



# Now You See It, Now You Hear It!

**C**hris Woods is a lifetime fan of good car audio. His technical knowledge allowed him to design a system, which would suit his purpose and sound great.

Chris has chosen a highly discrete installation for his own workhorse vehicle.

Chris Woods has had a career-long interest in Car Hi-fi, which began at the age of 17 when he worked at his local specialist store at the age of 17 to fund his way through a Civil Engineering degree. This was the start of a full-on relationship that saw him through a 6-year career with Anglian Water where his boss was perfectly happy to allow him to install all sorts of audio equipment with the proviso that his leased company cars be returned to stock condition when finished with.

This made Chris the perfect candidate for this article, as discrete integration and the ability to restore a car to original condition remain major concerns as they do for many business car users spending lots of time on the road.

Chris is married with a young child, which was a big consideration when planning this project as maintaining as much load space as possible was of great importance. He also drives an Audi A6 that is packed to the gunnels with electronic equipment from Navigation, CD changer and hands free kit all interconnected by a 'MOST' bus as standard which offered additional technical



challenges as they could not be removed (see music lovers guide!)

A lover of high-energy bass, Chris knew he would need to have a lot of power at his fingertips to offer control at high listening levels. To satisfy his bass requirements, Chris opted for a whopping 380mm subwoofer built into a custom box with an internal volume of 2.2 cubic feet as recommended by manufacturer Hertz. The box was shaped to fit perfectly in the spare wheel well which was otherwise redundant

on this vehicle according to modern trend - the spare wheel is an optional accessory with a can of tyre-weld supplied for emergency flats!

The Hertz HX380D Dual coil subwoofer has two voice coils which for this install are wired in parallel offering a 2 Ohm impedance to the subwoofer output on a Hertz HDP 5 amplifier which will happily output a massive 550 Watts RMS under such conditions. But the power isn't only about creating huge amounts of



sound pressure level, it provides control which means that at higher listening levels the distortion is kept to a minimum while musical detail is astonishing. With less power, things would start to get a bit lairy at higher levels, inducing listener fatigue.

For the higher frequencies, Chris assessed the OEM offering and felt that better stereo imaging could be achieved by repositioning the mid range frequency drivers and the tweeters, which were mounted too close to the listener in his opinion and fired across the vehicle. Still keen on a 3-way solution for better frequency/power sharing, the Hertz Hi-Energy HSK 163 was selected. This 3-way set comes with its own high quality passive crossover network, which distributes the correct frequencies between woofer, mid range and tweeter.

The woofer was mounted in the original factory position, which was acceptable, as low frequencies tend not to be directional. The mid range and tweeters however, are a different matter and these have been installed into the A-Pillar (directly in line with the wing mirrors) onto remodelled and recovered trim although the finish is so good, you would hardly know that this is a modification! The original trim has been kept safe for re use when the vehicle is finally retired however in some cases it may be necessary to obtain new trim parts,



which are relatively inexpensive.

The new positions for mid range and tweeters significantly lift the sound stage and move the speakers further away from front seat users establishing more width. The HSK 163's are driven from the front channels of the HDP 5 amplifier which outputs 150 Watts RMS to each side which is plenty for the new mounting positions. The rear output channels are used to



*Top: Midrange speakers and tweeters have been positioned in builds in the A-pillars and seamlessly re-trimmed*

*Middle: Load space in family mode!*

*Bottom: Amplifier and Subwoofer are hidden under load space floor*

*Left: 15-inch subwoofer enclosure is built into the spare wheel well with the amplifier near by. Both are edge-lit in Hertz orange*

drive a pair of Hertz Hi-Energy coaxial speakers, HCX165, which fit neatly into the rear factory positions and are used to offer ambience for dance music but are also essential for 'Mr. Tumble' mode when travelling with child!

Both aesthetic and electrical integrity of the vehicle have been preserved by the use of two very clever boxes from Audison. These enable the signals from the factory source unit to be collected and shaped and tweaked to provide the best possible





reproduction in the vehicle. The DA1 bit is a plug and play device which is able to accept the 'MOST' signals from the on-board audio, flatten any factory sound curves and send this flat signal optically to a further processor called the bit Ten D where the signals can be adjusted and time-aligned to give a fantastic listening experience with separate presets for different musical tastes and genre. The boxes are secured to the existing stack of hide away boxes behind a removable panel in the luggage compartment. A small controller is mounted up-front, which allows listeners to select different sound presets and make on-the-fly adjustments. This is fitted neatly to the centre console in front of the gear change in a redundant coin tray.

As with all good installs, the car has received a good deal of Skinz sound treatment and all signal and power cables are from the high-grade Connection range. Chris has cleverly installed the equipment so that it can be shown in all of its glory or completely hidden away to keep it from damage when carrying equipment and stock around and also for added security. In practice, the system is used a lot! Chris travels 40-50K miles per year and demonstrates his hi-fi to everyone he meets. But, more importantly, he listens to music most of the time and although a self-confessed bass addict, he does have surprisingly eclectic tastes.

Our thanks go to **FOUR MASTER Sextons, Wandsworth** ([www.sextonslondon.co.uk](http://www.sextonslondon.co.uk)) who allowed us to use their well-equipped and spotless workshop for photography



### **Music for driving** *recommended by Chris*

- 1 Katie Meluah**  
*Piece by Piece*
- 2 Norah Jones**  
*Come away with me*
- 3 AC/DC**  
*Iron Man compilation*
- 4 Faithless**  
*Forever Faithless*
- 5 Ellie Goulding**  
*Bright Lights*

Top: Front end of the original Audi equipment is left untouched except for the addition of the Audison bit 10D controller

Left: Audison bit 10D and DA1 bit are attached to existing OEM equipment and wired directly into the factory connectors

## Equipment List

- ▶ Hertz HX380D Dual coil subwoofer
- ▶ Custom box with an internal volume of 2.2 cubic feet
- ▶ Hertz HDP 5 amplifier
- ▶ Hertz Hi-Energy HSK 163
- ▶ Hertz Hi-Energy coaxial speakers, HCX165
- ▶ Audison DA1 bit
- ▶ Audison bit Ten D
- ▶ Skinz sound treatment
- ▶ Connection Cables and Accessories

Approximate cost of entire install including labour:

**£3500.00**