



Test Results

The Supratek Sauvignon's frequency response was exceedingly flat across the audio band. *Newport Test Labs* measured it as being 20Hz to 20kHz ± 0.25 dB, which is excellent. Interestingly, however, this applied for only one of the three possible settings of the gain switches (the maximum gain setting). At the medium setting, the frequency response was measured at 20Hz to 20kHz ± 0.5 dB, and at the minimum gain setting, 20Hz to 20kHz ± 0.8 dB. These two latter sets of responses are still excellent, of course, but not quite up to the standard set when the amplifier's gain switches are set at maximum.

If you look at *Graph 4* you can see the reason for these differences. At the top of the graph, referenced to 0dB, are two traces representing the frequency responses of the left and right channels of the Supratek Sauvignon. To all intents and purposes they are identical, with the very small differences at low and high frequencies being of no real consequence, with the upper -1dB point being 25kHz for the left channel and 26kHz for the right. Across the middle of the graph is a blue trace showing frequency response delivered when the gain control is set to the medium position. You can see that overall, gain reduces by about 4dB (3.9dB to be precise), but below 20Hz, the low-frequency response rises to be 1dB high at 5Hz. The high-frequency response rolls off as I'd expect, but a little earlier than for the maximum switch setting, to be 1dB down at 20kHz. However, if you normalise this response for an even variation around a nominal midpoint, the response works out as 20Hz to 20kHz ± 0.5 dB, as stated earlier. It's the low-gain position that returns the most interesting result. This frequency response starts 1.7dB high at 5Hz, reducing quickly to the correct level at 30Hz after which it continues linearly to around 2kHz before starting to rise to be 1dB high at 12kHz and nearly 2dB high at 20kHz, eventually ending up 3dB high at 50kHz where it plateaus before rolling off. Although I'd expect these differences to be audible only to the most critical listeners—if at all, at least under normal circumstances—they suggest to me that the Supratek Sauvignon might be a little high-strung when it comes to interfacing with other components, particularly source components and interconnects. Channel separation was excellent, coming in at better than 80dB below 800Hz and still a very good 53dB at 20kHz. Separation between inputs was also very good at 60dB (at 1kHz), but I'd suggest that for best performance you should terminate any unused inputs and turn the volume down on any source components you have connected to the Sauvignon when-

ever you're not actually listening to the source component in question. Channel balance was particularly good at just 0.1dB.

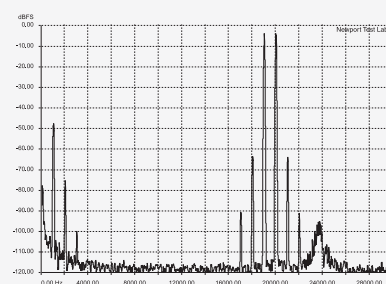
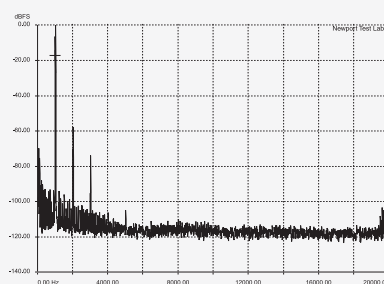
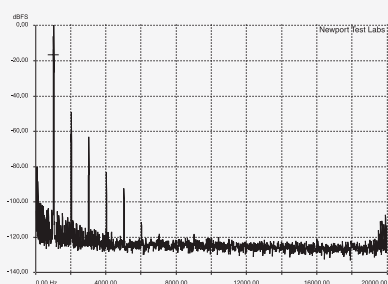
The spectrograms showing total harmonic distortion clearly show this is a valve amplifier. On *Graph 1*, which shows the Supratek Sauvignon's output spectrum at 1-volt output, the second harmonic slots in at -50dB (0.3%), the third harmonic at -62dB (0.08%), and there's a fourth at -83dB (0.007%) with fifth and sixth harmonics visible on the graph but more than 90dB down (0.003%). Although the second- and third-order components are quite high in level, they're low-order and would tend to contribute a richness to the overall sound and would not be perceptible as distortion *per se*. You can see that the noise floor is more than 100dB down up to 4kHz, and below 120dB above this, with the 'spike' at the extreme left of the graph that rises up to -80dB indicating that what noise there is is mostly power-supply-related. In fact, referenced to 1 volt out, *Newport Test Labs* measured the wideband signal-to-noise ratio at 68dB unweighted, improving to 84dB with A-weighting.

Graph 2 shows the output spectrum with the Supratek Sauvignon's output backed off to just 450mV. There's the inevitable slight increase in the level of the noise floor, but distortion itself drops quite dramatically, so that essentially there are only second- and third-order distortion components present, and at levels of -58dB (0.12%) and -75dB (0.01%). This indicated to me that the 'sweet spot' for the input sensitivity of the power amplifier you partner with the Sauvignon would be somewhere between 500mV and 1 volt.

So far as the Sauvignon's own sensitivity is concerned, it provides more gain than you'll ever need, with a total 22.67dB available, meaning that for a 1 volt output, you'll need just 74mV at the input.

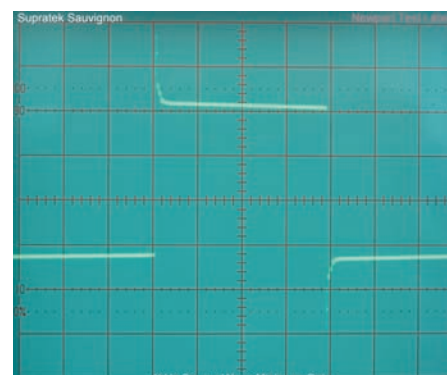
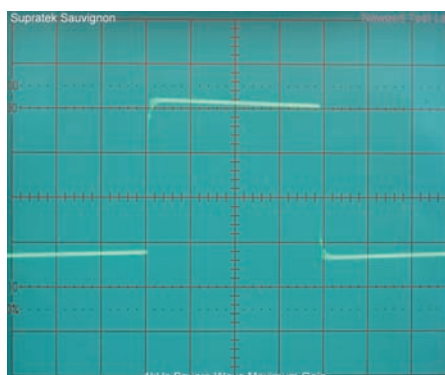
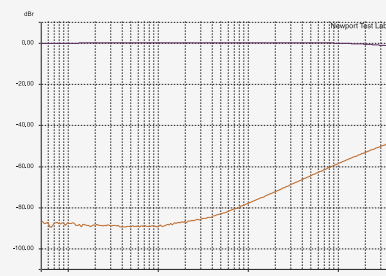
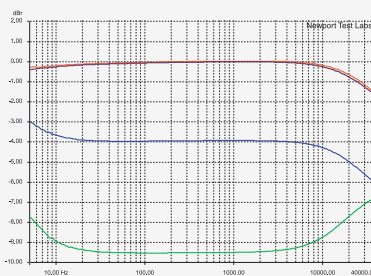
Graph 3 shows CCIF intermodulation distortion result. To the right of the middle of the graph are the two test signals at 19kHz and 20kHz. You can see the Sauvignon introduces sidebands at 18kHz and 21kHz, but they're 65dB down, which is good. The next set of sidebands, at 17kHz and 22kHz, are more than 90dB down, which is even better. The regenerated tone at 1kHz (the CCIF difference signal), on the other hand, is just 50dB (0.3%) down. This is fairly typical valve performance. (The disturbance in the noise floor just below 24kHz is a test artefact, and should be ignored.)

The two 1kHz square waves accompanying this review show the Supratek's performance in this area is again fairly typical of a valve amplifier, with very good—but not perfect—responses. The difference between the two is



Mains power consumption hovered at a steady 87.6 watts no matter what the Sauvignon was doing, so I'd suggest switching it off whenever it is not actually being used: it'll certainly warm up fast enough! And speaking of warming up, during the lengthy testing procedure, the top surface of the power supply to the left of the power button became far too hot to touch, even though the amplifier was in a temperature-controlled environment, so I would suggest you ensure that both the pre-amplifier and its power supply are adequately ventilated. 

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Suprtek Sauvignon Preamplifier – Test Results		
Test	Measured Result	Unit/Comment
Frequency Response @ 1 volt o/p	2.1Hz–25kHz	–1dB (Max Gain)
Frequency Response @ 1 volt o/p	2.1Hz–63kHz	–3dB (Max Gain)
Channel Separation	89dB / 77dB / 53dB	(20Hz/1kHz/20kHz)
Channel Balance	0.1dB	@ 1kHz
Source Separation	60dB	1 kHz
THD+N	0.09%	1 volt out
S/N Ratio (unweighted) (500mV input)	68dB	dB re 1 volt output
S/N Ratio (A-weighted) (500mV input)	84dB	dB re 1 volt output
Input Sensitivity (Maximum Gain)	74mV	for 1 volt output
Input Sensitivity (Medium Gain)	116mV	for 1 volt output
Input Sensitivity (Minimum Gain)	221mV	for 1 volt output
Relative Gain re Max (0dB)	-3.9dB/-9.47dB	(Medium/Minimum)
Overall Gain	22.67dB	(Maximum)
Maximum Output Voltage	3.3 volts	(THD less than 0.1%)
Power Consumption	87.6 watts	
Mains Voltage Variation	239–247 volts	Min–Max