

DONE & DUSTED

Dacia Duster gets the FOUR MASTER treatment. Can this budget SUV benefit from an Audison Prima upgrade? Let us see.

Having spent many years on the periphery of the automotive industry, my passion for cars over the years has dwindled as I have become older and my financial priorities have changed. Although I still like to look at a nice car and on occasion can become highly excited by something special, I no longer have a desire to own one. I know what I am like and my car-owning stance is very different to that of many of my peers, however, my passion for music has increased over the years and my need for great sound in whatever car I own is my main priority.

Musing with Brian Parton, an industry friend of mine the other day, I was challenged to have installed a modest system to match the modest vehicle I had just purchased. I have always felt that if buying a new car, I would happily add 10% of its cost in upgrading the audio system. There is no way however, that I would give this to the manufacturer of the vehicle or its sales agent or dealer. In my experience this is the least cost-efficient way to get what you want. In any case, my vehicle was purchased second hand and as we know, up to a third of the value of a new car is lost the moment you drive it off the garage forecourt (I have completely made that figure up in the absence of an accurate one!).

Having spent just short of £11K on the car I determined to find out what I would have to spend to make myself happy with the audio.

Before we get to the installation, I have driven the vehicle for 3-4 weeks with the standard set up. Typically, it flatters to deceive offering apparently magnificent bass response and the rest of the audio spectrum was "apparent". My wife was perfectly happy with it. She is a die-hard Radio 2 listener and accustomed to the kind of audio compression managed on FM on the move and that is fine. For me, there were plenty of areas where the sound could be improved.

Over the past three years, I have been very impressed by Audison Prima equipment and have heard many modest upgrades involving Prima speakers running straight off a head unit that have sounded vastly better than the standard offering. I decided that a pair of Prima components would give me joy. The standard speaker positions accommodate a 5" driver. As standard these are filled with a plastic and paper woofer that is used as full range. No tweeter, not even a "dual cone" attempt to separate bass and treble. The head unit fitted is the navigation upgrade without CD mechanism so personal music choices need to be streamed either by Bluetooth or via the USB port mounted on the front. It did



The System



Tweeters



Speaker Upgrade

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not lack level, going loud enough to mask road and wind noise but I suspected that an enforced equalisation curve had been employed to prevent the speakers from flapping out of control at higher levels. I therefore decided that the addition of a subwoofer and an amplifier with integrated sound processing would allow me to run active and have the ability to de-equalise the head unit and apply a nice personal setting for selfish listening!

Brian guided me toward FOUR MASTER Ultimate Audio in Bromsgrove. I have known proprietor, Karl Ward for some time now. We finally decided on a pair of Audison Prima AP 5 woofers and matching AP 11 tweeters to be run from four channels of an Audison Prima AP5.9 bit amplifier and a Prima APBX 8 DS, 8" subwoofer in a sturdy built enclosure to help fill any bass hole from the 5" woofers. Karl was kind enough to allow me into his workshop to look over his shoulder while he carried out the installation. If he asked to stand and look over my shoulder while writing this, I think I would have to decline!

The first task was deciding how to accommodate the tweeters, as there is not even a stock location for these in the vehicle. There is however, an expanse of plastic cover over the wing mirror "gubbins" that looked ripe for surface mounting. Karl offered up a tweeter in its mounting and it looked right and I was easily persuaded! Karl then tried the subwoofer under the passenger seat - it was a perfect fit impinging only very slightly on the rear-seated passenger's foot space. The amplifier therefore would go under the driver's seat. This kept all wiring at the front of the vehicle, which in theory would make the whole installation process easier and quicker.

Karl set about removing the door cards. This he managed very quickly and without damaging any often-frail mounting clips. There are vast hollow chambers behind the door cards which explained the overblown bass in the vehicle as standard, however, only



Door Speaker Preparation



a tiny 4" square piece of very thin bituminous material to prevent the outside door skin from wobbling about. Karl set about covering as much available expanses of metal he could see with 3mm Skinz Sound Deadening on both outer and inner metal panels. Doing the "middle finger knuckle knock test", we were able to compare the difference between treated passenger and untreated driver door. The difference never ceases to amaze me and I really don't understand why car manufacturers don't do this as standard, especially on economy models as it is a very effective way to give a vehicle a more solid feel. For good measure, Karl then treated the door cards themselves with 6mm Skinz Panel Liner.

Karl removed both front seats for access and also the head unit. Again, in his hands, the car yielded willingly and the strip-out was completed in record time.

Karl used "Connection" speaker cable that he loomed with cloth tape explaining that this helped to make his work look like it was meant to be there, but also it helps negate the effects over time of vibration where wires pass over hard materials. A good-sized grommet is available from A-pillar to door. Unlike the tricky connectorised "couplers" on some vehicles, this allowed Karl to pass cables to tweeter and woofer positions without fuss or delay. The crimped nature of the connections to these can add resistance to the signal path that I was keen on keeping to a minimum. The AP 5.9 bit amplifier has a power management system built in that

allows for it to run perfectly well from the head unit's power wiring. It does this by limiting current momentarily during high transients. However, Karl ran the amplifier power back to the battery to bypass this as a navigation system draws a bit more than a standard head unit and we didn't want to run into any issues with compression – a probable consequence of limiting current to the amplifier. A second reason for this is to allow the amplifier to be isolated if anything untoward should happen.

Rather than hunt around at the back of the head unit for a line output we were certain we would not find, Karl picked up audio from the speaker outputs that he took directly into the amplifier's high-level inputs. Once again, the fact that audio comes into the amplifier at a relatively high level should make the whole system slightly more efficient provided there was no distortion present. The installation was completed in a timely manner and with the care you would expect from an installer of Ultimate Audio's ability.

I took the car away and drove with it for a number of weeks with a fairly arbitrary set up to ensure the speakers were well run-in before revisiting all settings. It was interesting to hear how the sound developed over this time. The most noticeable change was in the sound stage that grew wider as the speakers ran in. I still felt that the image needed work as I was looking down at the soundstage and the centre point was difficult to find and off to the left. It was good enough to show off the capability of Prima equipment and I was

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Sorting the Amplifier



already very impressed with the subwoofer that blended well with the woofers without the anticipated bass hole!

To set the system up, I connected a PC to the bit-equipped amplifier and ran the configurator wizard. Although this takes a lot of the pain away from the process, I would recommend that a complete novice does not undertake this job. There are vital things you need to know about the software to ensure that the time taken to adjust EQ settings etc. to your preferences, are not accidentally lost (this happened to me three times – Doh!)

It was always my plan to have the system "bit tuned" but I have not managed to find the time to have this done before deadline. I used the system's own intelligence to make a set up that I am currently very happy with. After telling the amplifier what was fitted where (including distances from ears to speakers) and expressing my preference for driver's seat position to become the centre of the sound stage, I made sure that the tone controls on the head unit were normalised and ran the level set up routine. This involves playing a test signal from the head unit and setting the volume level to achieve maximum output within distortion limits of the amplifier. Once done, I proceeded with the de-equalisation process using a swept frequency tone. This was most illuminating as the computer captured and displayed what was currently there. It was obvious that it had been tweaked at the factory but I saw differences of up to 25dB between different frequency bands with the high end pushed way up to the sky while the middle frequencies were pulled down much lower. Once this was completed, I was

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Finished Door



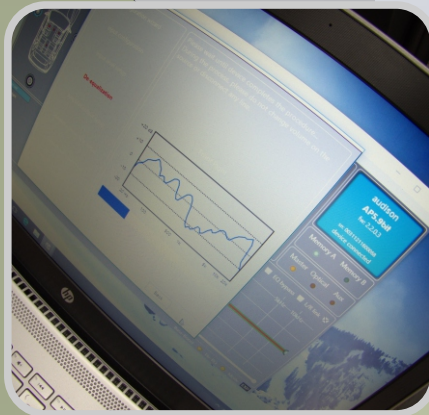
Sub Location

left with a flat response. I decided to run Butterworth filters for crossing over tweets from the woofer purely because I preferred the shape of the curve – it looked like I might be able to run the tweets slightly lower to relieve the woofers from high-end work.

It was time to sit back and have a bit of a listen before tweaking. I was pretty happy that everything was working however the treble frequencies were too high in level. I brought them back by about 3.5dB and was much happier. This seems a lot, however as the tweeters are surface mounted they are considerably closer to my ears than would ordinarily be the case and I also have a preference for a smooth, rounded high-end to anything too aggressive and harsh. I have a bit DRC Controller connected to the amplifier and was therefore keen that I had a bit of headroom in the sub bass area, as even with the amount of sound deadening Karl had installed, the Dacia is quite a noisy car. While I was there, I played generally with each of the 10-bands of equalisation just to see what kind of effect I could get but ultimately, decided to leave it flat for the time being and took a break. For me, this is always a good idea. An hour or so later, I went back into the car to have a proper listen.

I threw a good number of my favourite audition tracks at the car. I have listened to all of these many times in many different cars and even the briefest blast gives me a good idea of what to expect. From the lovely open spaces of Gregory Porter to the low-end-articulation testing SOHN and the naked and beautifully rendered guitar of Michael Hedges. They all sounded very promising. However, I wanted to try some new tunes (to me) that I have been listening to quite a lot in the car recently.

I kicked off with Robert Wyatt's version of the melancholic Elvis Costello song, "Ship Building". The briefest of drum introductions



Final Setup



depth is most evident. With eyes closed (don't try this while driving folks!) the band is laid out in front of the listener with each instrument inhabiting a person-sized space. The image is stable and suits this version perfectly. The applause at the end is the perfect punctuation to mark the end of the piece – great stuff!

Finally, I selected "Waiting In Vain" from the re-mastered Bob Marley, "Legend" collection. A distant four count from the drummer and the track springs into life. The bass is solid and repetitive but never rude and moves in perfect time with the off-beat drums and "babbling brook" Hammond organ (panned left) and precise guitar chops. I had never appreciated how many keyboards are used on this tune and I heard percussion I had not noticed before – my favourite came straight after the line: "It's been three years since I'm knocking on your door" in the shape of a pair of claves tapping out three quick beats – musical imagery right there! There is no doubt that a bit Tune will bring out even more from this system but as a starting point, I could not be happier!

Huge thanks to Karl Ward of FOUR MASTER Bromsgrove for allowing me to get in the way all day and for doing such a great job. More thanks to Audison for producing reasonably priced audio that performs like equipment worth a lot more money! ☐

had the cymbals panned to the left while a tight and mellow snare drum was over to the right. These were quickly joined by piano over to the right also and a monstrous double bass. Wyatt's voice joins early on with his plaintive and unaffected deadpan voice sounding natural and unpretentious as befits this song of the people. I could already tell that the frequency balance is solid with no obvious peaks or troughs and the song played reasonably wide too. In this, the first version of the song to be released, there is a piano solo rather than the perfect Chet Baker trumpet on the Elvis Costello version from his album "Punch the Clock". Other than that, the rendering and sparse production was emotional, poignant and filled with anti-war angst.

Next up I selected a version of the Rolling Stones, "Paint It Black". This live version is performed by the Danish Radio Big Band and features Charlie Watts on drums. It is totally different to the Stones' version and I love it. It begins with electric guitar and soft brass with electric bass and drums taking an exploratory journey through the melody with the sort of feeling that would offer the perfect accompaniment to after dinner drinks with close friends. An electric piano announces the entry of a mellow trumpet at 2:10 which takes over the lead with slightly raised brass accompaniment before the guitar takes over once again. Suddenly out of nowhere at 3:50 it's Frank! – the guitarist gets very Frank Zappa and uses many trademark runs and licks that the great man himself would have used until a more typically Jazz style is adopted with loads of chromatic runs and gratuitous "noodling". Here the sheer presence and stage

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Carl's TOP FIVE DRIVING SOUNDS

- “I Scare Myself”
- Thomas Dolby (Flat Earth)
- “Dreamlight”
- Michel Camilo (Album version)
- “Jammin”
- Eliane Elias
- “Plastic Aquarius”
- Isaac Del Pozo
- “Serious”
- Ady Suleiman

Done & Dusted



APBX 8

APS 8



New Audison Prima APS subwoofers and APBX sub boxes are ultra-compact for maximum integration with factory-fitted equipment. Providing warm, powerful lows from compact enclosures, the new subwoofers make a perfect match for Prima AP as well as AP bit amplifiers and Prima full-range speakers.



AP8.9 bit

APX 6.5



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