

EQUIPMENT REPORT - Audio Space Reference 3.1 (300B) Amplifier

Audio Space is headquartered in Hong Kong while its manufacturing base is located in mainland China. Part musician, audiophile, and electronics engineer, Peter Lau has over 25 years of design experience and numerous patent awards. It was not surprising therefore that the Ref 3.1's technical design made a solid impression. Solid-state rectification is used throughout. All filament voltages are DC. The B+ supply features a Pi filter and a generous capacitor reservoir. The phonostage uses a pair of 12AX7 dual triodes (one per channel) and is suitable for high-output moving-magnet or moving-iron cartridges with nominal output in the range of 3 to 5mV. If you would like to use the 3.1 as a basic power amplifier in conjunction with your favorite external preamp, you can switch over to the direct input which bypasses the input-selector switch and volume control. Speaking of the volume control, it is a high-quality Alps potentiometer. Unfortunately, this pot is manual in operation. I was told there was simply no spare room for a motorized pot.

The first stage consists of a 12AX7 configured as a paraphase phase-splitter. The driver stage uses one 6SN7 per channel, my favorite driver tube. All of the stock tubes are Chinese new production sourced from the Shuguang factory. As I understand it, quality control issues have forced Shuguang to suspend 6SN7 tube production, but Audio Space managed to stockpile this tube while the going was still good. However, Peter Lau freely admits that the Ref 3.1 can undergo an instant upgrade by rolling in a pair of vintage 6SN7s. I'm not a fan of modern 6SN7 tube brands, having developed a strong dislike for both Russian and Chinese versions. And as you will shortly discover, that wasn't a problem for someone like me with an extensive collection of NOS and used vintage 6SN7s.

The output stage idles comfortably at a plate current of about 50mA and plate voltage of around 375V DC. Bias is fixed, meaning a negative bias voltage is applied directly to the grid of each 300B. This increases efficiency and keeps the signal path as simple as possible. The other option is cathode bias, also known as self-bias, which requires a resistor in the signal path as well as a bypass cap. The downside to fixed bias is that idle current may drift as the tube ages, which mandates monitoring of tube current on a periodic basis. To that end and to facilitate output-tube changes, a bias meter and individual bias pots are provided. My recommendation is to check tube bias on a weekly to monthly basis depending on usage. During the evaluation period I did not observe any significant bias drift. Global feedback is selectable on the front panel and may be set to either "Low" or "High." A quick listening test was sufficient to convince me of the sonic superiority of the low-feedback setting, and that's how I conducted all subsequent testing. As far as warm-up is concerned, you'll need to be patient with this amp for about 15 to 30 minutes, after which it starts to sing.

On rare occasions, after only a few musical bars flow by, a new component's presentation immediately sinks in. That is exactly what happened with the Ref 3.1—a case of love at first listen! The overriding first impression was of extreme soundstage transparency coupled with crystalline-like clarity. This was high definition sound (HD) on a par with the best that solid-state designs can offer, but with a spatiality solid-state rarely approaches. The Ref 3.1 floated a wide and deep soundstage. Image specificity was excellent, though not quite as palpable in its 3-D realism as that conjured by the much more expensive

Esoteric A-100. HD sound is a far cry from the essence of vintage tube sound, which to my mind, is best characterized by the metaphor of a warm bath, replete with harmonic textures that are thick, rich, and overly liquid. That's a fair description of the amplifier that started it all for me, the Dynaco ST-70—tube virtues without the incisiveness of the real thing. By contrast the Ref 3.1 elucidated musical textures with a delicacy only a handful of other (and much more expensive) amps can replicate. The mids sang sweetly without a trace of tube brightness. Tone colors were vivid, and, in general, timbres were reproduced with exceptional fidelity. When partnered with the medium-sensitivity Esoteric MG-20 loudspeaker, the amp's distortion spectrum remained benign even when driven hard. In fact, it sounded far more powerful than its nominal rating of 21Wpc would suggest. Of course, it was even more comfortable with a high-sensitivity speaker. Microdynamic and rhythmic nuances were given full scope, allowing musical lines to boogie along with turbocharged kinetic energy.

SPECS & PRICING

Input impedance: >56k ohm

(RCA/Direct In)

Impedance taps: 4, 8, 16 Ohm

Output power: 21Wpc (Class-A push-pull)

T.H.D.: < 1%

Input sensitivity:

200mV, 3-5mV (MM phono)

S/N ratio: > 80dB (hum noise < 3mV)

Tube complement: Four 300B, two 6SN7, four 12AX7 (ECC83)

Dimensions: 18.5" x 16" x 8"

Weight: 65 lbs.

Price: \$3990

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