

# INFINITY IRS BETA

Infinity has scaled-down the legendary IRS loudspeaker to create the more manageable IRS Beta. Ken Kessler checks them out for sighs

**L**OOK AT THE COVER. Note carefully: this is a high-end supplement dealing only with exotic products. The speaker which I am about to describe is simply the largest, most complex, most expensive I have ever reviewed, and I'm in no mood to apologise for its girth, mass or £10,000 price tag. If you'd rather hear about products costing less than a 205GTi, please look elsewhere in this issue. This month, I get to wallow in sheer, unbridled luxury and no socialist tendencies are going to prevent me from going gaga over this hideously-priced exercise in terminal audiophilia.

Earlier in this decade, Infinity launched a loudspeaker so outrageous in cost and complexity that all but a few wholly-committed hi-fi loonies thought that Infinity's Arnie Nudell had two wheels in the dirt. Gone loco. Meshugger. Slipped out of his pram. Sporting 108 drivers per pair, standing 90in tall and weighing in at 1500lb in total, his four-unit Infinity Reference Standard system was a cost-no-object test bench for developments to be used throughout the rest of the range. To everybody's surprise – especially Nudell's – enough audiophiles (with deep pockets) were willing and able to purchase IRS for home use, and production is now well into three figures. That

may not impress you when you consider that a successful 'normal' speaker could sell 50,000 in its lifetime, but 'normal' speakers don't cost £30,000 or so per pair.

Consisting of two woofer towers and two mid/treble panels, the current IRS V employs (per channel) six 12in polypropylene bass units, servo-controlled and supplied with a 2kW amp per side, while the upper registers are covered by a dozen EMIM midrange planar drivers, 24 forward firing EMIT treble planar drivers and a dozen rear-mounted EMITs. Complex? You better believe it.

I've now heard IRS enough times, in enough venues and in enough incarnations to know that the system is one of the greatest hi-fi products of all time. Unfortunately, it is so large and expensive that its appeal is restricted to the very few, and it will forever remain – like the Goldmund Reference turntable – the sort of product which most of us will only ever hear at hi-fi shows . . . or in rich friends' homes.

The IRS Beta looks like a miniature IRS system, but I use the term 'miniature' quite loosely. Each of the four sections stands just under 65in tall, the mid/treble panels are 17in wide and 1in deep, and the bass towers occupy floor space of 18×17in. In the

7x7.5m listening room I'm privileged to use, they looked just right, but that room houses nothing else besides a pair of sofas and a coffee table. Suffice to say, these are best suited to something larger than a bed-sit.

You'll need a friend or three to shift and unpack the IRS Beta, which comes in three substantial cartons and a small box for the electronic crossover module. Each woofer tower has its own carton; they weigh in at 10 stone per. Both mid/treble panels come in one box and weigh a slightly more manageable 75lb each.

You unpack them with care, especially when they belong to someone else. Why? Because you don't want to scratch the exquisite Santos pau ferro woodwork. (No, I never heard of Santos pau ferro, which looks like a cross between the best dark walnut and rosewood. I'm sure Mo can finish some R300s in it if you fall in love with the stuff). Each of the four units has a black full height grille, with rear grilles for the mid/tweeter panels; the hardcore will leave these off while the house-proud will snap them in place.

Under the bass tower grilles are four 12in woofers, utilizing injection-molded cones made from a polypropylene/graphite fibre compound, said by Infinity to have the highest stiffness-to-mass ratio of any cone material in use. Even so, these are *big* woofers, and there are four per side, so controlling them could be a problem. To ensure that the effects of inertia don't create any distortion, Infinity has added servo control which senses driver motion via an accelerometer mounted on the woofer voice coil. This monitors the driver's motion, the output being compared with the input. The differential servo amplifier then generates a signal representing this difference (the woofer's distortion) and sends it back to the woofers' power amps in reverse phase, thus cancelling the distortion. Unlike the IRS, the Beta does not come with dedicated power amplifiers, so the user has to supply amps capable of delivering between 150 and 500W. Considering that the nominal crossover point is around 100-110Hz and that the servo-circuit can deal with all manner of sonic ills, amplifier choice is not as critical as for the upper panels. Lots of grunt and good stability will do the trick with these 4 ohm designs which, although sensitivity isn't stated, are deemed to be easy to drive.

The woofer panels' power amps are fed from a knob-laden control unit which features (L-R) a high-pass filter with settings at 'Out', 15, 22, 30 and 40Hz; a low-pass filter with settings of 60, 74, 90, 110, 134 and 164Hz; bass contour for boosting or cutting the slope ( $\pm 5$ dB, 20-100Hz); polarity inverter for the bass amp (to aid in matching amplifiers if different amps are used top and bottom - which they probably will be); low frequency level to balance the woofers' output to the mid/treble; power on/off with 12-15sec delay; Servo On indicator; Power On indicator. At the back are: voltage selector; fuse holder; left and right inputs to accept leads from the woofer towers carrying the accelerometer signal; 'Open Loop Gain Compensation' switch which compensates for power amplifiers of different gain to ensure that the amount of motion feedback (servo operation) is in the proper range; socketry for the signals to the bass amps, the straight-through (unprocessed) signals to the mid/tweeter amps and input signal.

## Setting up

I don't mean to seem lazy, but - as with the settings on the Apogee Diva crossover box - the precise settings I used will be absolutely of no use to others. This complex array of adjustments is meant to fine-tune the system to each individual customer's needs, and mine are quite typical. Let me explain.

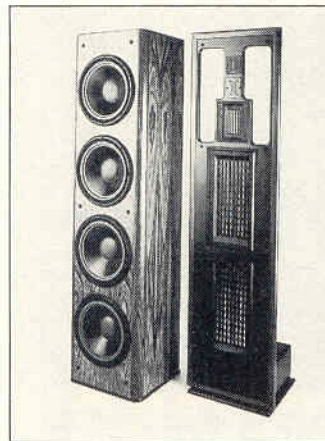
In addition to the controls on the servo unit, there are also three passive controls on the back of each mid/treble panel for setting the relative levels of the two mid-bass L-EMIMS, midband EMIM, single-front and single-rear EMITs and single Super EMIT per panel. What with the controls on the crossover, the passive controls and the complexity of siting four rather than two enclosures, I figured that I'd either need a month just to position and adjust them, or I'd simply screw up in classic fashion. But I was lucky. Because my review period coincided with The Hi-Fi Show and because Infinity's main man was over for the event, I had the pair set up in record time by the man who designed them. (As it turns out, the two owner's manuals, one for the speakers and a very detailed brochure for the crossover, run to almost 40 lucid pages. I worried needlessly.)

To paraphrase Mr Nudell, he'd never been in an 'easier' listening room in which to set up the speakers. Knob twiddling was minimal, the settings were about as close to neutral as you

can get, and he left confident that the Betas were working just as they should. What I'm hoping - as Nudell is not in a position to travel all over the world to install every pair - is that any retailers selling these speakers will be given a training course by Gamepath's Tony Mills, who learned the technique from the Master.

Where the experimentation came in was not in positioning (the manuals cover this in detail) or in knob setting (see above) but in selection of partnering equipment. Fact: the IRS Betas were designed to suit solid state for the bass towers and valves to the mid/treble panels, and this is all that Nudell specified in the choice of review system. Fortunately, he approved of my selections, which consisted of the Rowland Model 7 power amps for bass (350W each), the 200W monoblock Beard P100s (which so impressed him that I think he's ordering a pair), the Audio Research SP-9 pre-amp (genetically related to Nudell's SP-11 Mk II and SP-15), the California Audio Labs Tempest II CD player (which AN uses himself) and the Alphason Sonata turntable plus HR-100S-MCS tonearm with Krell KC100 and Spectral Reference moving-coil cartridges.

A brief aside: AN had never heard the Alphason set-up, which I gather is hard to find Stateside. He left shaking his head, marvelling at how a turntable in its price class could be so devoid of low-end grunge, negating the need for selective filtering when playing LPs which could drive the down-to-15Hz woofers into unwanted frenzy. Now I'm not saying that the Beards and the Alphason turned AN into a Union Jack-wearing Anglophile, but it did make a favourable impression on this fussiest of American audiophiles. Chalk two up for the UK, gang.



Anyway, the final ingredients were the cables, and we settled on my mystery leads for the mid/treble panels and Lieder leads for the bass. Now I suffer from real confidence-shaking, ego-battering paranoia when in the presence of hyper-critical mavens like Nudell. What with the rest of the system meeting his approval, I figured that things were going too well. So what happens? He insists that Tony Mills borrows my Lieders for the Penta demo. Swift wiping of sweat off forehead. Relief. Now we could get down to

some really serious listening sessions.

Last month, in our analogue supplement, I drew up a 'hit list' of analogue masterpieces; it was to these I turned for the review sessions. The breakdown included the Willy DeVille 'Assassin of Love' 12in single for assessing bass, the handling of transients and stage width, the Chesky pressing of *Lt Kije* for overall performance and more specifically ambience retrieval, and Fairground Attraction's 'Perfect' for vocals and the handling of acoustic instruments. CDs used included the delicious Unicorn release of Dmitri Tiomkin Western theme music ('High Noon' is a killer) for deep bass and coherence, *Cantate Domino* on Proprius for massed vocals and the ability to handle devilish complexity, and Bobby McFerrin's 'Good Lovin' (off the CD single) because I like it.

During the set-up session, which only ran to five hours to hit perfection, we went back and forth between these recordings. Every time I thought we'd passed the portals into Heaven, Nudell would say something like 'It's almost there'. He'd fiddle about, change a component, have me adjust the VTA or some such, and damned if he didn't extract even more from his babies.

## Sound quality

What finally emerged is the kind of performance which drives inarticulate reviewers up the wall, those who have run out of superlatives and are too mean to purchase a thesaurus. And, inevitably, it leads to the traditional dissection of the sound in order to try and convey just what makes a state-of-the-art product so magical, and to try to identify what keeps it from being perfect.

Nothing in hi-fi is perfect, though products like Goldmund turntables and Stax Lambda headphones come disconcertingly close. With the IRS Beta, the user is treated to performance so

hard to fault that the tendency is to say 'This is simply one of the finest speakers ever made' and leave it at that. Which would make for a very short review.

First, the obvious: the IRS Beta is one of the four best speakers I've ever heard as regards sheer dynamic capability. (The others are the big Duntechs, the Wilson WAMMs and the IRS). This alone may be enough to make the purchase mandatory for listeners who value dynamic contrasts and absolute range as the ultimate priority. Assuming that the user has matched the speaker with amplifiers capable of driving the IRS Betas properly, he or she will find it impossible to detect any form of compression or squashing when blasting out with the most powerful programme material one can muster. Not having any neighbours, I was able to hear the Betas emulating the PA at the Olympics and could only marvel at how distortion-free and unfatiguing was the sound at levels easily greater than I listen to in normal circumstances. I am talking major loud, like the kind of level that terminally-damaged train-riding Walkman users consider normal. Why did I categorize this under 'obvious'? Because I expected a system with a few square yards of woofer, a super tweeter and vast power handling capabilities to live up to the task. Besides, I know how much the designer values sheer dynamic capability. What staggered me was the way the system handled transitions from whisper-soft to rock-the-Casbah with such utter finesse.

Second, the not-so-obvious: I've lived here long enough (since Princess Di was 12) to have a British attitude towards the number of drivers in use, eg the fewer the better. My conditioning in the Land of Quad (rhymes with Nod) is to accept a full-range driver as ideal because it's free of crossover-induced garbage, while multi-driver systems' quality diminishes according to the increase in driver number. Hence, a good two-way should beat a good three-way, and so on. So I admit to some preconditioning, a bias against hybrids – even though the non-planar drivers in this system only deal with signal up to 100Hz or so.

I shouldn't have been surprised at the seamless continuity between the Beta's panels, because I remember the first time I ever heard Infinity's polypropylene/graphite drivers at a CES. I was with ex-HFN/RR editor John Atkinson at the time and we just looked at each other and uttered 'Wow!', like in *The Great Escape* when Steve McQueen and James Garner first tasted their homemade booze. It is fast bass, tight bass, but not the light, overdamped variety available from the better 8in cones in small, air-tight boxes. Rather it's the kind of bass with the richness and depth of transmission lines but with the control of small acoustic suspension systems. And it's transparent bass, no cloudiness because of sluggish driver behaviour. In other words, the bass drivers seem to be as quick as the lightning-fast EMIMs and EMITs, and you have to be some kind of wizard to detect the transition point in a correctly installed set-up.

Back to the obvious again: it was Arnie Nudell who told me four years ago that 'If the imaging is right then everything else is right'. His statement, yet to be disproved by anyone to whom I've spoken (except for Naim's Julian Vereker who thinks that stereo and imaging are figments of my imagination), is based on the argument that precise, realistic imaging, depth and ambience retrieval are products of tonal accuracy and phase coherence as well as the more easily understood dispersion. It's like setting up a Hadcock tonearm. Get one thing right and the others will follow; get one thing wrong and the rest will probably be fouled-up, too.

Despite their size, despite the number of different-sized drivers, despite the complex crossover, despite the (necessary) bi-amplification, the Betas image as magnificently as any speaker I can name, joining the Wilson WATTs, the LS3/5As and the Apogee Divas (and Scintillas) in my all-time Top Four. The system is configured as a point-source acting as a planar dipole down to 70Hz, which helps to explain how it can stand so tall yet still create images of 'correct' size rather than bloated, elongated shapes bearing no resemblance to reality. Oh, and the system is

so free of a hot seat (we listened critically three-abreast during the set-up period) that most long-term electrostatic users are in for a mind-numbing shock when they first hear Betas. They'll know what it's like to turn their heads and not lose the top two octaves. And the stage width, tested with the Willy DeVille single, was convincingly spread beyond the speakers' outer edges. And I have two witnesses to confirm that we heard specific instruments way beyond the edges.

Transparency: I said before that Nudell never rested, despite my conviction that the system was sounding as good as anyone could want. His response to his worries about things being 'not quite right' involved what he called 'removing another veil'. With the deftness of a restorer of paintings, he tweaked and fiddled, each time increasing the transparency to the point where you realized that you were listening to naked sound, with any anomalies being the fault of the partnering components. Such is the flexibility of the crossover and the way that the speaker responds to even subtle alterations elsewhere in the chain (repositioning the speaker leads) one feels the name 'Infinity' is no accident, because the possibilities for fine tuning indeed seem infinite. More specifically, the 'test' recordings delivered the following:

'Assassin of Love' – Smooth, consistent bass which illustrated the seamless transition from tower to panel; The widest stage I've ever experienced (see above); Crisp attack devoid of overhang or smearing; Vocal textures (DeVilleville has a 'rough' voice) on a par with the Diva.

'Perfect' – Sibillance-free vocals; Rich acoustic bass with real 'in the room' harmonics.

*Lt Kije* – Sheer majesty.

'High Noon' – Lucid, identifiable low level detail.

'Good Lovin'' – The ability to separate information without ripping apart the consistent whole.

But this is the 'bitsa' approach to reviewing which only really applies to products built with compromise, when it's necessary to know the strengths and weaknesses to aid in system selection or to determine the product's worth according to personal taste. The IRS Beta's performance when viewed as a whole is best described as something so convincingly real, so palpable that you stop looking for weaknesses.

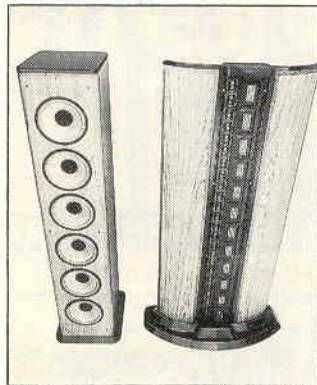
Where it veers from perfection is in the manner of presentation, reminding me continually of the major difference between the point-for-point match of the Marantz CD-12 and the CAL Tempest II. I was reminded as well of the one area of the Apogee Scintilla which came in for comment. With the Scintilla, a midband dip gave the impression that the listener was sitting a few rows back; for me this is a boon because I use Scintillas in a small room.

The IRS Betas have no such spatial signature, because Nudell demonstrated quite convincingly that he could dial in-stage depth or anything else you may require. But something which remained constant from component change to component change made me recall the marvellous Rowland cartridge. The IRS Beta is not a relaxing, easy-to-enjoy speaker. Rather, like the WATTs, it calls for near-total concentration, and in that respect it's like a live concert.

Your consciousness doesn't drift in and out during a concert. (One you wish to be at, that is. I fell asleep so many times at some classical gig at the Barbican that George Bartlett had to be shushed for laughing.) At a live event, you sit there attentive or you get the feeling that you've missed something important. (Try nodding off while doing 70 down the M2 and see what happens.) This sensation is part and parcel of the IRS Beta, quite unlike the easy, soothing, Quads, the Apogee Diva, the bigger Magnepans. If there's a real downside to this aspect of the Beta, it's a potential for slight top-end sizzle that makes correct installation absolutely paramount, but it's something which lessened each time Nudell worked his magic.

On the other hand, there are people who want everything in life to run at a few kilovolts. They're the ones who will fall head-over-heels in love with the IRS Betas, and they're probably the only ones who'll be able to afford them. After all, complacency makes for tunes for no-one. It is a shame, because few reviewers have the kind of fortune that will pay for IRS Betas which are – in my opinion – one of the best reviewer's tools this side of the Stax Lambda Signature headphones.

Yes, the IRS Betas are True Greats and 'one of the finest speakers I've ever heard', an alternative to my reference Divas in the way that Wilson Pickett is an alternative to Al Green. And if you've got enough soul to understand *that* analogy, then you've got what it takes to make up your own mind. ●



Infinity Reference Standard V the 'full size' system!