Icon Audio’s new Stereo ST30SE amplifier makes use of beefy KT150 output valves in an effort to overcome the traditionally low power of SE tube amps. Does it succeed?

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It's a big unit, so some larger boxes are required to transport it to the car. In fact, the Icon Audio Stereo ST30 SE needs a larger box than the smaller CT20 SE, making it a little more of a challenge to get it into the car. It has a classic look, with a black finish and gold-plated terminals.

The ST30SE is a powerful amplifier, with 28 watts per side at 8 ohms and 18 watts at 16 ohms. It has a triode mode, with the sensitivity set to 'High', which means it's ready to go out of the box.

Sensitivity Switch

As mentioned, the Stereo ST30SE can be operated in triode or pentode mode (see PM’s boxout, p53). The user manual suggests that most listeners will prefer the triode mode, but it can be switched on the fly. Specifically, the amplifier should always be set to standby first in order to avoid stressing the output transformers. That isn’t enough to play with, though more fun is to be found at the rear of the unit, in the form of a three-position sensitivity switch. Select ‘H’ (High) and the result is that sensitivity is increased with lower feedback applied. Choose ‘L’ (Low) and the amp uses higher feedback and thus offers lower gain. The ‘L’ position is recommended for most modern low-level sources where the full range of Icon Audio’s volume control is more likely to come into play. Finally, there is a central ‘0’ position where no feedback is applied. This is designated for test purposes only.

Internal construction of the unit is excellent and it is blessed with a fine selection of high-quality components. These include an ALSK volume pot, Rubicon and Nichicon electrolytic capacitors, and SCR audiofile polypropylene audio capacitors. The loudspeaker and input terminals are all gold-plated and the valve bases are high-quality ceramic items.

Integrated Amplifier

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The single-ended valve amplifier is still something of a niche product. Low power outputs and often equally low damping factors mean that very careful system matching, plus sensitive loudspeakers, are a prerequisite if you are to hear such designs give their very best. However, the UK’s very own guru of all things thermionic, David Shaw of Icon Audio, has decided to address these issues with his £2299 single-ended Stereo ST30SE, an integrated amp having, shall we say, a tad more welly, thanks to it being equipped with KT150 output valves.

The KT150 is a relative newcomer to the valve scene, though Icon Audio was an early adaptor, upgrading its Stereo 60, 650M, MB30SE, MB80M to KT150s [HFN Mar ’14] and MB150 amplifiers with this very tube way back in 2013. A development of the KT88 and KT120 pentodes, it offers higher power, and given that single-ended amplifiers are often built around lower-powered valves such as EL34s or 300Bs, it is no appreciable difference in frequency response, gain or distortion between the ST30SE at just 28W/8ohm in Ultralinear SE and 18W/8ohm in Triode SE power output. There’s also a further trade-off in power output as its one KT150 pentode tube per channel, rather than employing a pair, as is more typical, in push-pull mode. In these more common tube amplifier designs, a phase-splitter circuit is required to drive the ‘push’ tube and the ‘pull’ tube, but while Icon Audio’s ‘Single-Ended’ (SE) mode avoids this – and is necessarily Class A in operation – it is unavoidably compromised in available power output. There’s also a further trade-off in power output as its pentodes are switched from Ultralinear to Triode mode – the latter effectively turning the pentode into a triode by connecting the tube’s screen to its plate. So while a pair of KT150s can achieve between 80-120W/8ohm in Ultralinear push-pull mode [HFN Mar ‘14 and Jan ‘15], Icon Audio is rating its one KT150 per-side ST30SE at just 28W/8ohm in Ultralinear SE and 18W/8ohm in Triode SE mode [see spec chart] but even these relatively low outputs are only possible thanks to the prodigious capacity of the KT150 tube: with only slightly more heater current than the older KT88, it offers nearly double the power output. Avoiding the need for a phase-splitter and tube pair matching is a definite plus for SE operation while Triode mode – here at least – also offers a useful halving of output impedance (better bass control) and few dB reduction in noise. There is no appreciable difference in frequency response, gain or distortion between Triode and Ultralinear modes in this amp, however [see Lab Report, p35]. PM

DIGGING DEEP

Muting the sensitivity option to ‘Low’ helped boost the separation of instruments and vocals within the soundstage. Now, Miki Holland appeared to have cleared her throat, stepped properly up to the mic and was projecting her voice into the room. Because of this extra insight and clarity across the midband, there was a clear feeling of where individual instruments sat in the mix, with the result that performances overall were better marshalled. What’s more, this replaced the rather featureless ‘whole’ that had previously emanated from the speakers.

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HIGHLY RECOMMENDED

For the listening, the Stereo ST30SE was connected to a pair of PMC Twenty5.24 loudspeakers [HFN May ‘17] and fed from a Naim CDS51/Flatcap XS CD player/PSU combination. Listening to the amp in Triode mode, with the sensitivity set to ‘High’, was delighted to hear the Stereo ST30SE pretty much put to rest the idea that single-ended tube amplifiers are all woolly and indistinct-sounding, by serving up a performance that simply sparkled. Not only was the top-end beautifully transparent but the amp seemed particularly adept at capturing the overall essence of a musical performance, portraying its complete message in a manner that was highly appealing.

Across the midband, instruments were believable and vocals were blessed with good levels of detail, although I did feel that Nicky Holland’s voice while performing ‘Nobody’s Girl’ from her 1997 album Sen’s And Sensuality on CD [Epic 487912 2] was a little husker than I was used to. There were other niggles with this track too. While the space between the loudspeakers was certainly solidified, there was a feeling that everything was a little lumped together, the result being that I had some trouble zeroing in on the particular elements that make up this recording. Then there was the fact that while the low-end was deep, it could sound a touch turgid at times.

On the upside, however, Holland’s vocal was pleasingly centred between the loudspeakers and formed the heart of the overall performance against the gentle wash of keyboards and piano. Clearly there was more to be discovered here and I decided it was time to start flicking some switches.
I felt that the Ultralinear/Low gain was preferable in my system. Indeed, in Triode mode although the ‘L’ option was slightly more realistic, there was a feeling that the ST30SE was finally pulling me right into the heart of the action. However, whichever mode I selected, the one thing that made this amplifier such an enjoyable and enjoyable performance as a whole. Now, listening to jazz singer Madeleine Peyroux’s ‘Dance Me To The End Of Love’ from her album Careless Love [Rounder Records 0602498235836], it sounded as if the musicians had spread their chairs across the soundstage, the performance filling the space between my speakers convincingly. I detected that the double-bass still lacked that last ounce of real woody detail, but it felt like the ST30SE at its best, a little of the exquisite midband richness was lost compared to the Ultralinear, the ST30SE achieving 2x22W into 8/4ohm loads at 2% THD. In Ultralinear guise, and with ‘Low gain/moderate feedback’ selected, the output impedance is 0.85-1.17ohm (20Hz-20kHz), but this falls to 0.47-0.54ohm in Triode mode, improving LF damping. Into ‘Flat’ non-reactive 8 and 4ohm loads the response reaches down to 6Hz and out to 50kHz (+1dB points) but there will be greater variation in the amp/speaker system response in Ultralinear mode because of its higher source impedance. Distortion is slightly lower at low power (1-5W) in Ultralinear mode at 0.2-0.5%, but in Triode mode it is more consistent at 0.58-0.62% (all at 1kHz/8ohm). Versus frequency, at 10W/8ohm, the THD trends are very similar indeed [see Graph 2, below]. Finally, there is about 1dB difference in gain between Triode and Ultralinear (+20dB vs. +30dB) but nearly 2dB advantage in A-weighted S/N at 8.51dB vs. 8.34dB, respectively, with any residual hum/flicker noise less than –64dBV.

Moving on to experiment with both ‘Hi’ and ‘Lo’ gain options in Ultralinear mode showed they had a lesser effect than when used in Triode mode although the ‘L’ option was still preferable in my system. Indeed, I felt that the Ultralinear/Low gain mode showed the ST30SE at its best, the amp now able to generate a more realistic soundstage enabling me to either focus on particular instruments, or simply sit back and enjoy the performance as a whole. Now, listening to jazz singer Madeleine Peyroux’s ‘Dance Me To The End Of Love’ from her album Careless Love [Rounder Records 0602498235836], it sounded as if the musicians had spread their chairs across the soundstage, the performance filling the space between my speakers convincingly. I detected that the double-bass still lacked that last ounce of real woody detail, but it felt like the ST30SE at its best, a little of the exquisite midband richness was lost compared to the Ultralinear, the ST30SE achieving 2x22W into 8/4ohm loads at 2% THD. In Ultralinear guise, and with ‘Low gain/moderate feedback’ selected, the output impedance is 0.85-1.17ohm (20Hz-20kHz), but this falls to 0.47-0.54ohm in Triode mode, improving LF damping. Into ‘Flat’ non-reactive 8 and 4ohm loads the response reaches down to 6Hz and out to 50kHz (+1dB points) but there will be greater variation in the amp/speaker system response in Ultralinear mode because of its higher source impedance. Distortion is slightly lower at low power (1-5W) in Ultralinear mode at 0.2-0.5%, but in Triode mode it is more consistent at 0.58-0.62% (all at 1kHz/8ohm). Versus frequency, at 10W/8ohm, the THD trends are very similar indeed [see Graph 2, below]. Finally, there is about 1dB difference in gain between Triode and Ultralinear (+20dB vs. +30dB) but nearly 2dB advantage in A-weighted S/N at 8.51dB vs. 8.34dB, respectively, with any residual hum/flicker noise less than –64dBV.

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There is sure to be something to please the majority of listeners in one of the Icon Audio Stereo 30SE’s various modes. While its bass is not as sure-footed as many other amplifiers at the price, it has a glorious transparency and always gives the sense that it is being faithful to the message of the melody at hand. If your musical taste hits its sweet spots, you will find that what it does, it does very well indeed. There is sure to be something to please the majority of listeners in one of the Icon Audio Stereo 30SE’s various modes. While its bass is not as sure-footed as many other amplifiers at the price, it has a glorious transparency and always gives the sense that it is being faithful to the message of the melody at hand. If your musical taste hits its sweet spots, you will find that what it does, it does very well indeed.

Three line ins and a tape loop are included (no phono).

Power output (+2% THD, 8/4ohm) 30W / 30W

Distortion (+5% THD, 8/4/2/1ohm) 0.85-1.17% (Ultralinear), 0.85-1.17% (Triode)

Gain (Low/Low gain, moderate feedback) +36.9dB (+30dB)

A-weighted S/N ratio (ref. 0dBW/28W) 83.4dB / 97.9dB (Low Gain)

Distortion (20Hz-20kHz, 10W/8ohm) 0.61-0.85% (Low Gain)

Power consumption (idle) 177W / 220W (44W standby)

Dimensions (WHD) / Weight 380x240x300mm / 28kg

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