



PARADIGM PREMIER 800F

STEREO LOUDSPEAKERS

The sign of a top loudspeaker is that you hear the music, not the loudspeakers. And that's exactly what Paradigm's top Premier floorstanders achieve.

You don't need to take too close a look at the Paradigm Premier 800F to realise that it has some pretty unusual technology — one look at the midrange driver shows that. But if you do take a closer look, you'll find even more unusual technology on offer. The famous Canadian manufacturer has really thrown all its recent technological break-throughs into this new four-driver, three-way range-topper.

Equipment

The most obvious technology sits in front of the Premier 800F's 165mm midrange driver, which is a carbon-infused polypropylene cone with a Thiele/Small diameter of 130mm. In front of it is what Paradigm calls a patented 'Perforated Phase-Aligning' (PPA) lens, which it says "increases and smooths its output without colouring the sound". Another benefit is that it protects the cone from being damaged.

The idea of putting a dispersion/phase-alignment device in front of a driver is not a new idea — loudspeaker manufacturers have been putting them in front of tweeters for more than half a century, and indeed Paradigm has fitted one to the tweeter on this Premier 800F. But putting one in front of a midrange driver is, while not without precedent, relatively rare. Most manufacturers instead depend on a conventional grille of some type for physical protection.

You soon appreciate that the Paradigm Premier 800Fs are doing exactly what a good pair of speakers should do — which is to tell it like it is...

How might such a 'lens' "increase and smooth" the output of a midrange driver? One reason is fairly obvious. In any 'cone' loudspeaker, the cone moves inwards and outwards in piston fashion to produce sound. So if the centre of the cone moves forwards and backwards one millimetre, the outside edge of the cone, where it joins with the roll surround, will also move forwards and backwards by one millimetre. But because sound waves are quite short (a 4kHz sound wave is 11cm long) this means that the sound wave created at the centre of the cone will be slightly out of phase with the same sound wave that's being created at the cone edge, and when the waves combine further in front of the driver there will be interference that will cause frequency response variations — increases when the sound waves are in phase and decreases when they're out of phase. What Paradigm is doing with its PPA lens is trying to minimise the deleterious sound-wave interactions while at the same time maximising the useful ones. And we say 'trying' because to do this perfectly, you'd need a slightly different PPA for every frequency the driver is capable of reproducing.

Now take a close look at the roll surrounds of the two bass drivers. Instead of being a smoothly curved piece of material (manufacturers use various materials, including rubber, cloth, foam, thermoplastic, etc), the roll surround of the 800F's bass driver is both ridged and curved, in a process Paradigm calls 'Active Ridge Technology, or 'ART'. Paradigm says these corrugations not only enable much greater driver excursion than a standard profile surround but also enable a driver to deliver higher SPLs for the same input, and with less distortion. Indeed Paradigm says the differences can be quantified as "an astounding, measurable 3dB gain in output



and a 50% reduction in distortion". Also, rather than gluing this surround to the cone, Paradigm says it 'overmoulds' the surround onto the cone, which it says provides a much stronger bond. Paradigm has been granted two US patents for its Active Ridge Technology, which was invented by Paradigm researchers Oleg Bogdanov and Kevin Stitt. One patent covers the ornamental design of the surround, while the other describes the function of the profile as being (in part) as "having a cross-sectional profile that varies continuously between each peak and adjacent trough so as to substantially eliminate unwanted stress-induced deformation during displacement of the diaphragm suspension when in use".

As for the cones themselves, they're formed from carbon-infused polypropylene, have dish-shaped dust caps and a Thiele/Small diameter of 130mm for an effective cone area (Sd) of 133cm², so the total for both drivers would be roughly equivalent to that of a single driver with an overall diameter of 203mm.

The tweeter in the Premier 800F is a 25mm pure-aluminium dome model which also benefits from a PPA lens. It has a neodymium magnet fitted with external heat-sinking, and the voice-coil gap is filled with ferro-fluid for improved efficiency, damping and cooling. Rather unusually, it's fitted not to the cabinet but to the ABS facade that covers the entire front baffle and also creates the PPA lens in front of the midrange driver.

Paradigm has positioned the fairly large (77mm diameter) bass-reflex port that augments the bass output of the Premier 800F on the rear of the speaker, so pushing the cabinet up against a rear wall would not be advisable. Unusually, but rather sensibly, the inner end of the port has an acoustically-transparent cloth stretched across it that lets sound through, but keeps small beasties out. (Speaker cabinets are quite warm inside, because of the heat created by the drivers and the internal baffling material, which is a bit like a doona.) The rear panel is also home to the four speaker terminals, which allow bi-wiring or bi-amping. The terminals and the buss-bars that link them are high-quality multi-way gold-plated types, though the clear plastic knobs on the posts are not of the same quality.

As you can infer from the photographs here, the Premier 800F is a tall (105cm-high) and slim (23cm-wide) speaker. Paradigm has used 'outrigger' feet to increase the size of the footprint, though it's still fairly easy to tip over. (You could improve stability by using the supplied screw threads on the feet to attach a wider outrigger base, rather than screwing in the supplied spikes or rubber feet.) The company uses angular side panels on the cabinet to get the visual and acoustic advantages of curved cabinets without actually having any curves. Our review speakers came with Paradigm's new 'Espresso Grain' finish. Judge this for yourself; if it was our money we would be going for one of the other two available finishes: gloss white or gloss black.

As for where the 800F speakers are manufactured, you will be pleased to hear that in a world where even some of the highest-end loudspeakers are now being manufactured in China, all Paradigm Premier Series speakers are designed, engineered, and manufactured entirely in Canada.

Performance

We have to say it. The first thing that leaps out at you when listening to Paradigm's Premier 800Fs is that nothing leaps out at you. Yes, the bass is great, taut, controlled and deep, whether you're listening to a jazz trio, a rock band or an orchestra. Yes, the midrange is

beautifully natural, whether it's reproducing vocalists or instruments. And yes, the high frequencies are gloriously extended to beyond the upper limits of human hearing and, on that journey, the clarity of the sound and the silky-smoothness are outstanding.

But you don't really hear any of this, because the overall frequency balance is so perfect that all this great sound at the different frequencies is just... well, great sound right across the board. And more importantly, it's a perfectly natural sound.

The authenticity of the 800F's bass response was perfectly demonstrated to us as we listened to the wonderfully-named 'Flight of the Cosmic Hippo' album by Béla Fleck and the Flecktones. On the title track, listen

to Victor Wooten absolutely paste his bass lines into the song's structure. Listen to the entire album and you'll hear how effortlessly the Paradigms reveal which of his 4-string, 5-string and 6-string basses he's playing. As for their version of *Michelle* (Lennon/McCartney), it's simply sublime.

There's also plenty of low bass to admire on Crooked Still's 'Shaken By a Low Sound', but we listened to it to enjoy the beautifully recorded sound of all the instruments on the album as well as the achingly delicate voice of Aoife O'Donovan. This album will demonstrate to you the unerring accuracy of the Premier 800F's midrange reproduction. Just listen to Greg Liszt's banjo, Rushad Eggleston's cello and Casey Driessen's five-string violin. But the star of the sonic show is undoubtedly O'Donovan's pipes.

One of our go-to albums for testing treble is Steely Dan's 'Can't Buy a Thrill', from 1972. On *Do It Again* the different sounds and textures of the congas, cymbals, finger-cymbals, electric piano and guiro make for a true tweeter-tester, and the Paradigm 800F's tweeters were more than up for it. And if you think the Paradigms are making the guitar

solo sound weird, they're not: you're listening to an electric sitar, played by Denny Dias.

You will need to angle these speakers in a little, so they're aimed either directly at the listening position, or so that the acoustic paths cross just in front of it, and you don't want to be sitting too close to them. But apart from

this, they're remarkably forgiving of room position, so long as you leave at least 20–30cm of space at the back for those rear-firing ports to do their stuff.

Conclusion

The Paradigm Premier 800F is one of those rare loudspeaker designs that delivers monitor-like sonic accuracy. If you've become accustomed to hearing over-egged bass, or speakers that deliver a peaky, forward midrange to impress inexperienced listeners, or treble that's either rolled off to imitate smoothness or artificially elevated to give a bit of a tizz, you may well be a little underwhelmed when you first listen to a pair. But once you've spent quality listening time with them, preferably with your favourite albums (rather than a dealer's demo collection), you will soon appreciate that the Paradigm Premier 800Fs are doing exactly what a good pair of speakers should do — which is to tell it like it is. Highly recommended! 🎧

PARADIGM PREMIER 800F STEREO LOUDSPEAKERS

- Superb sound
- Super-accurate
- Easy to drive

- Stability
- Terminal post knobs

Price: \$3499 per pair

Enclosure type: 4-driver, 3-way bass reflex, floorstanding

Quoted frequency response: 43Hz–25kHz ±3dB

Low frequency extension: 27Hz

Sensitivity: 92dB SPL / 89dB SPL (room/anechoic)

Impedance: Compatible with 8 ohm

Crossover frequencies: 700Hz & 2.5kHz

Crossover slopes:

2nd-order electro-acoustic

Drivers: 25mm X-PAL dome with PPA lens, 165mm with carbon-infused PP cone & PPA lens, 2 x 165mm Carbon-Infused polypropylene cones

Finishes: Gloss Black, Gloss White, Espresso Grain

Dimensions (hwd): 1053 x 230 x 350mm

Weight: 24.2 kg

Contact: Audio Active Australia

Telephone: 03 9699 8900

Web: www.audioactive.com.au