coil smaller than the diaphragm (intending to emphasize on Beryllium's ultra-high frequency performance), but as a result their tweeters suffer badly from excessive resonances. Also, as with every Usher driver, the BeO tweeter employs Usher's Symme-Motion® technology, which ensures near-perfect symmetry of the diaphragm's forward and backward movements through Usher's proprietary surround/suspension arrangement and magnetic system design. The tweeters are also matched to within 0.2 dB on each stereo pair 8571.

The Beryllium diaphragm was heated to over 700 degrees during the manufacturing process and turned into a brittle, though of extremely high strength, Berylla (Beryllium Oxide) ceramic, hence the name BeO.

The ultra-high specific strength (strength over weight) of the BeO dome has pushed the tweeter's transient and distortion performance to a new level that just isn't possible with the traditional fabric dome. In audiophile terms, BeO eliminates yet another layer of haze from the reproduced music. It's a further step towards complete transparency. Just as important, the sonic signature (if any) of the BeO material has proven to be very neutral and musically favorable (unlike most high tech diaphragm materials of the yore).

[LOW-MID DRIVER:]

[What is distinctive about the 7" mid-woofer? What cone and dustcap materials are used? I notice its cone and dustcap look very different than the "rumpled surface" materials used in other Usher 7" mid-low drivers. Why the difference?
Open-ended question: Why a 7" midrange driver rather than something smaller with presumably better transient response and dispersion?]

The 7" mid-woofer on the 8571 MkII is a new driver purposefully and painstakingly designed to match the BeO tweeter's superlative performance. Its cone and dustcap are supplied by Müller in Germany and are of a proprietary composition--also with a very high specific strength rating. For the driver's intended application (midrange), a lighter cone (hence no "rumpled surface") of a shallower dish shape is chosen to ensure good high frequency extension and ideal dispersion pattern. The size therefore isn't a problem--on the contrary it allows the driver to cover a wider frequency range, with real ease, and contributes greatly to 8571 MkII's coherency and musiclaity. Of course it also employs Usher's Symme-Motion ® technology and each pair are always matched to within 0.2 dB.

[LOW-BASS DRIVER:]

[What is distinctive about the 8" low-bass woofer? What cone and dustcap materials are used?]

The 8" woofer is one of Usher's most famous drivers. Some people thought it simply a ScanSpeak copy. It isn't. The confusion was due to the fact that the cone and surround on both drivers come from the same source (again Müller in Germany) and have the same "rumpled" look (carbon impregnated paper), but their similarity ends there. The Usher woofer employs Usher's Symme-Motion ® technology in its suspension and magnetic system deisgn. Its superior linearity/symmetry can be easily confirmed when measured with any linearity distortion measuring devices (for example Dr. Klippel's measuring system).

[ENCLOSURE:]

[Can I get a basic description of cabinet construction: materials, side-wall thickness, front baffle thickness, internal bracing, internal damping materials/techniques? Is the crossover housed in a sealed internal chamber? What sort of internal cabling is used?]

The 8571 MkII's cabinet is a big improvement over the MkI's. To begin with, it is now built on a cast iron base for maximum stability. Above the iron base is a chamber for mass loading (the opening of this chamber has been moved from the bottom to the front baffle because of the new iron base). Behind the woofer, three lead sheets on the one-inch-thick side walls and floor help stablize the cabinet from the woofer's backwaves. The front baffle is constructed of several laminated layers of MDFs, in order to conduct vibrations away in different directions. You'll also find extensive internal bracing and a layer of high-mass damping material applied to most internal surfaces. The crossover isn't housed in a sealed chamber because vibrations are already under control, so an open installation is actually preferred for its lack of a sealed chamber's "umbrella effect". Internal cabling is done with high purity OFC cables.

[FUTURE BeO MODELS:]

[Usher literature speaks of (and shows a partial picture of) a new BeO midrange driver, but none of the Dancer IIs uses that driver. What models will use the BeO midrange, and what are their projected prices and release dates for those models?]

The Dancer CP-8872 will use the BeO midrange, so will the current AC series' replacements (AC-10 and AC-20 will be replaced by BE-10 and BE-20), both with BeO tweeter and midrange). Release dates for these new models are expected to be within the next six months. Prices still to be decided--but we are sure they'll still be truthful to Usher's vision and be eminently affordable!