

Jern11 stand-mount loudspeaker

by Jason Kennedy

If you look at the world of loudspeaker design it is very crowded and the diversity of materials used in cabinet construction is wider than it has ever been, yet up until recently no one has had the temerity to make one out of cast iron. It's not hard to see why but when Ole Christensen met Søren Dissing the CEO of a Danish casting company and saw his idea for the speaker he realised that it just might work.

Christensen founded Gamut Audio and designed a range of electronics that garnered a great reputation among those who heard them, myself included. He sold that company in 2003 and has been consulting on various projects including speakers from Roksan, Avantgarde and Amphion and electronics from Parasound. He had also been doing a lot of work on studio design when he came across the idea to use cast iron. It appealed because of its great strength and stiffness as well as the ability to cast an entire speaker cabinet at a relatively affordable price, but another benefit is that this ▶



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- ▶ material has great self damping. Ole is keen to demonstrate this at shows where he hits pieces of aluminium and cast iron with a hammer to show how little ringing the latter exhibits, an effective demonstration and one that challenges the use of aluminium in loudspeaker cabinets quite neatly.

In a way, think of the Jern as a ‘swords into ploughshares’ design, as a lot of that cast iron once upon a time was being fired out of a cannon and at (sometimes ‘through’) some unsuspecting foot-soldier. Recycling old cannonballs into a loudspeaker shape that looks a little like a small cannonball sitting atop a larger one seems right.

The Jern cabinet is not large, it stands just 30cm (12 inches) tall, but it is as you might imagine quite heavy at over 12kg. The shape of the casting was chosen to minimise diffraction; there are no sharp edges to diffuse the sound, and this provides a degree of time alignment by putting the magnetic centres of tweeter and woofer in the same plane. The cabinet is an infinite baffle (there is no port) and in Jern11 guise has a low 86dB sensitivity allied to a four Ohm impedance, so will require a bit of power to get it jumping. The casting has a flat base but the speaker is supplied with a thick rubber ring that sits on the stand and allows the speaker to be angled almost any which way you fancy. In practise this means that it’s a little tricky to get both speakers upright in both planes, alternatively they can be tilted to project the sound upward. Jern makes a single pole stand for its speakers but this is also cast iron and costs nearly as much as this speaker, a more affordable alternative is apparently on the drawing board.

A natural by-product of using cast iron is what happens in extremis. At one point or another, any reviewer worth his or her salt has dropped a bit of audio equipment on their foot. It hurts. Dropping a bookshelf speaker on your foot wrecks the speaker, damages your shoe, and likely breaks your toes. It’s painful, but you survive. Drop the Jern11 on your foot and you will need to get used to the nickname ‘stumpy.’ Fortunately, despite the rounded enclosure, the flat base means it doesn’t roll around. More importantly, if you are using these speakers as bookshelf speakers (their ability to work close to a wall makes that a distinct possibility) make sure the shelves can take the loading and use Jern’s supplied rubber O-rings to make sure you don’t ruin the veneer on your bookshelf as you position the speaker.

The Jern11 is the least expensive model in a range that shares the same cabinet casting but differs in the choice of drive units, Ole likens it to VW’s Golf where you can have a variety of spec levels built around the same chassis which helps to keep costs down across the range. The tweeter is a 22mm Wavecor model with a textile membrane and a foam ring on the mounting plate to absorb diffracted sound and provide a smoother response (it says here). The mid/bass driver has a 146mm chassis and a woven glass fibre cone, the centre pole of the magnet structure is ventilated and the magnet system itself is described as ‘large’ albeit without any figures on coil size being given. A first order, phase linear crossover divides the incoming signal but Jern doesn’t disclose the frequency they have chosen for this split. They do say that the crossover components includes a Mundorf polypropylene capacitor and an air core coil.

Ole recommends that the Jern11 be placed close to a rear wall as they were “designed using my recording studio experience of room acoustics and studio monitors in 2Pi in-wall placement.” 2Pi means that the front baffle is in the same plane as the wall, eg the bulk of the speaker is in the wall a la soffit mounting, so the best that can be done in the home is putting the Jern as close as possible. This approach reinforces the bass that they produce as does following the recommendation to put the listening seat against a wall where possible. Jern specifies the response as “Typically 45Hz in room” which is remarkable for such a compact speaker, but the LF response of sealed boxes tends to fall off much less sharply than their more popular reflex loaded brethren.

I installed the Jern11s atop a pair of Hi-Fi Racks wooden stands which have usefully flat tops when it comes to supporting a stout rubber ring, then attempted to get them to sit straight. Initially I used the Bryston 4B3 power amplifier that was in the system to power them, which is rather a pricey choice for this speaker but it did work very nicely indeed. First impressions count for something and with this speaker that impression is: how can such a big sound come from such small speakers. It’s an impression that returns with track after track. This is allied to the remarkable ability that the Jern has to ‘disappear’ in the soundstage, close your eyes with many recordings and it’s very difficult to pinpoint where the sound is coming from. This is a trick that small speakers tend to be ▶

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- ▶ better at but the choice of cabinet material here means that the Jern11 does it better than most. The fact that the ‘box’ is not vibrating to the same degree as wooden examples means that it doesn’t radiate sound that blurs the image and makes the speaker more obvious. On Bobby Hutcherson’s ‘Prints Tie’ [*San Francisco*, Blue Note] the notes of his vibraphone appear as if by magic in mid air, and they are solid and rounded with it, not just fleeting chimera.

Vocals fare very well too, midrange is clearly where these speakers excel, I have recently discovered Michael Chapman’s first two albums of folk rock and his voice on the song ‘Aviator’ [*Fully Qualified Survivor*, Harvest] projects so well on these Jerns that you can’t help be enthralled by it. They get to the heart of the slightly dense recording and pull out the tone of the cello and violin used in the backing. I checked out the low end capabilities with Nils Frahm’s ‘An Aborted Beginning’ [*Spaces*, Erased Tapes] where there are some deep synth notes. These went down a long way given the speaker size but I don’t think they made the ‘typical’ figure that Jern quotes, still the air was clearly excited and the bass could be felt. This speaker can kick too, the punch of the electronics on many tracks comes through loud and clear, and yes, you can play at high levels if your amp is up to it.

Out of interest I tried to find out how it would perform without a great deal of power behind it and hooked up a Naim Uniti Atom with all of 40 Watts. This delivered a much more relaxed and warm balance that lacked control in the bass but had beguiling fluidity. The speed trumped the tonal issues and made for some highly enjoyable listening, especially with Joni Mitchell’s normally thin sounding ‘All I Want’ [*Blue*, A&M] where voice and guitar both sounded beautiful with this streamer amp and speaker combo. Even a Mozart Concerto was hard to turn off thanks to the speaker’s ability to resolve the musical charm of the performance.

Switching to the considerably more powerful Leema Tucana II proved the turning point for these speakers in my system, now their timing capabilities came right to the fore and had me hooked from the first bar. The Grateful Dead’s ‘Cumberland Blues’ [*Europe ’72*, Warner Bros] is not the sweetest of recordings in this set up but there’s no doubting the propulsive nature of the performance or the Jern11’s ability to project the sound in a coherent and energetic fashion.

Apparently Ole looked to the work of Roy Allison (AR, Acoustic Research) rather than the folks at Kingswood Warren (the BBC research centre that gave us the LS3/5a) but the use of a compact sealed box gives these Jern’s a lot of the latter’s qualities. But I’ve not heard an LS3/5a with the solidity and speed that these heavyweights do, so maybe the thin-walled box of the BBC designs has its limits. Of course, once you get beyond the medium-sized bookshelf, the advantages of cast iron enclosure are outweighed (pun intended) by its weight.

The use of cast iron in the Jern11 has a lot to do with its success but the design and execution are also first class. And let’s face it, there aren’t that many loudspeakers you could use to defend your frigate from pirate incursions. Joking aside, this extraordinarily solid speaker has a speed and immediacy that is enthralling as well as image scale that’s bigger than most, pair it with an adequately powerful and fleet footed amplifier and you have a domestically friendly design that will keep any true music lover happy. What’s perhaps most impressive is that Jern have managed to do this for a sensible price. Check them out but don’t drop them. +

TECHNICAL SPECIFICATIONS

Type: 2-way, two-driver stand-mount cast iron monitor with infinite baffle enclosure

Driver complement: One 22mm Wavecor tweeter, one 146mm fibre glass cone mid-bass driver

Frequency response: Typically 45Hz–20kHz in room

Crossover frequency: Not specified (1st order)

Impedance: 4 Ohms

Sensitivity: 86dB/W/m

Dimensions (HxWxD): 300 × 210 × 195mm

Weight: 12.2kg/each

Finishes: Polar White, Fine Red, Cast Iron Grey, Nordic Black

Price: £1,350 per pair

Manufacturer: Jern Aps

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