

## HEAVY DUTY AUDIO PROJECTS FROM TEXAS

### SCOTT HINSON AND FAITALPRO

Scott Hinson is an electrical and acoustical engineer and a custom Pro - Home Hi Fi builder out of Austin, Texas. Jason Longobardo of FaitalPRO gets some details of his activities.



**Scott Hinson:** "I am an electrical engineer who does power electronics and acoustical design. I started designing speakers 25 years ago and I am still doing a lot of consulting design and help people create acoustic systems. I am -probably- best known in the audio world for a facebook page called DIYRM, which stands for Do It Yourself Reference Monitor. I try to help builders get the best sound design results by discussing practical engineering decisions they'll have to make in speaker design, pro or home.

My DIY page started a few years ago when I published a design in a Parts Express catalog using some of their Dayton Audio home drivers. That got me started writing technical papers and designs for the wider do-it-yourself community. I love to help people involved in home constructed systems, and work as a professional designer.

Besides working for several manufacturers who prefer not to reveal their names due to a non-disclosure agreement, I have completed projects for companies in Austin Texas like Alethia Sound. I generally solve engineering issues for these companies, so I do not own a company selling systems in my own brand name. I used to have a home audiophile company where I sold high end systems, but I have more fun and can get more of my designs in front of people helping other companies



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design speakers instead of building and marketing my own.

My specialty is crossover designs so many times I am asked to help specify the drivers, enclosure volume and do initial prototype construction. Someone else completes the volume manufacturing work for a system. I spend a lot of time designing either a passive or an active crossover network for those designs to meet requirements for frequency response, uniformity, distortion, and directivity. I mostly do point source applications, especially for touring, festivals, music events, and portable systems for clubs where the artists bring in their heavy duty systems. My projects often involve a lot of electronic music so I have to make sure the system can withstand a lot of power and it must also sound very clear.

Among my favorite designs I've made is a double-18 using the FaitalPRO 18HP1030...and I was the first builder in the US to use the 8HX230 coax driver. I've also used and recommend the FaitalPRO 8RS250, 12FH530, 12FH520, HF100, HF10AK, STH100, and LTH102.

My favorite so far though is the 8HX230. In that driver I feel **FaitalPRO's engineers did a wonderful job in balancing all the performance parameters to give a perfect tonality** and I can use it with a passive crossover. A lot of times coaxial drivers have a horn flare in front of the woofer or the frequency response of the 2 drivers in the crossover region that is so rough it forces the use of an DSP crossover in order to do a good job. With the 230 series by FaitalPRO, the drivers are so smooth throughout the crossover region. They can handle use as monitors and balcony fill, even with a passive network without worrying of electronic processor settings or a powered box. I use the 8HX230 for monitor applications, but I took it to a home audiophile store for one of their meetings because I wanted to dispel the myth that professional PA drivers don't sound good and only get loud. When those guys listened to it they were stunned and surprised to hear a sound that for home speakers usually costs substantially more.

We started playing quiet classical music on a powerful home amplifier with 200W per channel. The next person put on some heavy duty rock without realizing how much the volume had been turned up, and everybody in the building was shocked and startled by the pressure and the dynamic range capabilities of such small driver. The owner of the store was very worried we might have damaged the speaker but I just looked at him and said: "you must be kidding, you can play this volume all day long!"

Another driver I like a lot is the FaitalPRO 18HP1030. I published a design for it in a large Facebook group (16K members) and versions of it have been built all over the world. For that woofer I made a 360L enclosure tuned to 33-34Hz. It's suitable for a lot of modern music with very low frequency content. I spent months testing and documenting it's performance so that builders would



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understand its capabilities in real use. Many designs are published with box dimensions and that's it...I tested for distortion, compression, power handling and more.

I also like the FitalPRO elliptical Tractrix horns, the STH100 and LTH102: they are fantastic with very smooth frequency response and low distortion. They work with a bunch of different compression drivers. The sound of those horns is never harsh or honkey.

One of the things I've discovered is that if you're trying to install or run a PA system, you'll do a better job if you know more information about the technical design which is why I try to publish as much information as I can. The response has been fantastic, I usually have 3000-5000 downloads for a paper or design in the first 24 hours."

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