



Tom Evans Audio Design 'The Vibe' Pre-Amplifier - Test Results		
Test	Measured Result	Units/Comments
Frequency Response @ 1 volt	0.3Hz-580kHz	-1dB
Frequency Response @ 1 volt	0.1Hz*-680kHz	-3dB * d.c. protect.
Channel Separation	98dB / 98dB / 70dB	(20Hz/1kHz/20kHz)
Channel Balance	0.00dB	@ 1kHz
THD+N	0.001%	re 1 volt out
S/N Ratio (unweighted/weighted)	100dB/106dB	dB re 1 volt out
S/N Ratio (at 1kHz)	132dB	dB re 1 volt out
Maximum Input Voltage	2.8 volts	RMS
Maximum Output Voltage	8.5 volts	RMS
Input Sensitivity	307mV	for 1 volt out
Power Consumption	10.6	watts
Mains Voltage Variation	240-254 volts	Min-Max

Test Results

Newport Test Labs tested the frequency response of The Vibe as extending from 0.1Hz to 680kHz -3dB, but I should point out that although the higher frequency limit of 680kHz was the -3dB point, the lower limit of 0.1Hz was due to The Vibe's d.c. protection circuit activating. Measured using a -1dB downpoint as the limit, The Vibe's response extended from 0.3Hz to 580kHz. In other words, its 'normalised' response is 0.3Hz - 580kHz ±0.5dB. As for the response across the 20Hz to 20kHz audio band, that is so flat that it's nigh-on invisible on the graph, as you can see from Graph 1. The low-frequency roll-off doesn't even start until the frequency drops below 8.5Hz. (The graphing limit is 5Hz.) Newport Test Labs has expanded this trace (Graph 2) so each horizontal division is just 0.05dB to give a further indication of The Vibe's linearity. You can see that the response is in the order of 10Hz to 30kHz ±0.05dB!

The Vibe's distortion was essentially unmeasurable. Graph 3 shows the output spectrum when The Vibe is delivering 1 volt and you can see that there are small distortion components visible in the graph, primarily at 2kHz (-115dB), 3kHz (-122dB), 4kHz (-114dB) and 6kHz (-120dB). However, it subsequently transpired that The Vibe was merely faithfully reproducing the residual distortion of the signal generator, because removing The Vibe from the signal path, then repeating the measurement, gave the result shown

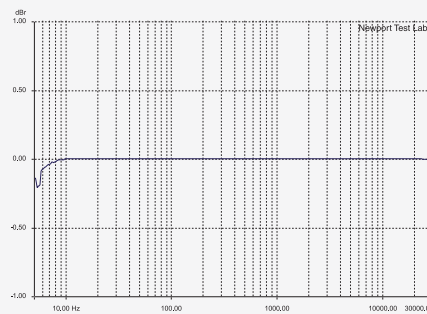
in Graph 4, which exhibits exactly the same spectral signature.

Channel separation was superb, sitting almost fixed at 98dB from 20Hz up to 1kHz, after which it slowly fell to a still-excellent 73dB at 20kHz. Channel balance was perfect: 0.00dB. The Vibe is the first component ever tested by Newport Test Labs that has achieved a perfect result in this particular test. THD+N was 0.001%—again a result that speaks for itself.

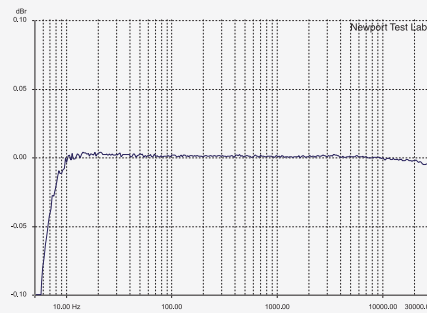
Noise was spectacularly low. The tabulated figures of 100dB unweighted and 106dB A-weighted certainly reflect this, but you also need to take into account that the unweighted figure has no weighting whatsoever, so it's measured from 'd.c. to light' and therefore The Vibe's extended frequency response effectively 'degrades' the figure. Many testing authorities (and most manufacturers) band-limit their supposedly 'unweighted' S/N ratios, which is really just another form of weighting. And as for that 106dB A-weighted result, that was referenced to an output of just 1-volt, whereas most manufacturers reference to maximum output (which in the case of The Vibe would be 8.5 volts and would give in a much higher figure). A spot-check on signal-to-noise at 1kHz, using a 1/24th octave filter, showed a signal-to-noise ratio at this frequency of 132dB—again referenced to just 1-volt output.

If ever you need a representative for the 'state of the art' in pre-amplifier design, give Tom Evans a call, because 'The Vibe' is it.

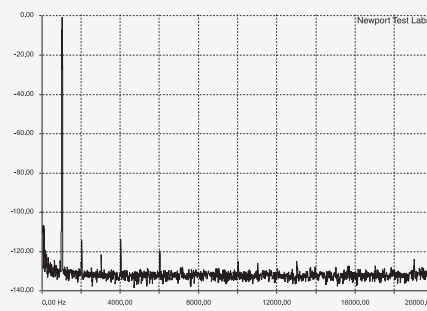
Steve Holding



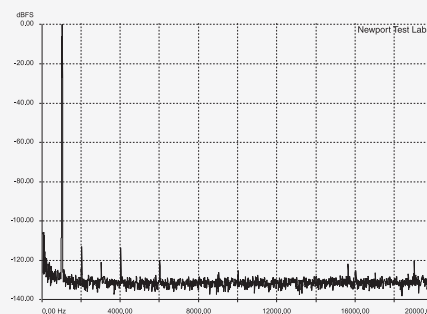
Graph 1: Frequency response of line input with graph scaled for 0.5dB per vertical division (see copy). [Tom Evans 'The Vibe' Preamplifier]



Graph 2: Frequency response of line input with graph scaled for 0.05dB per vertical division (see copy). [Tom Evans 'The Vibe' Preamplifier]



Graph 3: Total harmonic distortion (THD) at 1kHz, at 1 volt output, with gain set for unity. Graph results must be read in conjunction with Graph 4. [Tom Evans 'The Vibe' Preamplifier]



Graph 4: Residual total harmonic distortion (THD) of test set-up without Vibe in circuit.