

Ferguson Hill FH007 and FH008 Loudspeaker System



Ian Ringstead takes a listen to the interesting looking Ferguson Hill FH007 loudspeaker and their matching FH008 sub priced at £695 and £325

Ferguson Hill may not be a well known name to many readers or the general public, but I remember their launch of the original FH001 at a London Hifi show and being gob smacked by its unique design of a parabolic horn and its price of about £17,000. Radical looking designs require bravery and confidence in the designers mind to commit to this approach because although horn loaded speakers have been around since the 1930's and their principles are well understood, they have tended to take a back seat to the conventional box designs with dynamic drivers and complex crossovers we see as commonplace now.

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Background

A horn loudspeaker is a loudspeaker (or loudspeaker element) which uses an acoustic horn to increase the overall efficiency of the driving element(s). A common form consists of a compression driver which produces sound waves with a small metal diaphragm vibrated by an electromagnet, attached to a horn, a flaring duct to conduct the sound waves to the open air. Another type is a woofer driver mounted in a loudspeaker enclosure which is divided by internal partitions to form a zigzag flaring duct which functions as a horn; this type is called a folded horn speaker. The horn serves to improve the coupling efficiency between the speaker driver and the air. The horn can be thought of as an “acoustic transformer” that provides impedance matching between the relatively dense diaphragm material and the less-dense air. The result is greater acoustic output power from a given driver.

The main advantage of horn loudspeakers is they are more efficient; they can typically produce 10 times (10dB) more sound power than a cone speaker from a given amplifier output. Therefore horns are widely

used in public address and megaphones, and sound systems for large venues like theatres, auditoriums, and sports stadiums. Their disadvantage is that their frequency response is more uneven because of resonance peaks, and horns have a cut-off frequency below which their response drops off. To achieve adequate response at bass frequencies horn speakers must be very large and cumbersome, so they are more often used for midrange and high frequencies. The first practical loudspeakers, introduced around the turn of the 20th century, were horn speakers. Due to the development in recent decades of more efficient cone loudspeakers, which have a flatter frequency response, use of horn speakers in high fidelity audio systems has declined.

Having given you a background to horn speaker design you can see they offer great advantages, but there are many drawbacks that require innovative and very clever thinking to overcome the problems. Stuart and his wife Linette love horn speakers (owning a pair of Avantgarde Duo's) but I have been less convinced in my past experiences.

I spoke to Tim Hill the designer of the FH007 on review here to get a feel for his philosophy and



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reasons behind this unusual looking design. Essentially the FH007 is a scaled down version of his flagship design the FH001 which has had great acclaim over the last few years. Tim told me his first customer was Steve Jobs the owner of Apple Macintosh who emailed him one day enquiring how he could obtain a pair when he saw them for the first time. How cool is that!! Tim gave me some details about the FH007.

“I usually recommend a running in period of about a week with the system playing, say the radio all day. It’s the moving mechanical parts / drive units etc and also all the electronics, components, cables etc that need to run in.”

Technicals

The amplifier has the crossover in the pre amp stage and sends the signal above 450Hz to the horn amps and below 450Hz to the bass amps.

There are 2 stereo class A/B power amps inside, so all four drive units are individually driven by their own power amp and have no crossover components between the power amps and the drive units. 4 x 16watts / total 64 watts.

Tim’s overall objective in designing the system was to shrink down their large FH001 speaker system whilst still keeping the features that give a good sound quality.

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Therefore he thought it important to have the semi-full range drive unit covering a large proportion of the frequency range in a front loaded dipole horn, complemented by the infinite baffle spherical bass speakers for below the crossover frequency. They did a lot of research at Loughborough University to design the horn profile so it gives a uniform expansion rate of the sound waves from the drive unit, using their massive optical bench and techniques such as speckle pattern holographic laser interferometry etc.

The horn speaker design is basically the FH001 shrunk down to desktop size and the overall system is about 1/50th the cost of the high end FH001 system.

Finally the Bluetooth receiver V4.0 was added as many customers enjoy the convenience of wirelessly streaming their music from a smart phone or tablet, however he believes the system is certainly revealing enough to show the benefit of using a high quality source such as high resolution music with a really good DAC, or a good turntable with a good phono stage.

Tim and his team have used a front end of an Avid Acutus deck, SME arm and valve phono stage built by David Wright to great effect he says!

“I know that some of our customers purchase the system without a demo on the looks alone, and then are pleasantly surprised by the sound, but the system was designed with the sound quality as totally the first priority and the looks are secondary” says Tim.

I think what Tim has said pretty well sums up the FH007 design. It comes packed in an attaché style box very similar to an iMac computer for those who have one, which makes for very convenient unpacking and creates a first class impression of the product. If the designer takes this much care over the box alone then they obviously care about the product and are proud of its capabilities.

Tim also sent me the matching sub woofer, the FH008 to compliment the FH007. This was finished in a very classy looking piano black but white is available too.

Subwoofer dimensions

Height 32 cm Width 30 cm Depth 30 cm
Specification

Amplifier 100W per channel class A/B

Infinite Baffle enclosure

Drive unit 20cm dia/8 Ohm

Frequency response 45 to 150 Hz

This product conforms to EMC Directive and Low Voltage Directive

Colours, gloss black or gloss white.

As Tim pointed out in his design philosophy earlier, the FH007 is definitively not a case of style over function. They look fabulous, but that is a bonus.

Sound

The sound was pretty amazing once I had run them in as advised by Tim. Most speakers require this so don't think it is unique to this design alone. I always felt that horns were highly coloured in sound when I listened to them at shows many years ago and even today some have a distinct character that takes some getting used to. It's a bit like Marmite, love it or hate it. (I don't like Marmite, but my wife does!)

I'm glad to say they sounded fabulous. I used them both in my living room and upstairs in my office/work room to get a true feel for their applications. In my office they were used on a desk without the sub whilst I was doing some electronics work (I love to dabble) and they easily outperformed any desk top speaker system I have used in the past, and there have been a few.

Downstairs in my living room and used with the FH008 I was truly amazed what they could do for such a compact design. They produce a very clear open soundstage with a full frequency response. Top end was very good with high frequency detailing being precise and with great placement in the soundstage. Vocals can be coloured on horn designs I've heard in the past, but they were very well portrayed with the likes of Tracy Chapman, Eva Cassidy and Alison Krause all sounding very lifelike and enjoyable. Rock, jazz and classical were handled equally well with the same clarity and openness. My wife even said they sound nice and she is fussy! Friends who saw the speakers were intrigued by their

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looks and this split opinion, but generally it was a thumbs up.

The FH008 is well matched to the rest of the system and I wholeheartedly recommend its use if you are seriously considering using the FH007 as a main system. That lower octave or so adds the icing on the cake to fill the sound out even more. Set up is very straight forward and once you have dialled in the correct values to taste and room response you can sit back and enjoy. The FH007 set up is a doddle. Even though there are four speakers (top horns and bass/mid spheres) the wiring is fixed and only requires the user to put the colour coded mini jack plugs into the back of the amp. The amp is a beautifully made compact cube with just a volume control and bright white led to indicate power. On the back are the four jack sockets for the top and bass/mid units, two per channel, and the optional active sub. Inputs are catered for on a set of RCA phonos and a 3.5mm jack socket. All the relevant cables are supplied and are of generous length with good quality gold plated connectors. Also supplied is a plug in blue tooth transmitter so you can connect your mobile wirelessly and stream your favourite mp3's.

Conclusion

I applaud Tim and his design team for being brave enough to run with this design and carry on the

obvious success of the FH001 in a truly affordable scaled down version for the masses.

Like the recent Munich High End show I attended, flagship designs from innovative companies can be breathtaking in design and sound, but also out of the financial reach of the masses. The FH007 is a great way to own a slice of the FH001 dream and can easily be accommodated in most homes. (It makes a great second system in a conservatory or study)

Pros:

Value for money

Superb design that is stylish and compact

Active design really works well

Excellent desk top or main system use

Easy to set up and use

Great sound especially with the FH008 sub

Cons

None really apart from the fact the looks wont suit everyone's tastes

The number of inputs makes connectivity limited, but the intention is for simplicity and users of this system probably won't find this an issue.

Price	£695.00	FH007
	£325.00	FH008

Ian Ringstead

