

AXIS

XT1408A

ACTIVE SUBWOOFER



SUBSONIC SUBTLETY.

»»» While the days of professional installers are far from numbered, you'd have to agree their workload is being lightened somewhat by the steadily expanding market of add-on plug'n'play audio equipment. In concert with an astounding number of tutorials now available online, these have given rise to an entire new genre of vehicle-specific equipment. Equipment designed to require just a few simple connections in order to improve your sound immensely, none more so than that within the realm of subsonic frequencies.

Ninety nine percent of factory sound systems offer very little below 100Hz and, quite frankly speaking of those that do, you'd struggle to fill one hand counting the ones that sound anything beyond mediocre. The trouble is if you're one of these consumers that have been left wanting sub-sonically, then often your options are rather limited unless you're happy to expend a healthy amount of money and space.

Axis recently set out to remedy this issue and, although conceptually speaking, the active subwoofer enclosure is nothing new, finding a

cheap one hitherto that sounds acceptable has been nothing short of mythical.

NOT FLAT

Rudimentarily speaking the XT1408A encompasses a one channel amplifier driving a single 8-inch subwoofer. It's encased in an enclosure that's somewhat of a departure from the norm in a few ways, most notably in that it's designed to stand upright as opposed to lying flat; a design that'll lend itself nicely to sitting off to the side of boots without consuming valuable real estate. This layout also allows it to mount behind seats in many a utility vehicle.

The outer case is a two piece design that's inconsiderable to say the least, measuring a meagre 250mm x 265mm in footprint with a thickness of just 118mm. Even the weight is infinitesimal tipping the scales at 3.5kg, aided greatly by the case material choice. The rear base is constructed from thick three millimetre aluminium to give it considerable strength and this also serves to hold the amplifier in place, acting as a heatsink to draw thermal energy

away from the power producing components. The front end on the other hand holds the driver itself and is constructed from a high density resin compound which is extremely robust, able to endure the most austere of environments.

The unit is finished primarily in black however does feature some slapdash silver highlights to subdue the monotony a little. A terminal plug input is located on the rear and includes power, earth, remote and both high and low voltage level signal feeds. Axis supplies a clearly labelled and colour coded loom in addition to solid mounting brackets, all of which add up to installation being a breeze.

Also included in the box is an advanced level remote control that connects adjacent to the main power plug. This remote then sits up front with you and allows not only volumetric control but also control over the crossover, allowing for the low pass to be set between 50Hz and 125Hz. You can also control the phase from the remote, switchable between 0-degrees and 180-degrees. This mightn't sound overly significant, however, if ▶

you're tuning the system you'll soon learn to appreciate it, as you can enact adjustments from the front without having to dash to the boot each time. This is most handy for when you're tuning the car on the move, as sooner or later with all subwoofers you'll need to incorporate road noise into the final facet of the tuning process.

With fundamental functionality aside let us turn our attention to the hardware itself, for despite the very affordable asking price the components aren't quite as sombre as I initially feared. Opening the unit up for a looksee I noted immediately that some limitations had to be affected in order to keep the price down, with small things such as fibre fill being omitted.

DRIVER AWARENESS

The driver itself takes centre stage of the internal design and features a diaphragm constructed from light grey injection moulded polypropylene or IMPP, and this uses a carefully designed flattened profile in order to maintain maximum rigidity under excessive duress but still allow the cone a relatively shallow mounting depth. Around the outside of the cone lies a butyl rubber surround, forming the top portion of the suspension. Below this resides the motor which is buried within the stamped steel, zinc-passivated basket. The motor is held in place by a treated polycotton spider which is attached firmly to the top of the voice coil former. The former itself measures 35mm in diameter is constructed from thermally efficient material, as are the dual 2-ohms voice coils that are wrapped around it.

From the suspension through to the moving mass itself the entire motor assembly is very efficient and lightweight, only requiring 125 watts to get it moving within its nominal

37Hz to 200Hz frequency range. If specifications are to be believed it can haphazardly handle over double this amount, nonetheless I'd not be recommending it for extended periods due to the cooling system being limited to four small 6mm holes dotted equally around the voice coil. The lack of pole vent means air must be reciprocated through these and the spider itself. Surrounding the motor is a 440g strontium magnet and while this is fine for the motor within, brutal honesty dictates me stating for the record that plenty of midbass drivers feature larger motors.

With the driver returning an efficiency of 102dB and henceforth not requiring a monumental amount of power, the XT1408A intrinsically boasts a modest class A/B amplifier. With an overall board size of 113mm x 90mm the amplifier is no fission reactor nevertheless it's not completely lacking either. Besides the aforementioned power output it can also control the cone deceleration adequately thanks to a satisfactory damping factor and total harmonic distortion.

Topology-wise it's a neatly designed little doer and features decent quality components from the stiffening capacitor and iron-core transformer through to the single large BC power storage capacitor. The MOS-FET is wedged between a clamp and the side case, thus allowing for heat transfer away from it. In a demonstration of intelligent engineering and experience various elements of the design are located on a separate 65mm x 43mm circuit board in order to provide for virtually noiseless operation.

Now that I've given what some would proclaim is a somewhat middling appraisal of the design I bet you'd love to know how it performed during testing and audition? In a word it's actually okay. However, before we get too carried away we ought to revisit the philosophy of the end design. If you're a serious bass head looking to hit 180dB

AXIS XT1408A ACTIVE SUBWOOFER

TYPE: 8-inch active enclosed subwoofer
Features: Frequency (50Hz-125Hz), gain and phase control via wired remote control

POWER HANDLING: 125 watts continuous, 250 watts maximum

FREQUENCY RESPONSE: 37Hz – 200Hz

SENSITIVITY: 120dB

COST: \$159

WEIGHT: 3.5kg

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WEB: www.audioxtra.com.au

- Ease of placement
- Good features and an affordable price
- Lightweight design
- Moderate output capabilities



then you best be on your way. Likewise if you're a connoisseur of high-end audio and are expecting this unit to rival six figure subwoofers as found in recording studios then, again, you too can move along. But that would be missing the point. The XT1408A was designed to upgrade factory systems that have zero to minimal sub-bass ability. With that ideology firmly in mind you then begin to appreciate the unit for what it is and for what it offers at the price.

Installed in our delivery vehicle, what it added to the overall auditioning experience was well worth its inclusion and asking price. Using the infamous good news/bad news aphorism; the bad news is that the driver does struggle a little when asked to produce those serious kicks of bass we demand from time to time. Indeed it wouldn't be too difficult to bottom the driver out if not for the lack of power, which segues nicely into the other detractor it possesses. When the amplifier is tasked with producing rapid transient changes at high volume, such as may be required when playing heavy metal, it can be guilty of losing a little control haphazardly.

The good news is that I'm being quite pedantic here, and these phenomena only occur at volumes in excess of 120dB. Ergo if you're driving around listening to a factory system, then the XT1408A will have no issues at all competently keeping up with it and providing a solid foundation for the OEM system to build on. Also, because it's a sealed unit without a port influencing its output, it maintains quite a linear response too, which in turn equates to a smooth bottom end devoid of booming at particular frequencies.

CONCLUSION

Overall as OEM accompaniment the XT1408A is a stellar performer. Sure it may have its inherent shortcomings but given its \$159 asking price you'll surely struggle to find anything as affordable which performs as well.

It's worth mentioning too that Axis is quite transparent in this regard. It happily declares the XT1408A for what it is, and to that end recommends you look to other products within its own extensive stable if you're after serious levels of power and sub-bass. 