

# Past Power

**Exposure's 3510 integrated proves, to Martin Pipe, that transistorised amplification remains supremely relevant today.**

**A**s supplied, the £2,250 Exposure 3510 integrated featured here seems to take us back in time a decade or three – and that's no bad thing. In terms of signal-processing, the West Sussex-based manufacturer has followed in the direction it started in 1974 and knows very well. Classic ana-

logue solid-state circuitry is used throughout, the power amplifier being a time-honoured Class A/B design rather than one of those 'fashionable' Class D switching types. The review sample wasn't equipped with a DAC or Bluetooth facilities, our 3510's only digital circuitry being the microprocessor that looks after input switching and the moto-

risied (i.e. remote-controllable) ALPS volume pot. This no-nonsense – but nevertheless attractive, in its black or titanium finish – amplifier is part of a range that includes a preamp, plus mono and stereo power amps. Splash out another £300 for an internally fitted phono stage or £410 for DAC alternative. Compatible with coaxial or USB (computer)





sources, this supports hi-res PCM and DSD but not Bluetooth. The 3510's only front-panel socket is a 1/4in (6.3mm) headphone jack that, as per tradition, automatically mutes the 'speakers when a plug is inserted.

You can't have both DAC and phono board inside an amp, but whatever you choose to have fitted is selected as the first input – in addition to this are three unbalanced line-level inputs for conventional sources. If neither option is installed, the sockets – high-quality gold-plated RCA phono types, like the others present on the 3510's rear panel – becomes a fifth line input.

LEDs confirm input selection, which is by front-panel knob or the remote. A fifth input, marked 'AV', that when selected bypasses the 3510's volume pot. There are also Tape inputs and outputs.

To avoid potentially disastrous feedback problems, the latter are sensibly muted whenever the tape input is selected. It's a shame that amplifier manufacturers no longer offer a proper monitor 'loop', with controls that divert listening from the source to the tape in sockets. Exposure's designer Tony Brady told me that "there is no call...I can't remember the last time someone asked for it".

Some might regret the lack of balanced XLR sockets. The preamp outputs, the levels of which are changed by the volume control, are available on two parallel-connected RCA phono sockets. They enable the 3510 to drive active subwoofers or – anyone for bi-amping? – extra amplifiers. Note that as standard the 3510 is ready for bi-wiring, two sets of speaker sockets being provided. These outputs

will accept 4mm plugs but, since they're not binding-post terminals, bare wire isn't catered for. They can't be independently switched on or off, for speakers in different rooms.

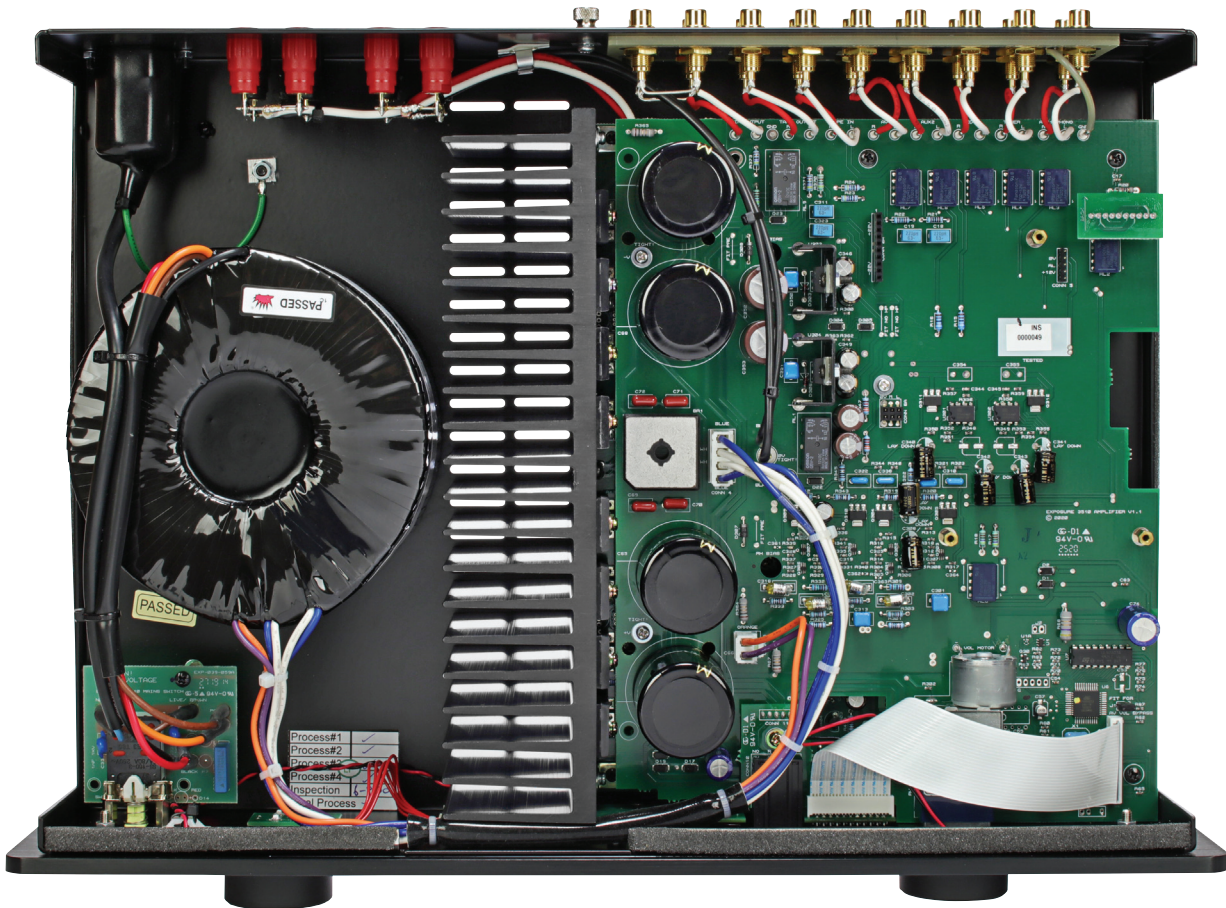
A peek inside the 3510 reveals an exceptionally-high standard of internal construction – as befits price. Two pairs of output transistors, mounted on a mid-section heatsink, are used for each power-amplifier channel. A hefty toroidal mains transformer is the 3510's largest and heaviest single component. Connections to the chassis-mounted rear sockets are made by wire – a hand-assembly job. It's better than board-mount connectors that suit machine assembly.

### SOUND QUALITY

Most of my listening was done using a Cambridge Edge







**Excellent internal construction – as shown here. Of note: encapsulated relays for source switching (top right) and motorised Alps volume control (bottom right). Two pairs of output devices, mounted on a mid-section heatsink, are used for each power-amplifier channel. Powering it all is a hefty toroidal mains transformer (left).**

streamer as a streaming-radio and networked playback source, the amplified result being fed to a pair of Quadral Aural Wotan VIII speakers (a good price match). Headphone (Focal Utopia) listening was also tried, as was vinyl courtesy of a Technics SL1200 Mk3 and AT440MLb MM cartridge; a Pro-ject Phono Box S2 was used to convert the latter's signals into a form that could drive the 3510's line input.

In many respects, the presentation is not dissimilar to that of the smaller XM5 model I reviewed four years ago. The vocals of the music I played – whether those of Leonard Cohen, Beth Gibbons, Thom Yorke or Hannah Reid – were given presence, detail and intimacy. I was hooked on every word, every breath, every nuance. I found

that guitars, whether acoustic or amplified, conveyed well. Rory Gallagher's searing Strat, as captured on the MFSL CD (FLAC rip) of his Irish Tour '74 - the year Exposure was born – effortlessly convinced with power and atmosphere.

Also noteworthy is the 3510's performance in the lower octaves. It sounded clean and its tautness was maintained, even at the higher listening levels that suit Irish Tour '74. Clearly, the power at its disposal is of benefit here. The impact of the audience footstomps on the Gallagher album

(alongside the odd buzz or two!) maintain the live atmosphere, helping to release the excitement and energy of those long-distant gigs into my room.

Meanwhile another Fender guitar, specifically the bass of Ohio Players' Heaven Must Be Like This (Skin Tight from... err, 1974, FLAC CD rip), was bestowed with a delicious analogue warmth that's almost valve-like: I could revel in Marshall Jones's playing without losing sight of the overall musical picture. A more recent track, London Grammar's Hey Now (If You Wait, FLAC CD rip), demonstrates this amplifier's ability to reach satisfyingly-deep in terms of bassline – this track is a demo fave for a good reason!



***This remote's 'mute' function is relay-driven, for faster response than winding down the motorised volume control. Unfortunately, the remote cannot switch the amp into or out of standby – although it did interact with my Cambridge Edge streamer!***



**Plenty of connectivity here, with no fewer than six line inputs - the first of which can be fed by an internally fitted DAC or phono stage option. The gold-plated chassis-mounted phono sockets, together with the two sets of parallel-connected 4mm speaker sockets, are hand-wired.**

"a natural sense of space, together with the communication of breathing noises and guitar string-chatter, helped draw me in"

The sheer dynamics of Holst's Planet Suite (Colin Davis/LSO, FLAC CD rip) fell easily within the 3510's grasp. I was given insight into the performance, courtesy of its ability to resolve instrumental detail and convey a realistic stereo spread.

In terms of musical flow, the 3510 did not disappoint. Everything in Its Right Place (here, quite literally true!) and Idioteque, from Radiohead's Kid A (FLAC CD rip), were delivered with the necessary attack and urgency.

So too were the insistent rhythms that punctuate the sharp brassy and distinctive sound of Afrobeat pioneer Fela Kuti's keyboard during the lengthy Unknown Soldier.

With the stripped-down bluegrass of Garrett Brennan's Alta Powder Day (2.8MHz DSD64) a natural sense of space, together with the accurate communication of breathing noises and guitar string-chatter, helped to draw me in - whether I was listening through 'speakers or headphones.

### CONCLUSION

Exposure's 3510 amplifier proves that more traditional solid-state technology can, if executed well, satisfyingly deliver the musical goods. Ours sounded

beefy when required, yet was capable of channelling the most delicate subtleties - all in a musical manner. Unless you're an active tape freak or possess numerous XLR-interfaced source components, the 3510's connectivity and superb sound quality should ensure it a place at the heart of many a decent hi-fi system.

### MEASURED PERFORMANCE

The Exposure 3510 produced 136 Watts into an 8 Ohm load (quoted value), increasing to 225 Watts into a 4 Ohm load. Most loudspeakers are now 6 Ohms, into which output is 165 Watts, so that's the figure delivered in practice. It's more than enough to go very loud in all situations.

Output impedance was very low at 0.05Ω giving a high electrical damping factor of 160, which will impose strong 'speaker cone control.

Frequency response measured flat from 8Hz to 20kHz (-1dB), unaffected by load value and volume control position. As our analysis shows however, output is starting to fall above 10kHz and this is sufficient to lessen any sense of sharpness, giving the smooth analogue balance Exposure favour (like Naim).

Distortion values were very low measuring 0.01% up to near full output (1kHz). At 10kHz the figures changed little, just 0.1% at 1W into 4 Ohms as our analysis shows, and typically 0.02%. Harmonics decreased steadily in level with rising order and did not modulate with changing level, suggesting subjectively distortion free sound.

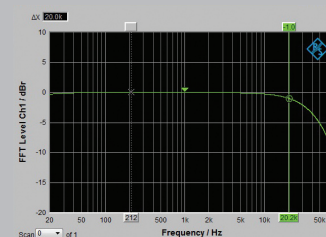
Our sample came without MM phono stage or DAC.

The Exposure 3510 measured

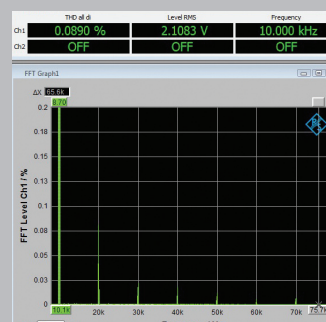
well, having plenty of power and very low distortion. It is a classic analogue power house successfully designed for smooth distortion free sound. **NK**

<b>Power (8Ω)</b>	<b>136W</b>
<b>Frequency response</b>	<b>8Hz-20kHz</b>
<b>Distortion (10kHz, 1W, 4Ω)</b>	<b>0.01%</b>
<b>Noise (IEC A)</b>	<b>-101dB</b>
<b>Sensitivity</b>	<b>300mV</b>

#### FREQUENCY RESPONSE



#### DISTORTION



**EXPOSURE 3510 INTEGRATED**  
**£2,250**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

#### VERDICT

A practical and highly-musical design, based on tried-and-tested technology. Well worth auditioning.

#### FOR

- muscularity and refinement in the same package
- plenty of inputs
- internally fitted DAC or Phono options

#### AGAINST

- no XLR sockets
- no amp standby facility
- plasticky remote

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