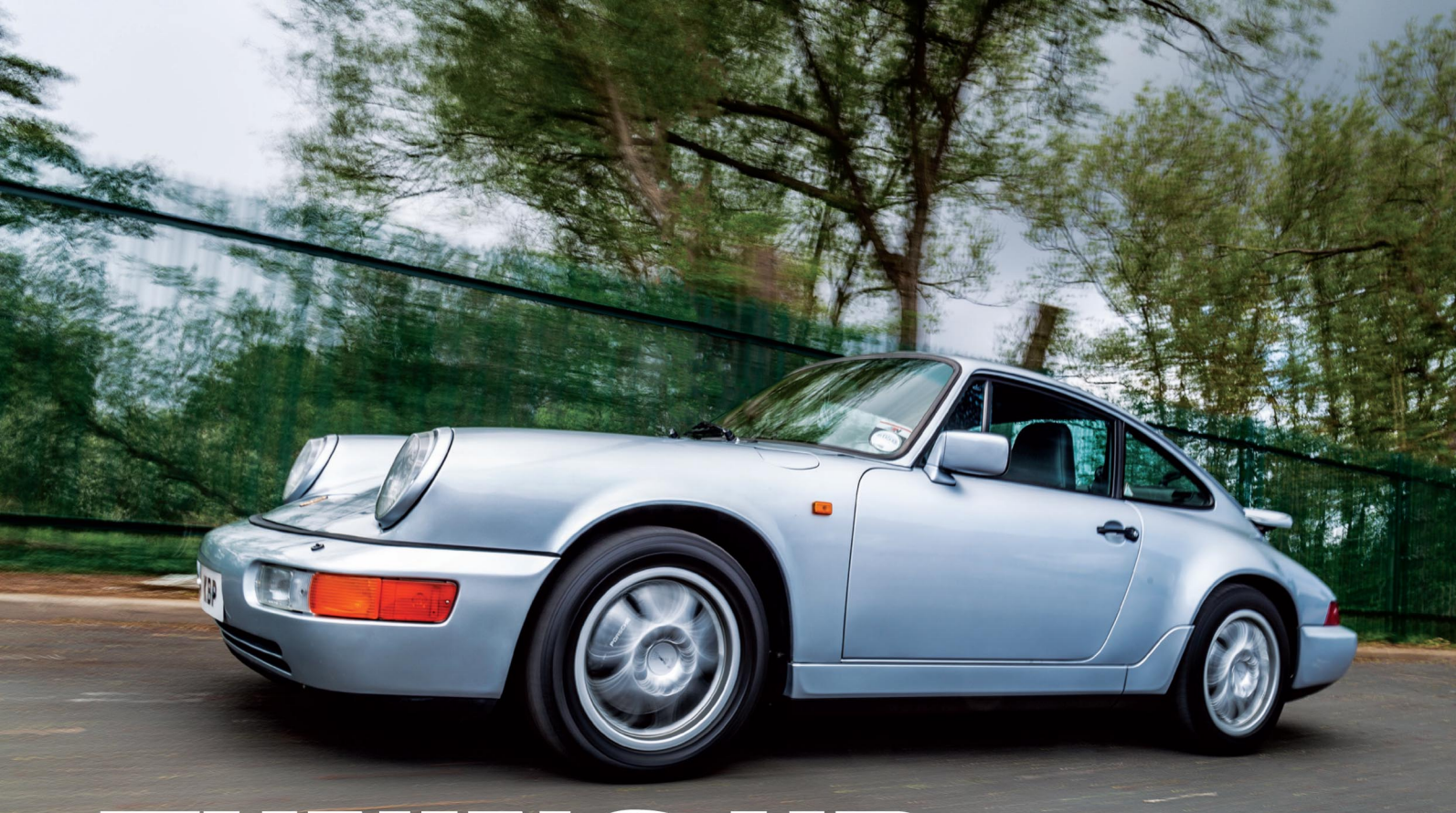


TUNING UP

PORSCHE PERFORMANCE

As with the performance of an engine, the performance of an audio system can be tuned and tailored to suit customer requirements. A garage that offers engine mapping has equipment that automatically optimises an engine management system to improve acceleration, top speed or efficiency for instance. In a FOUR MASTER workshop you will find an Audison Bit Tune product that carries out the same function for audio.

BRIAN'S TOP FIVE DRIVING SOUNDS:

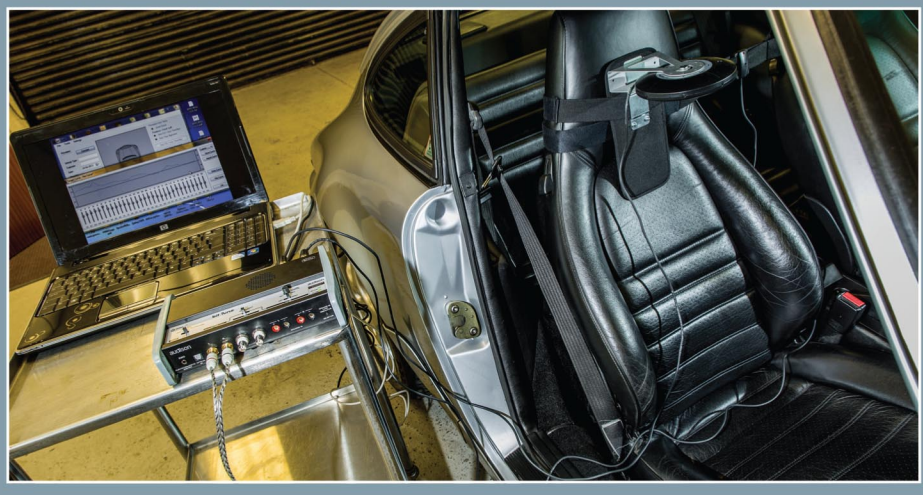
- ***MISS YOU*** | *BLINK 182*
- ***SLIP TO THE VOID*** | *ALTER BRIDGE*
- ***A SMALL VICTORY*** | *FAITH NO MORE*
- ***COME HOME*** | *PLACEBO*
- ***RISE*** | *PIL*

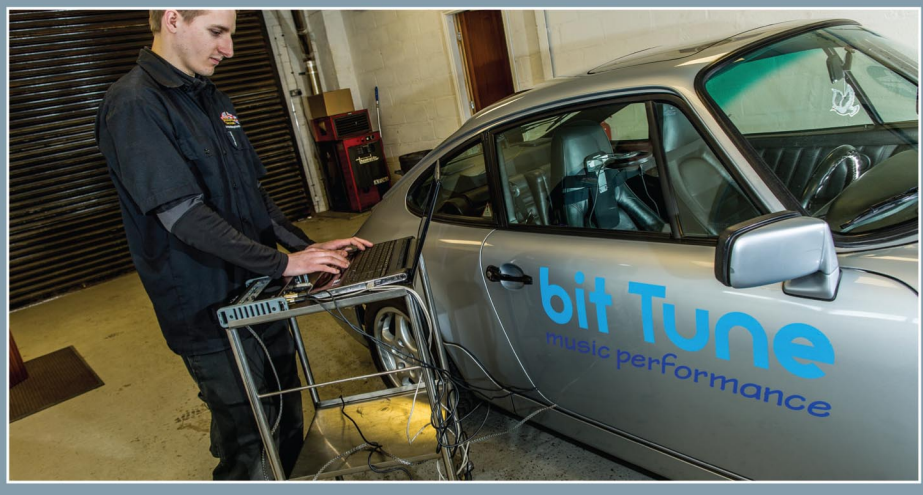
Although not the ideal environment for designing a perfect listening experience, the inside of a car does offer some advantages over your living room. For instance, at night in your home you probably close the curtains, which could have a dramatic effect on the acoustics of the room. Living rooms are also much bigger and therefore reflections from hard surfaces have a longer time delay that could be harder to tune out than the short delays in the close confines of a car. Although these effects could be thought of as trivial, for the critical listener, they do accumulate and change the timbre and overall sound of a system. Therefore for those in search of audio excellence, Audison has developed its Bit range of audio processors, each one capable of performing magic on the sound of a car audio system.

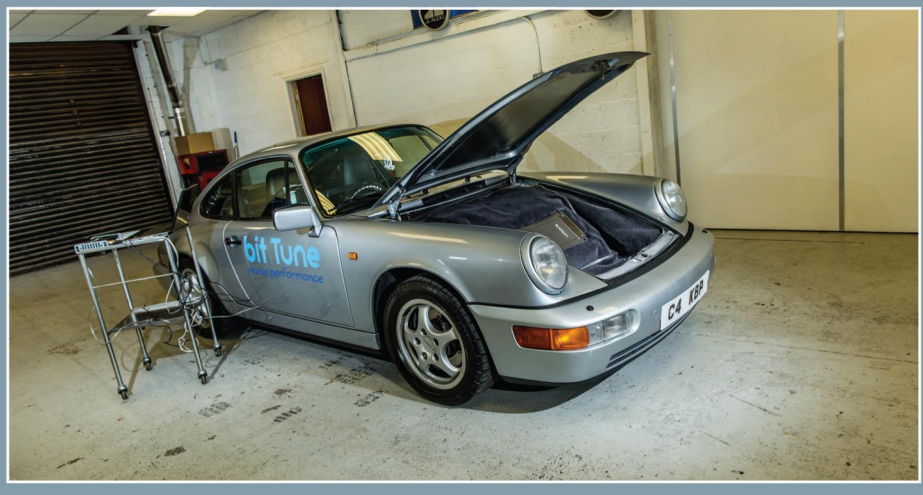
The suite of Audison Bit products consists of three boxes, which sit in between the source or head unit of a system and the amplifier. Although sophisticated, amplifiers have very little intelligence. Their job is to collect a signal from its inputs, make it bigger and present it to its outputs. Most quality amplifiers do this with aplomb. The issue arises when the signal presented to the inputs is not what you would want to hear either due to noise, distortion or poor equalisation etc. Audison Bit products help to ensure that the signal presented to an amplifier is free of all of these detrimental effects. However, while they are at it, they can do a lot of other clever things that your source unit is unlikely to be able to do.

Bit One – This was the first Bit product produced by Audison. It is a box that can take up to eight individual channels of audio signal, clean them up and pass them on to eight output channels with adjustable level ready for feeding into the next part of the audio chain, usually a single or multiple amplifiers. Channels also may be summed to provide a stereo pair. Alternatively the cleaned up eight channels can be combined and sent digitally through a single CAT 5.S LAN cable to any amplifier with Audison's proprietary AD Link facility. The product is supplied with a DRC remote controller that gives access to level and eq adjustment and up to four preset settings. Initial set-up is carried out by a laptop connected by a USB connector to the Bit One. Within the software, your installer is able to access a whole gamut of features including 31-band graphic equalizers on each of the eight channels as well as on each of four auxiliary inputs (2 line-level audio analogue, 1 optical digital and 1 electronic coaxial digital input) A guided set up procedure for time alignment is also included. This enables time delays to be put in so that signal gets from the nearest speaker to the listener at the same time as the sound from the speaker that is furthest away. This feature also has a manual tweak facility as sometimes, human ears can work better than machines.

Bit One also allows the application of adjustable filtering for crossovers including hi-pass, lo-pass, band-pass and full range, and we are still only scratching the surface of the devices full capabilities.







The two other products in the range, Bit 10 and Bit 10D are four-channel variants. Both feature the same processing features but differ in terms of the amount and type of inputs and output. The Bit 10 features four independent high-level channels with automatic summing capability and one analog low-level stereo auxiliary input. Processed signals are output to five independent analogue line-level outputs with adjustable level. The Bit 10D as with the Bit One features an AD link output which will carry 8 independent audio channels through a Cat 5.S LAN cable for use with AD link amplifiers. The 10D is supplied with a remote DRC controller featuring two presets. This is an optional extra on the Bit 10.

All Bit products feature a momentary auxiliary input that mutes the audio system when a signal is received from a hands free phone kit or a navigation system which is handy if you don't wish to take a 500 watt phone call from your mum or be told to make a u-turn at ear splitting levels!

But enough of unintelligible spec, what does this all mean and why do you need it? Signal processing of this kind is essential for those wishing to maintain the look and functionality of a vehicle's original equipment. Source or head units have become extremely sophisticated and may share multi-function controls with a vehicle's air conditioning or navigation system and all sorts of other devices. The quality of reproduction from the core systems: CD mechanism, radio etc. are actually OK and don't adversely affect the performance of the system so customers and installers are inclined to leave this area of the car as it is.

Bit products allow us to simply collect audio signals from line or speaker level outputs on the original unit and use all of their processing power to clean them up and make them suitable for feeding on to amplification and then to decent replacement speakers. The three products in the range cope with different audio configurations and your installer will be able to advise on which one you need.

The Porsche pictured in this feature belongs to patron of Driving Sounds, Brian Parton. It is used as a demonstrator and is equipped with a Bit 10D, an Audison Voce 5.1K amplifier and a pair of Hertz Mille 2-way components. A digital signal from the Bit 10D is fed directly to the amplifier which features a digital input module ensuring no loss or degradation of signal at all (AV Bit In) In these pictures it is being subjected to a set-up using an installer's not so secret weapon, Bit Tune. This consists of a microphone system that is lashed to a position within the car at ear height and connected to a powerful audio analyser capable of automatically adjusting the Bit 10D to make system set-ups easy and more importantly, consistent. It is also capable of detecting any mistakes or errors that may have been made in installation causing subtle non-conformities in the sound of a system. These can be corrected before the car is returned to its owner and effectively adds an extra layer of quality control to the installation process.

By accurately analyzing and setting Eq and time alignment parameters, a Bit Tune is able to affect all attributes of a system including stage width, depth and height. It adds cohesion to speaker systems that might have tweeters and woofers mounted more than a meter away from each other due to car manufacturers constraints and of course it can set a number of genre specific equalization curves according to listening preference that can be selected by the listener using the DRC controller. It is hard to describe the difference in performance Bit Tune is capable of making, but this is attempted in more detail in our Park Life feature elsewhere in this magazine.

We would recommend anyone with a car system to have it Bit Tuned even if the car has no Bit products fitted. The difference it makes is literally astounding.

To find out where your nearest Bit Tune equipped FOUR MASTER is, call 0800 652 5125.