

GRAND DESIGNS

David Price listens to Perigee's svelte new FK-1F loudspeakers, complete with superb ribbon tweeters.

Audiophiles have long appreciated ribbon drivers for their incredible sense of speed, accuracy, and detail. They are rare though, usually being used as a tweeter. In the FK-1Fs Perigee use a ribbon that operates over a substantial part of the audio range to make ribbon benefits more prominent.

There's no denying that Perigee's ribbon tweeter is an exquisite bit of kit. A multiple layer aluminium/ steel/ neodymium magnetic ribbon assembly, it is set in a monopole configuration, with no transformers or resistors needed. The static parts of the driver are extremely solid and rigid, with the faceplate being precision CNC machined aluminium. Effective mass is just 0.2g, with the driven area covering more than 90% of its mass. Power handling is high and efficiency is very good at over 92dB. The bass drivers use twin tuned ports to control low frequency cone behaviour.

These are set into a massive 25mm MDF cabinet that's painted using a multi-stage two-pack paint process, and held securely with TORX fixings. Internal wiring is matched to the drive units to ensure maximum integration, and all circuit joints are silver soldered and hard wired. Inductors and capacitors are claimed to be tight tolerance, high-grade types with no resistors are

used. The FK-1Fs are offered with an optional PERISER platform, designed to couple the speakers firmly to the

floor – but frankly these things are so heavy that they can do the job by themselves. A lower enclosed cavity for sand filling increases the static mass of the speaker to approximately 50kg. Thick level adjustable spikes are provided, with optional spike cups for tiled or timber floors.

High quality gold plated brass binding posts are provided for bi-wiring. For the purposes of this review, these were driven by a Pioneer SPEC1/ SPEC2 pre-power, able to serve up 250W without complaint. Whilst the high sensitivity of the FK-1Fs is such that you can use higher powered valve designs, those with big rooms will need something with serious solid-state wallop. I found they worked best about 30cm out into the room, whereupon the bass integrated best with the rest of the sound. Source was a Michell GyroDec/SME Series IV/ Linn Akiva, courtesy of Trichord's Delphini II.

SOUND QUALITY

The FK-1Fs are deeply impressive loudspeakers, even at their elevated price point. Switch on and by the end of the first bar you'll be well aware of the fact that they are ribbon designs, simply by virtue of the general lack of grunge coming out of the high frequency unit! In a sense, a loudspeaker like this is fantastic – but



also worrying because it tells

you, clear as day, what all other designs are doing wrong.

For example, The Crusaders' Street Life. The opening few bars, complete with jazz piano and Randy Crawford's sublime vocals, showcased that brilliant transducer to best effect. Here is air and space that you'll rarely hear even through an electrostatic, sheer unconstrained out-of-the-box imaging and articulation that no moving coil can do, and sublime rendition of female vocals, capturing every last inflection and accent, possessed of the most incredible smoothness right up and down the scale. Best of all is when the band kicks in a proper - then the speed of a ribbon becomes obvious. They are dazzlingly fast yet totally

PERIGEE

"The point nearest the earth's centre in the orbit of the moon or a satellite. The point in any orbit nearest to the body being orbited".

devoid of grain or edge. This is quite eerie, as many metal domed loudspeakers achieve an impression of speed thanks to a clang or zing - but the FK-1Fs have neither. The result is that music bounds along with a seamless smoothness that filled me with wonder!

Although tonally ever-so-slightly coloured (ultimately, those ribbons invest hi-hats with just the smallest amount of extra silk), they're essentially very open. For example, Tom Tom Club's Genius of Love brings an altogether different sound - far thicker and more fulsome - as these speakers really spotlight the difference in recorded acoustics like few others. They image very well out of the box - there's a definite sweet spot and in this respect they're a good way behind Quad 989s. Yet that hear-through midband (projecting well forward and hanging well back from the plane of the speakers) puts them head and shoulders ahead of most conventional designs. There's that same brilliant speed, total lack of edge and tremendous alacrity with rhythmic accenting, but an altogether different studio sound.

Interestingly, although the Perigees are so transparent, this never detracts from the experience - they seem to let the instrument's flavour flood out no matter how bad the recording may be. This is the

difference between true transparency and adding an attractive sonic footprint - the Perigees do the former and many of its high-end rivals the latter.

However, don't think they're perfect because they're not - far from it. Going back to what I said about all 'speakers being their designer's view of what particular compromises should be made, it's fair to say that the FK-1Fs score straight As on treble and midband, but are merely B+ on bass. It is the sublime clarity and ease of the mid and high frequencies that shows up the bass as being a little slow and lacking in articulation. Even with the best set-up and positioning, I simply couldn't get away from the feeling that I was listening to a 'hybrid'. In this sense, the Perigees are less successful than, say, Quad's 989 - which of course are not a hybrid!

The bass units do what they're there to do with style - they lend weight to the ribbons' sublime highs, serving up serious amounts of low frequency punch with sledgehammer weight. They go very low and are even all the way down - there's no obvious hot spot or boom. Decently tuneful, they reproduced the left hand piano cadences of Herbie Hancock's The Prisoner with panache. Indeed, bass guitars from Thomas Dolby's Flying North had

WHY RIBBONS?

What differentiates a ribbon from any moving coil driver is its amazingly low mass. A thin conductor is etched onto a light foil suspended in a magnetic field. Passing a signal through the conductor generates a magnetic field, causing it to move. Because there is no heavy metal or cloth dome, it offers tremendous transient speed and great sensitivity to the tiny inflections within audio signals.

Once you've heard a good ribbon tweeter, very few moving coils can compete, but the critical problem is getting it to interface properly with the mid/bass units, which generally have to be moving coil designs thanks to reasons of physical size and cost.

plenty of weight and a good tonality too. It's just that they simply don't integrate seamlessly with the ribbons. It's just a subtle sensation that you soon get used to, but it is there all the same.

The FK-1Fs excel in clarity, transparency, detailing, transients, smoothness, sweetness and openness. They're not perfect but all the same remain one of the very best loudspeakers I have ever heard.

Perigee FK-1F £5,000

Perigee Acoustics
www.perigee.com.au

MEASURED PERFORMANCE

Measurement shows the ribbon works from 800Hz right up to 20kHz, three octaves more than most ribbon tweeters. This shifts the usual 3kHz crossover frequency downward to where longer wavelengths make integration less critical.

The ribbon has an acceptably flat frequency response our analysis shows, it reaches 16kHz with no difficulty.

The unit has very low impedance, reaching just a few ohms at 4kHz and above. Many amplifiers will produce twice as much distortion when required to deliver the current demanded by the Perigees, so amplifier choice is important. Counterbalancing this is very high voltage sensitivity. These speakers deliver a healthy 88dB SPL from one nominal watt (2.8V) of

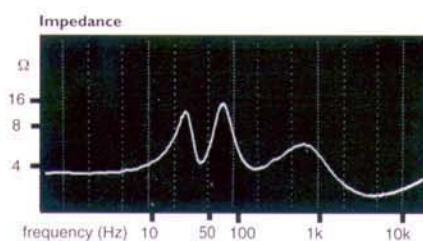
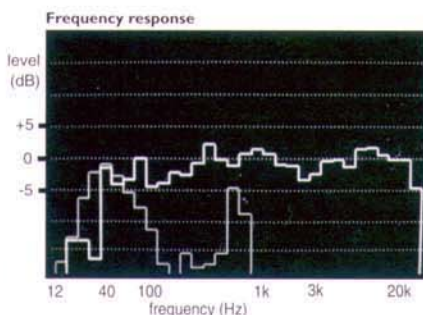
input, so they don't need to be pushed hard for high volume. Overall impedance measured 3.8ohms. A valve amp set to 4ohms will handle this elegantly, revealing what a good ribbon can do.

Passing full range through two cone units smears the acoustic centre vertically, expanding image size artificially; these are not point source loudspeakers.

The bass drivers look well damped, as their output falls away gently, and they will likely sound tight and clean, whilst good cone area will move air without distortion. The lower limit of forward radiation is 40Hz, the two large rear ports working a little lower to around 25Hz. I would

expect, clean but solid bass.

The Perigee is a cleverly engineered, high quality ribbon loudspeaker. **NK**



World Verdict

Exquisitely smooth, fast and detailed, the FK-1Fs are a convincing argument for ribbon loudspeakers but are not without flaws.