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**Test Results**

First up, in *Graph 1*, we can see the Eltax Monitor III’s frequency response when driven by pink noise which, because it is, literally, all frequencies simultaneously, is an extremely difficult task for any loudspeaker to reproduce. You can see that between 75Hz and 16kHz, the Eltax’s response falls mostly between the 75dB SPL and 85dB SPL lines, meaning that the response is 75Hz to 16kHz  $\pm 2.5$ dB. Extend this envelope to the more usual  $\pm 3.0$ dB and you’re looking at a response of around 65Hz to 20kHz, which is excellent. The overall balance of the speaker is flat, though the bass between 100Hz and 200Hz is a little higher in level than it should be, as is the treble between about 2kHz and 10kHz.

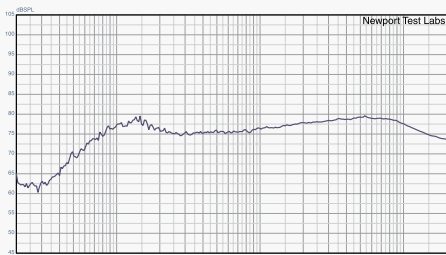
*Graph 2* shows a small section of the high-frequency response, with the graph’s horizontal scale expanded to allow detailed examination of the trace. For this graph the test stimulus was a gated sine signal, which removes any room influences on the speaker’s output, effectively mirroring the performance that would be obtained if the speaker were to be tested in an anechoic chamber. The response is still very smooth, and the less-demanding sinus signal enables better performance from the tweeter, so it’s able to pick up some output level from above 14kHz by about 2.5dB. The slight dip at 3kHz would appear to be a result of this being the Eltax Monitor III’s crossover frequency and subsequent interaction with the measurement microphone.

Low-frequency performance is shown in *Graph 3*. Most interesting here is the way the port has been tuned, so that rather than ‘peaking’ at a certain frequency, Eltax’s de-

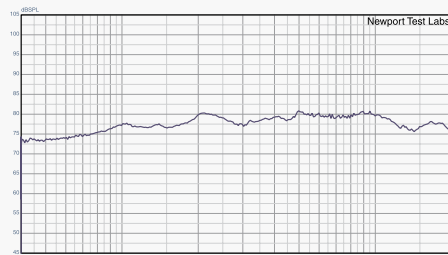
signers have instead traded off output level against bandwidth, so that the port’s output is spread fairly evenly across the frequencies from 40Hz to 100Hz. The high output at 100Hz is no doubt what helped to give the slight lift in the pink noise trace, but the output of the bass driver in the cabinet also peaks around this frequency, so that too would be a contributing factor to the lift. Both traces are certainly very smooth, without any anomalies, and there is no high-frequency leakage through the port, which is excellent.

The impedance plot shows that the pair matching is not perfect, as evidenced by the variation between the two traces not only at the resonant peaks of 36Hz and 95Hz but also up at 2kHz where I really wouldn’t usually expect to see any difference at all. There is also evidence of some very minor cabinet resonances at around 225Hz and 275Hz, plus a standing wave at 1.5kHz. All minor issues. The impedance modulus drops to around 4.2-ohms at 200Hz but stays so high over the majority of the audio band that I’d classify this as technically a 5-ohm design, though it will appear to a driving amplifier as a 6-ohm design. Either way, the phase angles are mostly benign, so the speaker will be easy to drive. Sensitivity was, however, nowhere near that claimed by Eltax, with *Newport Test Labs* reporting that tested according to its procedures, the Monitor Eltax III returned a result of 85.5dB SPL at one metre, for an equivalent 2.83V input. This is right on the mark for a speaker of the Eltax Monitor III’s physical size and driver configuration.

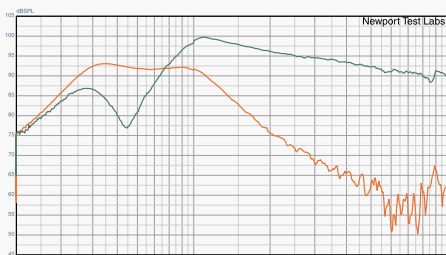
— Steve Holding



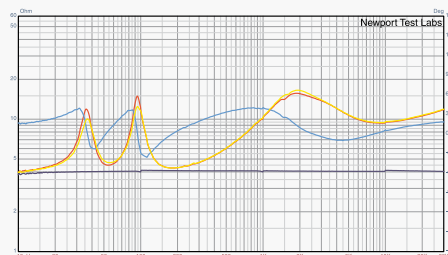
Graph 1. Frequency response, recorded at a distance of one metre using pink noise test stimulus. Trace shown is unsmoothed. [Eltax Monitor III Loudspeaker]



Graph 2. High-frequency response, expanded view. Test stimulus gated sine. Microphone placed at one metres on-axis with dome tweeter. Lower measurement limit 400Hz. [Eltax Monitor III Loudspeaker]



Graph 3. Low frequency response of down-firing bass reflex port (red trace) and woofer. Nearfield acquisition. Port/woofer levels not compensated for differences in radiating areas. [Eltax Monitor III Loudspeaker]



Graph 4. Impedance modulus of left (red trace) and right (yellow trace) speakers plus phase (blue trace). Black trace under is reference 4 ohm precision calibration resistor. [Eltax Monitor III Loudspeaker]