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Twenty's vision



PMC's new twenty series applies some of the lessons learned while developing the upmarket fact models, says **Paul Messenger**

PMC achieved its 20th anniversary last autumn, celebrating the fact by launching a brand new four-strong 'twenty' series of models that are intended to fill the gap between its regular 'i' series of domestic hi-fi speakers and much more costly 'fact' models.

In truth, the twentys are priced much closer to the 'is' than the 'facts', this compact floorstander starting at £2,095 for the real wood veneered version. (There's a choice of three here, including oak, walnut and amarone, though the high-gloss Diamond Black finish costs an extra £210.)

That compares with a current price of £1,525 for the GB1i, its nearest equivalent in the standard range. Judging by the bold specifications, the two models seem to have a great deal in common. The transmission line loading the bass is the same length (2.4m) and both drive units have the same nominal sizes.

Sharp and tilted

However, the twenty.23 looks much sharper and up to date than the

GB1i and, perhaps, the real clue to its superiority lies in a significant increase of roughly 25 per cent in weight. It's a little larger, too and features numerous detail refinements intended to improve performance.

The most distinctive feature of all the models in the new range is that the enclosures tilt slightly backwards. It's only a five degree angle of tilt – any more would probably upset the stability too much – but it does substantially enhance the appearance, as well as contributing to the time-alignment of the two drivers' voice-coils.

Driver technology

One consequence is found in the plinth, which is set back a little to compensate and ensure that the spikes are properly located directly below the fore'n'aft centre of gravity. Besides enhancing the physical stability, the plinth has two additional features. The overlap at the back is rounded and shaped, with a groove that provides a convenient hand-hold for lifting and moving the speaker. And the three-bolt fixing for the plinth is accomplished through

► DETAILS

PRODUCT:
PMC twenty.23

ORIGIN:
UK

TYPE:
Two-way compact floorstander

WEIGHT:

13.2kg

DIMENSIONS:
(WxHxD)
152x918x330mm

FEATURES:

- 27mm Sonolex soft-dome tweeter

- 140mm doped paper cone bass/mid driver

- 2.4m ATL (advanced transmission line)

- Large line exit on front

- Twin terminal pairs

- Decoupled spike-equipped plinth

DISTRIBUTOR:
PMC Ltd

TELEPHONE:
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pmc-speakers.com

carefully designed cork'n'rubber washers, which provide a measure of decoupling. The fixing instructions seem a bit haphazard – take up bolts to finger-tight, then add a quarter turn – but we're assured they're effective, as is the technique.

The enclosure itself is substantially constructed from 18mm high-density fibreboard (HDF) and further stiffness is provided by the internal structure provided by the folded transmission line, which is 2.4m in length and, therefore, requires two long vertical partitions. The line is terminated in a large port on the front near the floor and further bracing is applied inside the critical top surface.

The drivers might look similar to others used by PMC, but they're actually unique to the twenty series. The twenty.23's bass/mid M13 is a cast frame 140mm unit. It has a 95mm diameter flared paper cone

“It does a remarkable job of delivering fine neutrality and excellent stereo imaging.”

with a textured surface and matt-finish doping.

The Sonolex tweeter was developed alongside Norwegian OEM driver specialist SEAS and has a 27mm doped fabric dome. A rear chamber helps keep the diaphragm's fundamental resonance quite low, allowing the crossover to operate at a lower than usual 1.8kHz. The dome sits behind a special fixed grille which helps widen the dispersion.

Twin-input terminal pairs are conveniently located near the floor. Parallel connected with brass rods when delivered, these also provide the bi-wire or bi-amp options. Inside, the crossover network follows PMC's established tradition in using steep 24dB/octave slopes, ensuring fine phase coherence and minimal driver overlap, but also requiring extra care in component matching during manufacture.

Simple ingredients

Room measurements showed that the twenty.23 is very well suited to positioning well clear of walls, whereupon it delivered decently even bass extension down to below 40Hz in our listening room and was free from unwanted mid-bass excess.

The fixed grille on the Sonolex tweeter fronts a rear chamber that's designed to reduce resonance



Q&A...

WE SPOKE WITH PMC'S CHIEF DESIGNER AND OWNER PETER THOMAS



HFC: We're intrigued by the 'backwards tilt' of this loudspeaker. Is this purely a styling device or does it also enhance performance?

PT: Both, but mainly technical. The tilt benefits the phase alignment of the drivers. This tilting integrates the two drive units using fewer crossover components and has the bonus of reducing reflections within the cabinet and the associated colorations.

At the launch you spoke about 'trickling down' the lessons learned when developing the upmarket fact models. Can you expand on this and be more specific?

The main areas borrowed from fact are: the inert, narrow baffle; the highly braced ultra-low-noise cabinets; refinement of the transmission line damping material; and new tweeter and bass units. The low 1.8kHz crossover point follows in the fact footsteps, along with hand-selected and matched components, and even the low interaction layout mimics the fact design.

Are the drivers the same as those in the fact.8, or are there detail differences?

Every element of the twenty series is new. The twenty tweeter is a 27mm soft dome rather than a 19mm unit, but has a similar grille to extend the high-frequency response and widen the dispersion. The new LF units are specifically designed for their corresponding transmission lines.

PMC uses relatively complex crossover networks, though numerous other brands try to maximise simplicity. Doesn't it worry you that all those extra components will compromise the sound quality?

Not at all. What is more a worry is the poor results from using simplistic crossovers. High order crossovers are more difficult and more expensive, but enjoy vast benefits. More components increase the possibilities for tailoring the speaker to create greater accuracy. They also increase power handling, widen dispersion and reduce coloration.



TRANSMISSION line approach has several benefits, not all of which are immediately obvious to the casual observer.

The alleged prime purpose is to reinforce the lower bass by using the line to reverse the phase of the output from the back of the cone, so that it adds to (rather than cancels with) the main cone output at low frequencies.

However, several other factors are also important, such as the internal partitions that form the line add considerable extra stiffness to the side panels and the way the line absorbs, rather than reflects midrange output radiated from the back of the main driver cone.

Most of the listening was done using a Naim CDS3/555PS CD player, a modified hybrid Rega/Linn Sondek LP12 with Rega RB1000 tonearm and SoundSmith Strain Gauge cartridge (HFC 324), and a Magnum Dynalab MD 106T tuner. Amplifiers included a Naim NAC552/NAP500 combo; cables were from Chord Company, Vertex AQ, Phonosophie, Vertere and Naim, while equipment supports included Mana, Vertex AQ, Naim and Townshend types.

The twenty.23 might be a simple design with quite simple ingredients, but its sound quality is very classy indeed, with a delicacy, transparency and freedom from both boxiness and cabinet coloration that is unusual at any price. Some degree of constraint in both bass weight and dynamic expression is inevitable with such a small bass/mid driver, but for listeners prepared to accept such limitations, this loudspeaker ticks most, if not all, of the boxes.

The transmission line approach is discussed in more detail in *Talking Point* (left). Although the bass reinforcement and enclosure stiffening are both significant, arguably the most important effect is the way a well-damped line can absorb the midrange frequencies from the back of the driver, avoiding the boxy reflections often created within conventional enclosures.

And it's this freedom from audible midrange boxiness and congestion that really sets this speaker apart from most of its competitors and is responsible for its fine transparency.

That lack of boxiness is also responsible for the superior stereo imaging, which seems entirely divorced from the speakers themselves, while the wide dynamic range and low 'hash' floor assist the ability to create realistic depth perspectives with appropriate material. Mono sources, such as speech, demonstrate impressively tight central focus.

Trawling through familiar programme material showed that this is a speaker that's invariably inviting and very easy on the ears, and the ability to deliver an unusually wide dynamic range by effectively resolving very low-level detail is more than fair compensation for a rather more modest ability to deliver realistic dynamic punch and grip.

The top end is quite strong, relatively speaking, but only rarely to the point where it becomes in



any way intrusive. It's also clean and sweet enough to bring an attractive texture to the sound of instruments such as violins and realistically render the background audience noise during live performance recordings.

One interesting question must be how the twenty.23 fits in between the GB1i and the fact.8 (or fact.3). Without the opportunity to bring all three models together, it's impossible to answer that question accurately, but relying on an admittedly fallible audio memory does suggest it sits rather neatly between the two.

The GB1i is a decent enough speaker, no question, but it simply lacks the all-round sheer class of the twenty.23, especially in terms of smoothness and bass-end clarity.

The fact models are significantly more costly and have an extra bass/mid driver, so making a fair comparison is harder. However, the senior models do seem to combine an impressively smooth delivery with rather more dynamic expression than that available with the twenty.23 and significantly more bass weight, too, in the case of the fact.8. Whether that's worth the rather hefty price premium on purely sonic grounds is, perhaps, debatable, but the facts do also have certain advantages in presentation.

Cool and Dry

It's probably true that the twenty.23 is best suited to rooms that are somewhat smaller than the relatively large (4.3x2.6x5.5m) listening room used for our tests. It's certainly true that the overall character is on the dry and cool side of neutrality and could, perhaps, do with a bit more weight and warmth.

The bass does go deeper than one has any right to expect in view of the small size of the bass/mid drive unit. It's undoubtedly clean, crisp and agile here, providing plenty of information on what the

DETAILS



- 1** An optional cloth-covered grille is retained by concealed magnets
- 2** Enclosure incorporates an elegant five-degree 'backwards tilt'
- 3** Separate plinth aids stability. It's set back to accommodate the tilt and incorporates controlled decoupling
- 4** Advanced 2.4m transmission line terminates in a large front port by the floor
- 5** Hand-hold groove is hidden within the rear extension of the plinth
- 6** Enclosure has sharp edges all round and comes in a choice of three wood veneers or high-gloss black

HOW IT COMPARES

THE TWENTY.23 is certainly costly for a compact two-way floorstander based on a 140mm bass/mid driver – PMC's own less expensive GB1i model is a more typical example of the type.

Stand-out models at these lower prices include the GB1i (HFC 346) the Kudos X2 (HFC 336) and the B&W CM8 (HFC 344).

Moving up closer towards the twenty.23 price, the £1,685 transmission line two-and-a-half-way Rega RS7 (HFC 347), the muscular port-loaded £1,690 ProAc Studio 140 Mk2 (HFC 347) and the £1,890 quarter-wave-loaded Audiovector Ki3 Signature (HFC 343) are stand-out performers.

At £2,295, the Spondor SP2/3R2 (HFC 343) provides an interesting, classically styled standmount alternative.

bass lines are doing. But it could do with a bit more authority and grip, especially with rock and synthesised material. The bass hangs on in there pretty well and is well able to communicate the musical messages, but it doesn't exactly power and drive the music along in the way that gets the blood coursing in the veins, and in the manner that a significantly larger loudspeaker can manage.

However, there's no denying the fine top-to-bottom coherence that this speaker delivers. One bonus that comes from using such a small bass/mid driver lies in the advantages it offers at the top end of its operating band, in making the crossover transition to the tweeter.

The twenty.23 accomplishes this changeover particularly well – rather better, in fact, than the GB1i – showing just sufficient restraint to avoid the presence zone from becoming too aggressive when the volume is turned up, yet without leaving voices (especially speech) sounding shut in.

All-round value

This relatively small and quite discreet loudspeaker looks good, with a high-class standard of finish that's very much in the modern idiom.

Despite its modest size, it does a remarkable job of delivering an essentially full bandwidth sound, with fine neutrality and excellent stereo imaging. The tonal balance is generally smooth and even and the sound quality has impressive overall coherence and midband transparency. A bit more bass authority might well be appreciated, but there's no denying the fine all-round value for money of a very well-judged design. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Delicate and transparent midband, with a wide dynamic range
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Could do with more bass and greater dynamic expression
- BUILD QUALITY** ★★★★★ **WESAY:** Attractively styled, with a smooth coherent balance and a dry, but clean bass
- EASE OF DRIVE** ★★★★★

OVERALL

