

Electronically reprinted from May 2008

Usher Audio Technology Be-718

LOUDSPEAKER

Wes Phillips



Usher Audio Technology Be-718 loudspeakers

DESCRIPTION Two-way, reflex-loaded, stand-mounted loudspeaker. Drive-units: 1.25" beryllium-dome tweeter, 7" doped-paper-cone woofer. Crossover frequency: 2.06kHz. Frequency response: 42Hz–35kHz, ± 3 dB. Nominal impedance: 8 ohms. Sensitivity: 87dB/W/m. Power handling: 200W. **DIMENSIONS** 15.2" (390mm) H by 10.2" (260mm) W by 16.9" (430mm) D. Weight: 37.9 lbs (17.2kg).

FINISHES Silver or Piano Black with Pioneer Birch side panels.

SERIAL NUMBERS OF UNITS

REVIEWED B0770027 A/B.

PRICE \$2795/pair. Approximate number of dealers: 60. Warranty: 3 years parts & labor.

MANUFACTURER Usher Audio Technology, 67 Kai-Fong Street, Section 1, Taipei 10041, Taiwan. Tel: (886) 2-23816299. Web: www.usheraudio.com. US distributor: MusikMatters, 1303 Motor Street, Dallas, TX 75207. Tel: (214) 638-3500. Fax: (214) 722-0325. Web: www.musikmatters.com.

When I attended the 2006 GuangZhou Hi-Fi show in China—see www.stereophile.com/news/120406language—it seemed as though most of the Asian-built loudspeakers I saw were huge, astonishingly efficient, and had horns. When I walked into Usher Audio Technology's room, however, Paul Chen was making music happen with the Usher S-520s (\$500/pair).

"Ah, sweet music," I said, sitting in the sweet spot. "But what's an American stand-mounted monitor doing in a show so Asia-centric?"

Chen was politely amused. "Usher's more of a global collaboration," he said. "Dr. Joe [D'Appolito] designs the loudspeakers. Mr. Tsai Lien-Shui designs the crossovers, which Dr. Joe then voices for the US market. And, of course, the speakers are manufactured in Taiwan."

I've got to watch out for those assumptions. Immediately, thinking I'd ferreted out an unsung gem, I made another. "Can I review these for *Stereophile*?"

Um, no. Bob Reina had already reviewed them, an entire year before (December 2005, Vol.28 No.12, www.stereophile.com/standloudspeakers/1205usher). "I'm sure we could find an appropriate speaker for you to review," said Chen. "Dr. Joe has some interesting projects in development."

I found out what he was referring to six months later, at Home Entertainment 2007, when I first encountered the smallest speaker in Usher's flagship Dancer Series, the Be-718 (\$2795/pair). Usher, which teamed up with Oracle and JPS Labs for HE2007, had one of the best-sounding rooms at the show, and it took me three days to actually get *into* the room. Once I did, I didn't want to leave.

"We'll send you a pair," said Atul Kanagat of MusikMatters, Usher's US distributor. "You can listen to them as much as you want."

Some days, I *love* my job.

Little, Big

The Be-718 may be the smallest speaker in the Dancer line, giving rise to its nickname, "Tiny Dancer," but tiny isn't perzackly accurate. Each one weighs close to 40 lbs and measures 15.2" H by 10.2" W by 16.9" D, which makes the speaker fairly larger than the average stand-mounted monitor.

The Be-718 is a good-looking speaker. My sample pair had Usher's Piano Black finish, with bolt-on side panels of rich Pioneer Birch. The baffle rakes back steeply and the front-firing slot is placed at its bottom. The speakers

come with protective grilles, which I kept in place to protect them from cats. But only when I *wasn't* listening—the grilles' sonic effects are not subtle. On the back, the Be-718 has two pairs of rugged binding posts made specifically for the Dancer line.

The doped-paper 7" midrange/woofer is the best Usher makes; ditto for the 1.25" beryllium tweeter. The crossover, designed by Tsai Lien-Shui and tweaked for American ears by Joe D'Appolito, is specced by Danny Richie of GR Research, who stuffed it with Sonicaps, Mills resistors, and various

MEASUREMENTS

The Usher Be-718 was both less sensitive than average and less sensitive than specified, at an estimated 85dB(B)/2.83V/m. Offsetting the speaker's need for voltage, however, is an impedance module that remains above 6 ohms throughout the bass and midrange, and drops below 6 ohms only briefly in the treble (fig.1). Only a combination of 5.7 ohms magnitude and -41° electrical phase angle at 2.5kHz keeps the Usher from being rated an easy load for the partnering amplifier to drive.

The traces in fig.1 are free from the small wrinkles that would hint at the existence of cabinet resonances of various kinds. Investigating the panels' vibrational behavior with a plastic-tape accelerometer indicated that the Be-718's cabinet was well-braced. Though I detected a fairly strong mode at 340Hz on the rear panel (fig.2), this was much lower in amplitude on the side panel and top panels. I doubt it will have significant subjective consequences.

The saddle at 40Hz in the impedance-magnitude trace implies that this is the tuning frequency of the slot-shaped reflex port at the base of the Usher's front baffle. The woofer's nearfield output did indeed have the expected minimum-motion notch at that frequency, but the port's output actually peaked a little higher in frequency (both shown at the left of fig.3). The woofer has a slight peak evident at 1kHz in its farfield response (fig.3, middle

trace), with then a smooth rolloff with an average 18dB/octave slope, disturbed only slightly by some residual, low-level breakup modes in the paper cone. The tweeter (fig.3, right-hand trace) also rolls in with an 18dB/octave acoustic slope and is relatively flat within its passband. The crossover is set as specified to just above 2kHz. The low mass and high rigidity of the beryllium diaphragm pushes the fundamental dome resonance up

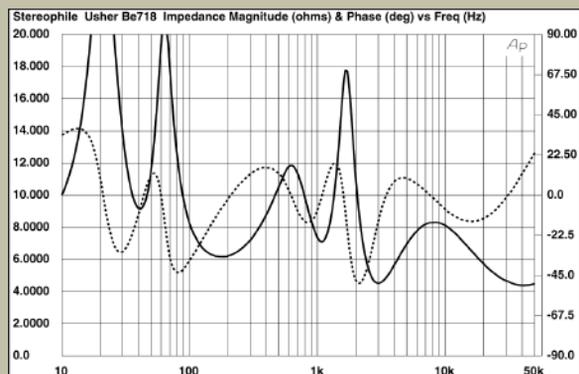


Fig.1 Usher Be-718, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

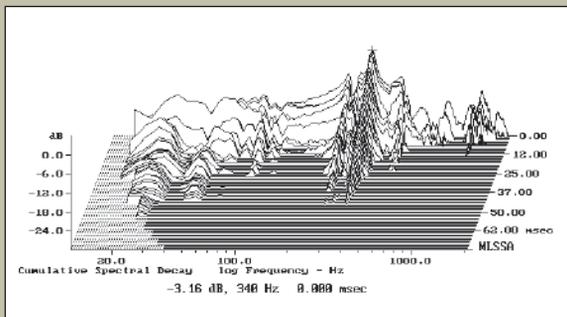


Fig.2 Usher Be-718, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the center of the rear panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

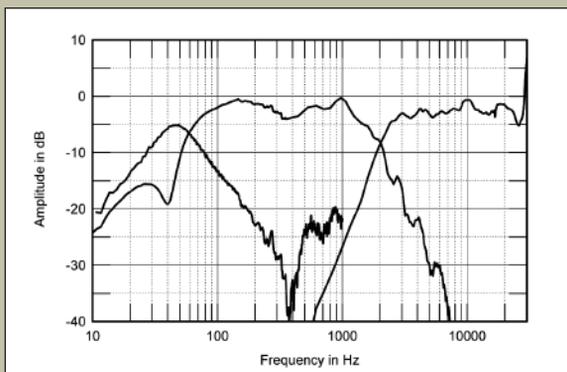


Fig.3 Usher Be-718, acoustic crossover on tweeter axis at 50", corrected for microphone response, with nearfield responses of woofer and port, plotted in the ratio of the square roots of their radiating areas below 350Hz and 1kHz, respectively.

goodies from Erse: polypropylene capacitors and high-purity, oxygen-free, copper air-core inductors. All internal wiring is from JPS Labs, and is designed, I'm told by Usher's PR guru, Jonathan Scull, specifically for the Be-718.

Somewhere to elsewhere

I mostly listened to the Be-718s in my smaller (9' by 15' by 7.5'), acoustically treated listening room, but I did set them up as well in my larger (13' by 25' by 9') main room. The Ushers performed valiantly in the larger room, but it wasn't the perfect space for them. They locked in with the smaller room amazingly well, not only "disappearing," but also delivering a surprisingly robust bottom end.

I mounted the speakers on 24" cement-filled Foundation stands, 20" from the front wall and 19" from the sidewalls. That left about 4.5' between the speakers and put them 9' from my listening position.

After extensive auditions using the 60Wpc Ayre AX-7e integrated amplifier, I finally paired the Ushers with my long-term workhorse, the Musical Fidelity Nu-Vista 300. Wow. I cannot emphasize this enough: These speakers liked to be kicked in the arse—mo' power was *waaay* mo' better. They sounded fine with the Ayre, but my oh my, with 300W, they woke up and *sang*.

I'm not saying I had to play the Ushers loud to juice the sound—unlike certain speakers that seem to swallow the

music until you goose the volume pot beyond realistic levels. It's just that they seemed to like being controlled. I also had superb results with the 200W Portal Audio Paladin monoblocks.

Lilacs and fireflies

Thinking that Kate and Anna McGarrigle's acoustic folk groove would play to a stand-mounted monitor's strengths, I cued "Midnight Flight," from *Love Over and Over* (CD, Hannibal HNC1405). I was right and wrong. The first note—a sharp rap on Gerry Conway's kickdrum—was deep and realistically dynamic, meaning that the first response the Be-718s elicited from me was to make me jump, then gape in disbelief.

measurements, continued

to greater than 30kHz. (You can just see the start of the rise in response at the far right of fig.3.)

Fig.4 shows how these individual responses add up in the farfield. The broad rise in output in the upper bass will be partially due to the nearfield measurement technique, but the summed output of the woofer and port does extend to about 38Hz, confirming WP's positive impression of the Usher's bass performance. The Be-718's midrange and treble are overall impressively flat, though a slight energy excess centered on 1kHz might—*might*—correlate with WP's noting an occasional upper-midrange hardness to the speaker's sound.

The Usher's horizontal dispersion (fig.5) was smooth and even, though with the usual off-axis flare at the base of the tweeter's passband. The tweeter wasn't quite as directional above 10kHz as is usual for a 1" dome. In the vertical plane (fig.6), a large suckout developed at the crossover frequency of 2.1kHz at extreme off-axis angles. The speaker's response doesn't change significantly over a wide ($\pm 10^\circ$) range above and below the tweeter axis,

suggesting that the Usher will be relatively tolerant of stand height.

Fig.7 shows the average of ten 1/3-octave spectra taken in WP's smaller room for the left and right speakers individually in a vertical rectangular grid centered on the position of WP's ears while he sat in his listening chair. The

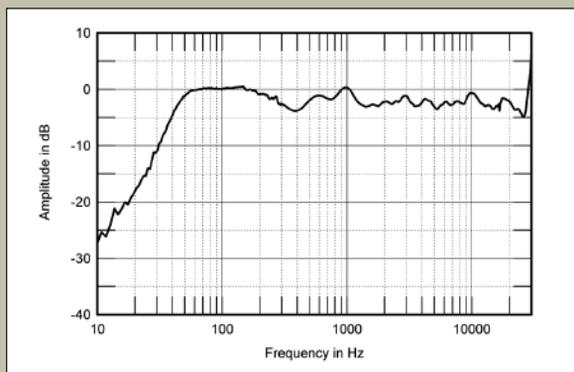


Fig.4 Usher Be-718, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the complex sum of the nearfield responses plotted below 300Hz.

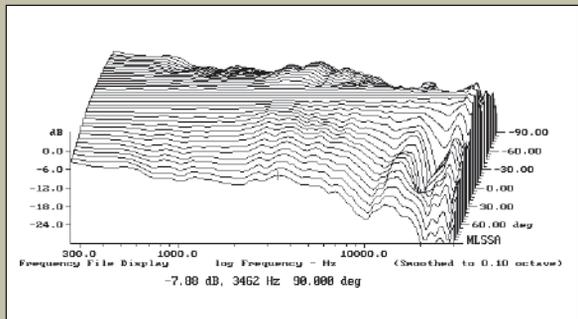


Fig.5 Usher Be-718, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

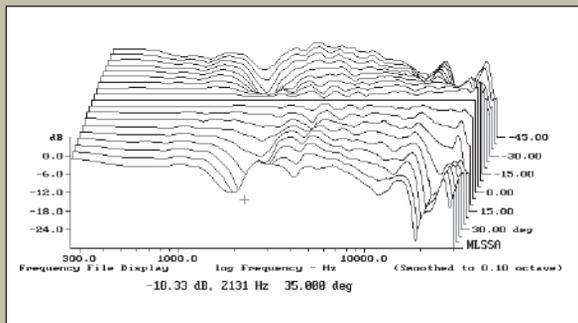


Fig.6 Usher Be-718, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.

First Kate begins to sing, then Pat Donaldson's Fender bass peals down low, then Kate's piano begins, followed by multiply tracked harmony vocals by both sisters, which are pierced by Andrew Cowan's screaming lead guitar, which is reinforced by Anna's accordion—and that's not even including Chaim Tannenbaum's bar-walking tenor-sax solo. Far from being the quiet acoustic gem I remembered, "Midnight Flight" is an immense, sprawling studio masterpiece, and the Be-718s simply floored me by keeping up with it every step of the way.

I resolved to heed my own advice about assumptions. No more recordings designed to play to "small speaker strengths."

I wanted to wallow in a little beauty, so I grabbed Rahsaan Roland Kirk's *Blacknuss* (CD, Rhino R2 71408) and cued "Ain't No Sunshine." Holy crap! Again, I was struck by the power of the recording, the effortlessness of the sound, and the impact of the bass, but even more by the almost physical heft of Kirk's vocalized flute. *My gosh*, I thought, *I'd forgotten what a big man he was*. Wait a minute! Did I just think about the size of a man because of how a few drivers in a box moved some air?

Yes, I did. And they got it *right*.

Recollecting the last time I saw Kirk perform, I wandered over to my jazz shelves and noticed *Bright Moments* (CD, Rhino R2 71409), a two-disc recording of a 1973 set of shows at the

Keystone Korner. *Hmmm*, I thought. *I'm not sure I've listened to this since Rhino reissued it in 1993. Wonder if it's good?*

Jethro H. Tull! *Bright Moments* is a shambolic, monolithic masterpiece. Every Kirk performance had its transcendent moments, but every moment at the Keystone was outstanding. "Something special happens whenever we play there," Kirk told Joel Dorn, who produced the recording. Dorn, who also produced *Swiss Movement*, by Les McCann and Eddie Harris, had a special fondness for *Bright Moments*. "It's better than good—there's a certain something on the record that is in the air, on the floors, on the walls of the club. You can't see it, you can't taste it, you can't touch it, but you can sure as

spatial averaging minimizes the effect of room acoustics on the measured response; even so, the usual lower-frequency "room gain" extends the Ushers' output to below 30Hz. The midrange is impressively flat, while the treble above 3kHz smoothly rolls off due both to the increasing absorptivity of the room's furnishings and the tweeter's increasing directivity in this region. The only significant departure from perfection in this graph is the lack of in-room energy between 1 and 3kHz, which is more than I expected from the dispersion plots. This kind of in-room balance will accentuate the presentation of recorded detail, but will also tend to make the sound a little hard at times. The degree of this effect will depend very much on the size of the listening room and how far away the listener sits from the speakers.

Regarding the Usher's behavior in the time domain, fig.8 shows the speaker's step response on the tweeter axis. Both drive-units are connected with positive acoustic polarity, and the tweeter's step is smoothly integrated with that of the woofer, correlating with the good frequency-domain integration of their outputs on this axis in the crossover region. The cumulative spectral-decay plot

(fig.9) is impressively clean, especially in the region covered by the tweeter.

As I have come to expect from Joe D'Appolito designs, the Usher Be-718 offers excellent measured performance.

—John Atkinson

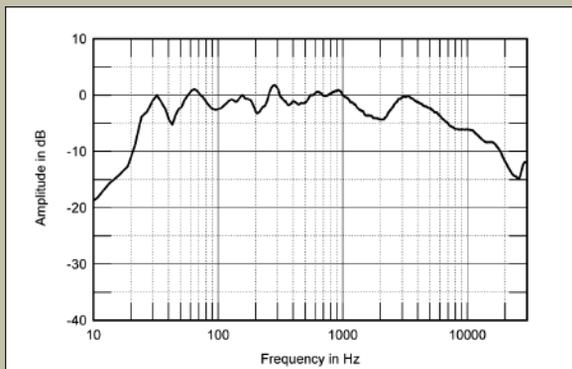


Fig.7 Usher Be-718, spatially averaged, 1/2-octave response in WP's smaller listening room.

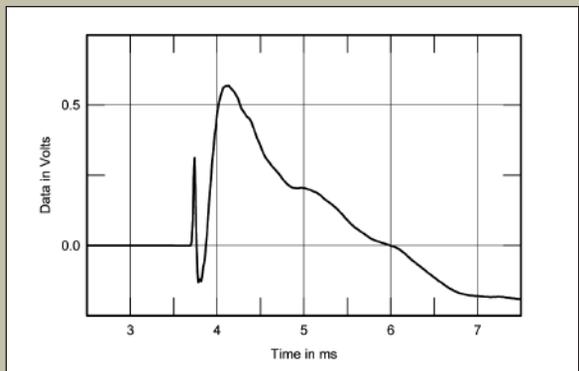


Fig.8 Usher Be-718, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

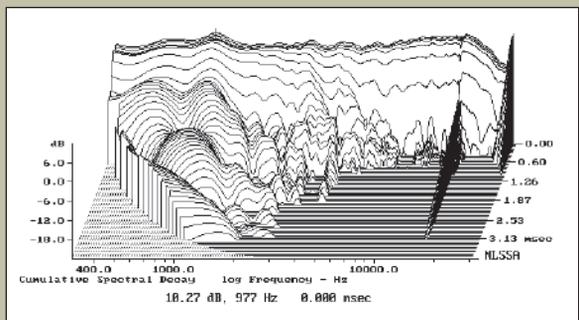


Fig.9 Usher Be-718, cumulative spectral-decay plot at 50" (0.15ms risetime).

hell feel it through Rahsaan's music."

Through the Be-718s, could I ever. Powerhouse drummer Robert Shy was more powerful than a locomotive, and Henry Pearson's bass was supple and huge. Most of all, Kirk was as big as life. Perhaps the magical song of the set was his interpretation of Fats Waller's enchanting "Jitterbug Waltz" on stritch, where he plumbs the instrument's lowest octaves before launching into cascades of improvisation at the top of its register. Whether down low in Pearson's deep, deep accompaniment, or re-creating Kirk's flights of fancy, the Ushers kept it real.

And Dorn was right—you do feel something in Kirk's music: you hear how much he loved it. I'm not sure John Atkinson has a measurement for that, but the Ushers reproduced it palpably, holographically, and definitively.

Tord Gustavsen's "Turning Point," from *Changing Places* (CD, ECM 1834), is a suspended cathedral of a work—it's all about space and air, and it moves forward like a puzzle unfolding. The Be-718s gave bassist Harald Johnsen impressive slam, if perhaps not quite all he deserved. Few stand-mounted two-ways can come as close as the Ushers, however. Gustavsen's liquid piano sounded fully present, and the Swiss-watch precision of Jarle Vespestad's drumming was extraordinarily vivid. If you're a fiend for high-frequency detail but are averse to etch, grain, or oil-can resonances, the Be-718 has your number. Its tweeter never upstages the music, but self-effacingly delivers the goods.

Storm of difference

As my audition of the Be-718s continued—I was having too much fun to rush it—I realized that the Ushers reminded me most of the Dynaudio Confidence C1 (\$7000/pair), which I reviewed in the November 2007 *Stereophile* (Vol.30 No.11). Like the Usher, the Dynaudio has uncommonly deep bass for a smallish two-way design. The two were also similar in needing to be bossed around by a powerful amp, the Ushers seeming to need a touch more Welly.

The sonic resemblance was remarkable. The Confidence C1 really is remarkable—but at half its price, the Be-718 came eerily close. I began by listening to Leif Segerstam and the Helsinki Philharmonic's recording of Einojuhani Rautavaara's *Symphony 7*,

Angel of Light (CD, Ondine ODE 869-2), and was hard-pressed to determine a preference. The C1 delivered more bottom-end extension—or, at least, more easily heard detail—but also had an ever-so-slightly more forward top

Emmylou Harris's *Blue Kentucky Girl* (CD, Reprise 3318), was perhaps the singer's purest foray into country music prior to her spectacular acoustic triumph *Roses in the Snow*. When Harris sings "But each and every heart /

THE CONFIDENCE C1 REALLY IS REMARKABLE— BUT AT HALF ITS PRICE, THE BE-718 CAME EERILY CLOSE.

end. The Be-718 had an admirably relaxed top end while surrendering not one whit of detail.

Kirk's *Bright Moments* was dynamically impressive through both speakers, though I believed I heard a bit more of the Keystone Korner's acoustic through the Dynaudios, specifically the flex of the stage's floor under Robert Shy's trapset. Just a *smidge* more, however.

Both speakers did a magnificent job of conjuring the thunderous power of the full-tilt-boogie onslaught of Kirk's Vibration Society, however.

On the other hand, Kirk's stritch sounded less aggressive through the Usher—not, I hasten to add, less alive, simply less strident. With Kirk's tenor saxophone, however, I noticed a bit of hardness in the Be-718's portrayal of the upper midrange—possibly a slight wrinkle in the crossover's handoff to the tweeter at 2kHz?

"Beneath Still Waters," from

Must take its turn at misery," her voice soars straight into Patsy Cline territory. But the next lines—"And this time it's me / And I'll cry alone"—are delivered with such purity that they meet Pound's definition of poetry: It is news that stays news.

In my review of the Confidence C1s, I remarked that they had an ability to deliver female vocals that was nothing short of magic. I still think so—Harris broke my heart again. As she did through the Usher Be-718s. Was one speaker better than the other with women's voices? They were close, but I'd give the slight edge to the Confidence C1s, again noting that Harris's transition from chest to head tones seemed smoother and rounder. The Be-718s were just a shade less liquid. I wouldn't bet my paycheck on the difference between them. Both were scary good.

And remember, the Ushers are half the price.

ASSOCIATED EQUIPMENT

DIGITAL SOURCES Ayre C-5xe and Muse Polyhymnia universal players, McIntosh MS750 digital music server.

PREAMPLIFIERS Ayre K-1xe, Conrad-Johnson ACT2.

POWER AMPLIFIERS Musical Fidelity Nu-Vista 300; Portal Audio Paladin monoblocks.

INTEGRATED AMPLIFIER Ayre AX-7e.

LOUDSPEAKERS Dynaudio Confidence C1.

CABLES Interconnect: Shunyata Research Aries & Antares. Speaker: Shunyata Research Lyra.

ACCESSORIES Ayre L-5xe line filter; Furutech eTP-609 distribution box; APC APCS15 AC line conditioner; Furutech RDP panels, RealTraps Mini & Mondo Traps. —Wes Phillips

So big

They say that committees are a great way to prevent things from getting done, but the men who designed the Usher Be-718 have achieved something remarkable: a small speaker that sounds big, and possibly twice as good as it has a right to. And they made it good-looking as well.

If you can't live without bottom-end extension below 30Hz, if you listen to death metal in a warehouse cranked up to 11, well, the Usher Be-718 isn't for you. Look elsewhere.

But if you don't want to spend a penny more than you have to for not simply good but great sound, if you love music and want to keep the affair alive, you should listen to the Usher Be-718—and buy a powerful amplifier with the money you'll save.

You won't regret either decision. ■