Subject: Yet another 511B Update!
Posted by AstroSonic on Mon, 28 Jul 2003 22:26:47 GMT
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In the last update I recommended damping the back cover of the driver. This did yield a very substantial improvement. I enjoyed them that way for quite a while, but gradually became aware of a subtle haze and glare in the HF. Eventually I could not ignore it. I tried changing wire and level (padding- at this point I have quite a collection of non-inductive wirewound resistors). Through all the various changes I could hear the same sonic character. I next tried taking off the back cover of the drivers. There was possibly some improvement, but I wasn't sure. What to do?Solution (Part 1): I had used a lower cost but more cosmetically pleasing (black, textured) damping material (VE-1 from Parts Express)for the horn lips. I had heard an obvious improvement when I installed it (the VE-1). I suspected that it was not as effective as the Dynamat (it didn't seem to reduce vibration as much), so I replaced it with the Dynamat Xtreme. Wow! Major improvement. I enjoyed the newly improved sound for a while but gradually became aware of some residual haze and glare. More wire and level changes with no improvement.Solution (Part 2): I decided to take off the back coverss. I ran impedance curves with and w/o the cover. There were multiple peaks - removing the cover increased the magnitude of the lowest peak but none of the peaks shifted in frequency. I took off the back cover, cut thick open-cell foam rings and replaced the covers. I theorized that the chamber behind the diaphram was providing some stiffness loading and that the foam rings would aperiodically damp the air chamber behind the diaphram. No improvement. Not surprising because there was no shift in frequency of any of the peaks (no evidence of stiffness loading). So, I tried them without the cover. Whoa! Major improvement! Cleaned up most of the haze, increased HF extension and resolution and provided a marked improvement in perceived dynamics. If the cover is placed behind the diaphram the haze returns, so the improvement is probably due to the elimination of reflections. Interestingly, this mode of operation had been suggested (by Steve Schell as I recall). At the time I expressed concern about the need for loading the diaphram and a loss of power handling. Well, as mentioned above, stiffness loading of the diaphram does not seem to be an issue. There was no perceived loss of level at the lower end of the horns range in my speakers (500 Hz xover). There may be a loss of power handling but not a practical one for home use. The sound remains clean well past sane levels (just jazz, swing band and light rock).The saga continues,AstroSonic