

# Class-D Power Ranger

Stateside cool with extraordinary sonic performance from Justin's school-run truck!



Justin Murray got his Ford Ranger as a result of multiple visits to the USA where he found the hugely-accessorised chrome detail on stateside trucks too appealing to ignore.

Originally meant to be a leisure vehicle for fun weekends out and about with the family, the Ranger has become almost his daily driver – surprising, as his other car is a BMW M5 featured elsewhere in this issue (I'm Looking at the Big Sky). A dedicated car enthusiast and music lover, Justin was keen to add an audio upgrade to this blue and silver charger as the standard fit system just doesn't cut it! – where have we heard that before?

For this installation, Justin used FOUR MASTER, Norwich In Car Entertainment (NICE) in his hometown. Wanting to complete this installation on a budget, he reused a Hertz HDP 5, five-channel amplifier he had salvaged from a previous vehicle as the heart of the system. The system had to be hidden away and believe it or not, even this behemoth of a vehicle, is a little tight on space!

The HDP 5 is a fine amplifier and a great example of just how far Class-D power has come since its early days, which saw it derided by the hi-fi community. Thankfully,



Hertz HDP 5 Amp & H8 Processor

Hertz stuck to its guns and perfected the art of Class-D (also known as a digital amplifier) releasing this five-star amplifier along the way! In fact, while writing this, I happened across the following comment from a customer on the FOUR CAR Audio website: "Simply wonderful. I urge anyone to listen to what proper hi-fi in a car can be. Breathtaking." I also noticed that Justin himself was moved to give the product seven "stars" out of seven when he originally purchased it in 2015.

In this instance the aforementioned beast is connected to a pair of Audison Prima APS 8D, 2-way component speakers. These are run actively so, separate 70 Watt RMS channels to each woofer and each tweeter – "Woah!" I hear you exclaim, how

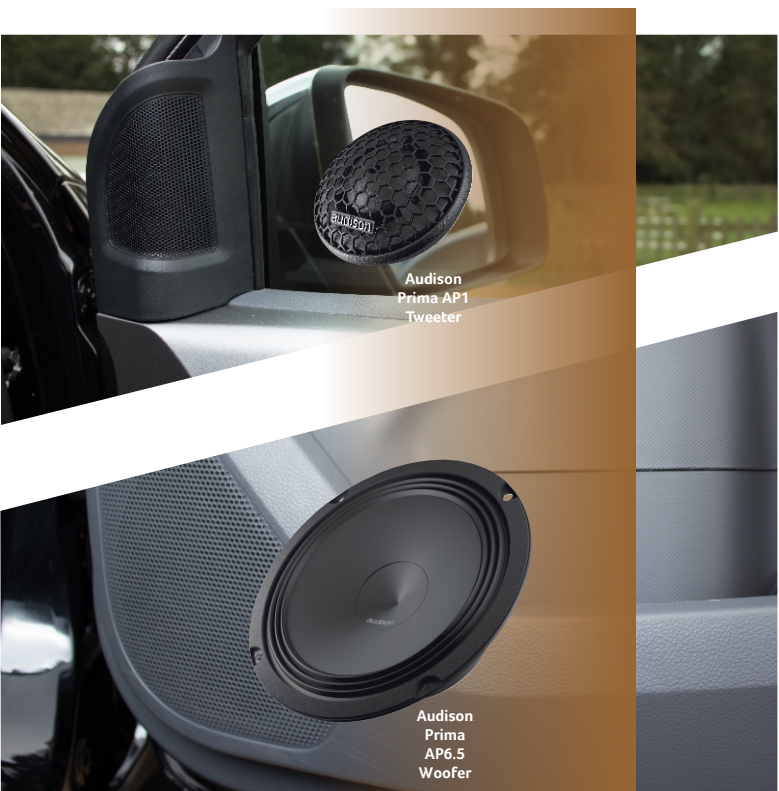
do you balance all those speakers with just an amplifier? All will be explained. The front speakers take care of four out of five channels from the HDP amplifier, what happens with the fifth one? Channel five is a mighty 380 Watts RMS into 4Ohms and in this installation drives a single solitary Audison Prima APS 8 D. This is a dual voice coil, 8" subwoofer with both voice coils wired in parallel lowering the impedance to 2Ohms and offering a huge amount of bang for buck in the process! The HDP 5 is quite happy running at up to 550 Watts RMS into 2 Ohms, so if you like your bass, as Justin does, why not? The sub sits in a custom-built enclosure and is mounted well out of the way under a rear seat. For those of you not aware, sub-bass frequencies are non-directional so a subwoofer is usually mono and can go anywhere in the vehicle within reason and be balanced perfectly well with the front end.

Balancing a system like this would be possible using onboard level adjustment and filters, but optimisation is taken to far higher levels of accuracy by the inclusion of a Hertz H8 DSP signal processor. This handy little box gives an installer the ability to make minute adjustments to equalisation and time alignment to optimise the speakers and compensate for terrible speaker positioning. A look at a front door



Audison Prima APS 8D Sub Woofer

"A real depth of sound stage was clearly perceptible"



Audison Prima AP1 Tweeter

Audison Prima AP6.5 Woofer

card illustrates the problem very well with the tweeter and woofer sitting in audio terms, miles away from each other! The woofer is outputting very directional information at ankle level – genius design Henry! (Not sure Henry Ford is still responsible for designing interiors actually!) With time alignment available on each of its eight channels, the H8 is able to compensate for the distance between the drivers with respect to the vehicle occupant's ears by delaying signal from the nearest channels appropriately. Each channel is also blessed with a 31-band graphic equaliser that in the hands of an expert can allow for precision sound.

While we were photographing Justin's BMW, I was jumping in and out of the Ranger and had become desperate to give it a good listening to. Justin listens extensively to playlists from a USB stick and a track by Mumford & Sons had leapt out at me. It was a cover of "2Shy" by Shura, recorded during a Radio 1 Live Lounge appearance. In this car I was very impressed by the up front vocals and how they seemed to sit physically in front of the rest of the band. This was remarkably illustrated during the opening moments that begin with the drummer counting the band in in traditional fashion using a mix of drum stick clicks and demonstrating that some drummers at least can actually count to four! I could clearly place two guitars, bass and keyboards and again the drum kit came from behind the band just like in real life! The vocals start quite early and the song is clearly pitched just a little below Marcus Mumford's vocal power band, which adds a slight intonation wobble that I really liked. Missing were the trademark banjo and other folk paraphernalia that made them famous and instead a gorgeous sounding, humbucker-equipped Fender Telecaster with some reverb and "tremolo" on it led the way, while another guitar handled the understated noodling and power chord reinforcement. Everything was crystal clear and very nicely balanced with warm luxurious bass underpinning everything. There is a ghostly fiddle in evidence that harks back to their previous incarnation however.

I sampled a few other low-tempo acoustic tracks and everything seemed to render

"The standard fit system just doesn't cut it!"

beautifully. I thought I would try and catch the system out with something more up beat! I chose "Smooth Criminal" by Michael Jackson. The intro keyboard "stab" and ensuing heartbeat suggested a light tweak of bass in the clockwise direction maybe required. This was confirmed when the synth-bass riff kicked in. I upped the subwoofer level on the H8 remote a tad and began again. This time the entry had a lot more low-end punch! Once again, a real depth of soundstage was clearly perceptible and despite the prominent gated compression forcing the snare beats at me with frightening ferocity, I could hear every hiccup and affectation of the great man's vocal style. As with the Audison bit processors, the Hertz H8 allows for two presets to be stored and this track sounded best on the "B" setting to me. I have listened to this track on lesser systems and when it sounds flat or lacking in dynamics, it really doesn't work at all. Fortunately, in this setting the energy was exhausting and exhilarating – a top listen in my opinion!

I can clearly see why Justin enjoys driving this truck so much. The sound is uplifting and NICE have done a truly great job to bring disparate speaker positions together and provide an open and engaging musical experience. Well done to all and, as always, thanks to Justin for letting us have a listen! □

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