

Audio Zone Pre-T1 & Amp-2

by Jason Kennedy

It must have been going on a year ago now, that I first started to hear good things about an unusual passive pre-amplifier called the Music First, a device that differs from the norm because it uses transformers to achieve steps in attenuation rather than the variable resistance of a potentiometer. So when the editor asked me what I fancied reviewing a few months back I suggested the Music First, to which he replied that he already had something similar called the Audio Zone Pre-T1.

Both units use Stevens & Billington TX-102 transformers as a volume control; in fact the Music First is made by the Hastings based company which probably explains how it is able to offer its ostensibly better equipped passive for \$200 less than Audio Zone. I've yet to try an MF but given that both these units use the same transformers you might suspect that the sonic results will be very close, the only obvious differences between the AZ and MF being that the latter

has more inputs and comes in a relatively conventional bit of casework. But as of course we all know, it's the small things that matter and just because the building bricks are very similar does not mean the result will match. Such simplistic assumptions should thus be approached with caution.

Audio Zone is a Canadian company based in Toronto and run by two music

becoming the hardcore hobbyist's output stage of choice on many of the busiest forums. Op-amps are amplifiers that are built into a chip and are generally used as gain stages within CD players, pre-amps and the like where only small voltages are required. However, larger monolithic

devices that essentially incorporate an entire output stage into a single block exist, designed originally for use in midi and micro systems. These are physically far larger than other chips, although still only measuring an inch or two by three, and about quarter of an inch thick. Using them as output devices in high quality systems is a bit of a third way but one pioneered to staggering effect by Japanese high-end mavens such as 47 Labs and Final Laboratories. Audio Zone likes these devices because they offer a very short signal path and very few parts. They also claim that they offer the "best of both worlds, (the) speed, detail, dynamics, control and bass of solid state without the glare and dryness", but then they would, wouldn't they. The AMP-1 was followed by the DAC-1 and the AMP-2 mono-blocs

and hi-fi nuts: George Tordai and Peter Daniel.

They started the company three years ago using Peter's background in mechanical engineering and George's experience as a retailer of vintage and used hi-fi as a basis for the new venture. Their first product was the AMP-1 a two box 'integrated' with outboard power supply based on an Op-amp output stage that AZ says it derived from Junji Kimura's 47 Labs Gaincard design. They say that by using "better parts [and] better chassis design" that the AMP-1 takes "this technology to the next level".

All of which makes it sound like the Gainclone Op-amps that are



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► (reviewed here and using the same technology as the integrated). AZ doesn't say when the Pre-T1 turned up but it was presumably made to go with the mono-blocs.

There do appear to be limitations on power however; the 47 Labs amp is of modest output and the AZ AMP-2 mono-blocs only claim 50watts. Which is not a problem so long as you have speakers that don't make life difficult. George recommends the following: Avantgarde, Reference 3A, Triangle, JM Labs, ZU Speakers, or anything else that's 91dB and up with a stable 6 – 8 Ohm impedance. I have Living Voice Avatar OBX-R2s which, happy to be used with low powered valve amps, meet all the necessary criteria.

The Pre-T1 is a solid little lump thanks to the aluminium slab into which it's built and the weight of those transformers. Connections are limited to two inputs and as many outputs which could come in useful if you doubled up on power amps. Input selection is via switches at the back of the unit's top-plate, an approach that must be the simplest and shortest that could be achieved. All of AZ's amps are built in Canada as are all the components save the transformers. The gold plated feet give them a hint of "made inChina" but this is not the case; presumably they are there to appeal to markets that like a bit of bling with their hairshirt audiophilia.

As Stevens & Billington points out, the advantage of using transformers as a passive volume control is that you avoid the potential impedance mismatches that passive potentiometers inevitably face. Or as S&B puts it "the resistive volume control employed in passive control units must navigate a course between the Scylla of excessively loading the source, leading to increased distortion and the Charybdis of excessively high

output impedance". In other words the passive pot lives between a rock and a hard place in terms of being able to avoid high frequency roll-off caused by source, load and cable impedances. Of course if these don't get in the way PPs have a lot to offer for the money but it's more difficult to predict which combinations of source, amplifier and cable will give the best results.



The transformer approach is designed to offer a more flexible volume control that will work with a wide range of components and cables. They are not perfect of course and the TX-102 does run into bandwidth limitations at the point where it is offering the least attenuation. Ordinarily however, if your source has an output impedance of 1 kOhm or less, the transformers will provide a bandwidth of 10Hz – 10kHz.

These transformers have as many output taps as there are volume levels on the stepped attenuator, that's 18 plus 0dB or no attenuation, with a two decibel difference between the majority that increases to 3dB at the top of the range and 6dB at the bottom (maximum attenuation is

46dB). If more gain is required a further 6dB can be added at the flick of a switch marked, appropriately enough, high and low gain. Looking at Stevens & Billington's specs for the TX-102 it would seem that impedances of both input and output varieties improve with attenuation, in other words input impedance is at its lowest, or hardest to drive, at 0 attenuation and highest at -46dB.

Output impedances go the other way but as you want them to be as low as is practical the same rule applies – more attenuation means more driving power. Essentially so long as you avoid running the thing at full chat you won't have any problems, or to put it another way, only use the extra gain if you need it. Not too long ago we would all have marvelled at the AZ AMP-2s' diminutive dimensions (77x152x 230mm HxWxD without feet) and most subtle of on lights.

These days, a host of tiny, high-powered digital mono-blocs like the Flying Moles have rather stolen its thunder, and given how cool the AMP-2s run you'd be forgiven for suspecting some kind of digital output stage but that's not the case. Build, as with the pre-amp, is very good; simple but nicely executed. Once again we have the gold plated cones but only three per block. Specs include output protection against inductive loads, 30dB of gain and a signal to noise ratio quoted as being greater than 95dB. Internally you'll find a hand wired circuit, Plitron transformer and an Op-amp output chip that delivers 60watts into an eight ohm load with 100watts available for peak bursts.

Before I launch into a detailed analysis of this amplication's sound it seems appropriate to underline one fact; passive preamps, with or without transformers, are

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▶ shockingly transparent. As we plunge into the minutiae of product sound, keep that given in mind.

If there is a drawback with the species it is that they are not usually capable of driving long interconnects and as mentioned above are subject to the slings and arrows of outrageous fortune, or otherwise, when it comes to impedances. The transformer approach gets around this to a very large extent and leaves just one minor gripe, which is that there is no remote volume control; but that's just the moaning of my inner couch potato. When you can have the transparency that would cost five grand plus from an active unit for under £1,700, the occasional wander across the room is a small price to pay.

Slightly more inconvenient is the basic input provision; two inputs might be enough for a purist, and let's face it who else buys things like this, but you can get three times as many including balanced from the Music First. Still two's enough for the sources that count, whilst some would argue it's one too many.

As I have a home made passive equipped with a Penny & Giles 5k pot it seemed sensible to contrast it with the Pre-T1, a process that brought to light the difficulties that the P&G and its ilk have with impedances. Both offer similarly high level of transparency in terms of detail, imaging and, yes, dynamics, but the extra bass power offered by the AZ suggested that the power amp's input impedance – in this case Classé CA-M400 mono-blocs – was not helping the pot.

Using the AZ AMP-2s to drive B&W 802Ds was also a predictable non-starter. This speaker, though reasonably efficient has some nasty phase angles and an impedance that drops to 3.2ohms, a combination of factors that stopped the AZs delivering well controlled bass. The mid and high frequencies were appealingly open and resolute if a little over exuberant in a struggling to control the speaker kind of way.

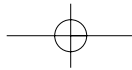
under her accompanist David Rawlins' fancy picking. You could also hear much more clearly, his failures to completely harmonise with her voice, intentionally or otherwise.

That track and many others have a slightly 'loud' quality with these amps that when compared to more powerful designs seems like a slightly unnatural effusiveness. To what extent this will appeal or



distract will depend on your tastes, but if you have not lived with the comparatively calm sound of a big power amp it's unlikely to be an issue. In fact it's not dissimilar to the sound of single-ended power amps when played at highish levels, albeit without their silky smooth top end. The AMP-2s have a similarly open character but none of the bloom that triode's are inclined to produce and rather more bottom end grip. Despite their diminutive size these amps can deliver a solid and fruity bass when fed an appropriately phat signal. I found some on Burnt Friedman and Jaki Liebezzeit's *Secret Rhythms* and the way that the gorgeously treated bass guitar sound contrasted with shiny vibraphone notes was entirely delicious, thanks to a taut delivery that lets each note decay in a ▶

Moving over to the Living Voice speakers allowed the AMP-2s to come into their own. There is still a limit on how loud you can comfortably play the system but the combination proved well matched in all other respects. The level of transparency continued to impress, peeling back layers on music of all shades. I particularly liked the way you could now hear what the quietest instruments were contributing to a mix. With Gillian Welch's 'Everything is Free' (*Time (The Revelator)*) her guitar notes could now be clearly heard plucking out the rhythm



► precise yet organic fashion.

Less spectacular recordings had to be reined in a bit. For instance *Who's Next* (Classic Records) is just plain dirty sounding and turning it up just makes this more obvious.

The version of 'Chunga's Revenge' on the Gotan Project's *La Revancha Del Tango* proved rather more appealing, if not quite as juicy as Zappa's original.



I didn't get that out but put on his 'Black Napkins' from *Zoot Allures* instead. Here the AZs opened up the recording to reveal the live nature of this track. Zappa frequently mixed live and studio takes on his albums and it's not that now you can hear fans shouting but rather that you can hear the size of the auditorium thanks to an acoustic that reverb units could never reproduce.

Next to a more conventional solid-state amplifier in the shape of Ayre's AX-7e integrated, the Audio Zone pairing delivered the expected increase in transparency alongside a slightly drier presentation that made the Ayre sound positively bodacious. Which is surprising because the AX-7e generally seems like a pretty neutral amplifier with a good deal of refinement for a single box. The AZ's extra precision makes for more immediacy and a strong sense of

engagement with the music which is ultimately more important than well, anything, if no arbiter of fidelity per se.

The Pre-T1 is an exceptionally good sounding piece of kit for its asking price, and whilst some will always feel that you can't beat the energy and life that an active pre-amp brings to the sound it's very hard to say that the passive transformer route is less accurate. You can get a more dynamic sound from adding

gain but there is a good chance that the active devices are adding something of their own that just happens to appeal, rather than giving you more of the signal. It's interesting to note just how often passive controllers crop up in the most critical design and studio applications. Meanwhile, the Op-amp powered AMP-2 is undeniably engaging and musical. It could be a little calmer perhaps and head-bangers will want more power but it has a resolution and nimbleness that will let you right into the music. They offer the perfect foil to the transparency of the Pre-T1.

Audio Zone has to be congratulated for sourcing technologies which are some way from conventional and for building and finishing

their products to such a high standard. These are beautifully presented yet tiny little boxes that pack a surprising musical punch. All they need is speakers to match. Now, where did I put my copy of *Chunga's Revenge*? ►+

TECHNICAL SPECIFICATIONS

Pre-T1	
Type:	Passive control with transformer coupling
Transformers:	2x Stevens Et Billington TX 102
Inputs:	Optional – 2 or 3 line-level RCA
Outputs:	Optional – 1 or 2 line-level RCA
Volume Steps:	24 via Elma switched attenuator
Guarantee:	10 year manufacturer warranty
Dimensions (WxHxD):	216 x 125 x 165mm
Price:	£1,695
Amp 2	
Type:	Solid-state mono-bloc with monolithic op-amp output stage
Output Power:	50W continuous into 8ohm
Gain:	30dB
Input Impedance:	10kOhms
Guarantee:	10 year manufacturer warranty
Dimensions (WxHxD):	165 x 100 x 216mm
Price:	£1,795
UK Distributor:	
Shadow Distribution tel 01592 744 779 www.shadowdistribution.co.uk	
Manufacturer:	
Audio Zone www.inthezonenet.com	