

purge

berungsaktion

Stephan Goetze

Pictures: Gecom Technologies

Bybee Quantum Purifier in the studio



The contribution of our Toningenieurkollegen Holger settlers in the last training reproducing is expected to military reactions' in the readership tripped some, waste, because we know that can not be what should not be. We have experience with nothing but our handset, can argue our honest intentions and our erarbei- decades ended editorial credibility if we do not chance the results of a metrological examination of an un-

dependent, gene Ganderkesee ansässi-, metrological institute of Gecom Technologies GmbH, would have played in the Hän- de. Gecom (www.gecom-technologies.com) is ternehmen a service Unalloyed, which has existed since 1992 in the fields of metrology, electro- magnetic shielding (EMS) and high-end audio is active. The latter was their own initiative Bybee Quantum to investigate the reason Purifier measurement.

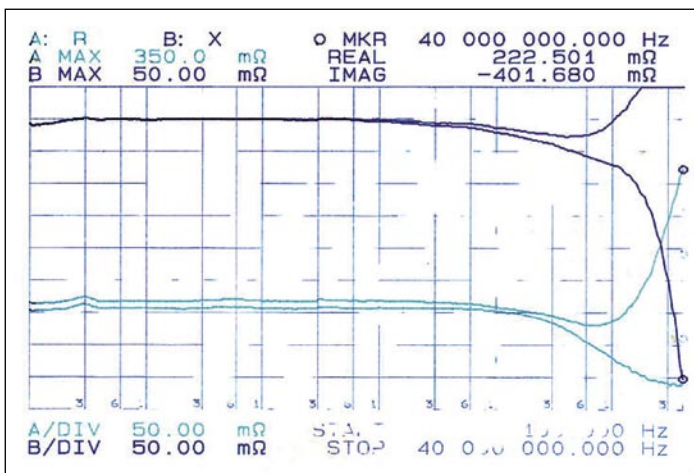
Responsible Test Engineer Stephan Goetze summarizes its results and findings in this paper. The measurement session was conducted with the following instruments: Rohde & Schwarz ZVC Network Analyzer, Rohde & Schwarz FSE spectrum analyzers, Rohde & Schwarz UPD audio analyzer, Rohde & Schwarz SUF 2 noise generator HP 4194A Impedance Analyzer and HP 4192A Impedance Analyzer (The editors).

measurements

In the initial check that the connection lines of, Small Slipstream Quantum Purifiers 'are magnetic, but not of, Large Quantum Purifiers' was found. The actual body of both samples is not magnetic. A technical measurement proved quite difficult, since no significant differences to an equally long piece of wire made in the audio field. Only when the measurements were extended into higher frequency ranges to metrological differences loomed. As part of the measurement with Impedance Analyzer should be noted when depicted plot that there is a logarithmic frequency scale. Which is provided with a marker circular curve derived in each case from the small slipstream Quantum Purifier, the corresponding curves without markers by an equally long piece of wire. Under three megahertz no significant differences are observed. From 3 MHz but you can see different behavior in imaginary and real parts - the Small Quantum Slipstream Puri-

fier shows an inductive behavior, similar to a pushed onto a wire ferrite core. After this measurement is to start from a very high-frequency signals and suppression of any change in the audio range.

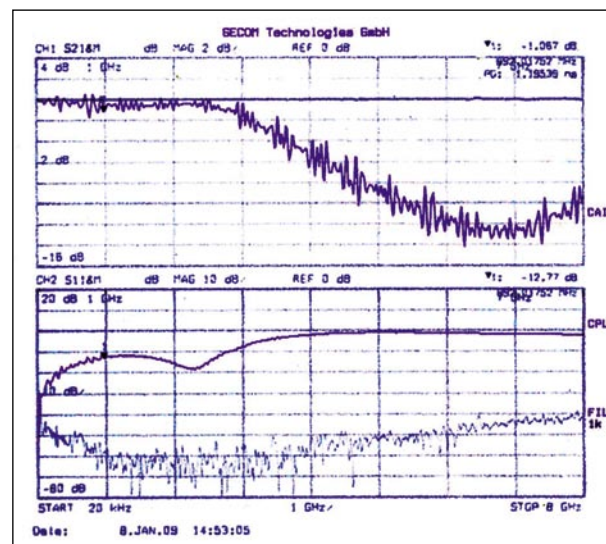
that uses an attenuation at about 3 GHz. The bottom window shows the reflectance of the test piece put it simply. The closer this curve is 0 dB, the poorer the matching and the more energy is to-



reflected back to the source. This measurement corresponds well with the previous impedance measurement: only in the low frequency region is a low reflection (about

- 45 dB) to about 3 MHz exists, from then on, significantly increases the reflection - that is,

For measurements with Vector Analyzer, a small slipstream Quantum Purifier was installed in a coaxial test facility. For comparison without this test device only the signal was measured. Each the dark blue curve is the fitted with the Small Quantum Purifier test device, while the green curve represents the pure cable connection. In the transmission direction (S21, upper window), you can see



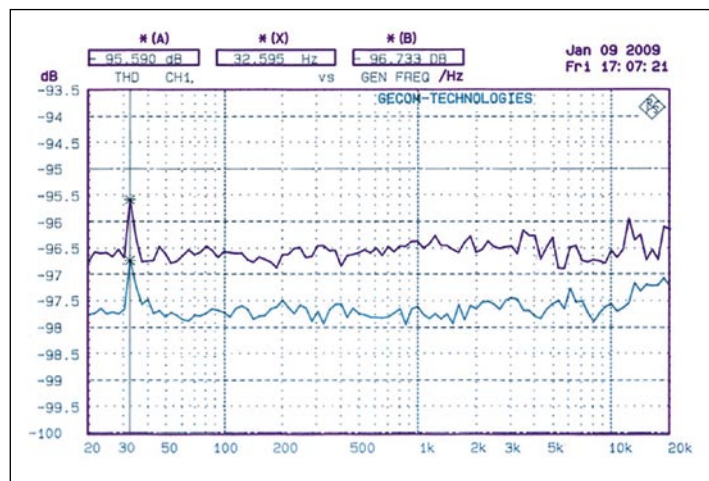
dangerous people

"Ergonomie, Style und Sound - hören was beim Mix passiert"

CLEMENS MATZNICK
GUANO APES, DONOTS
REVOLVERHELD, LIVINGSTON

possibly on a cable existing disorders are reflected in terms of performance.

What sense now gives an attenuation of high-frequency signals for the low-frequency audio range? If one has two or more high-frequency signals in a nonlinear transmission path, for example, in an amplifier, but also in plug transitions, as can so-called intermodulation occur. These are products of two mixing frequencies. If the base frequencies f_1 and f_2 , so are due to intermodulation and $f_1 + f_2$ or $f_1 - f_2$ and $f_1 + m \times n \times f_2$ ($n, m = \text{an integer}$) is produced. Two disturbers erzeug- with 10 kHz spacing



THD + Noise measurement

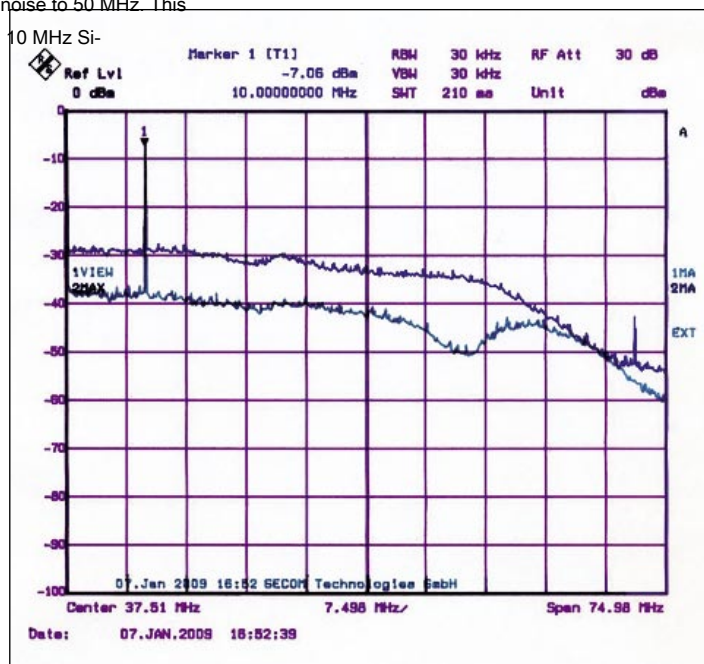
thus gen disturbances in the audio field. Exactly these disorders reduces the Small Quantum Slipstream Purifier. This theoretical approach is clearly metrological detectable.

For the first measurement, a symmetrical XLR cable is, of course shielded used. Even without Small Slipstream Quantum Purifier, once each with a small slipstream Quantum Purifier in the signal lines for a total of two. was measured directly from the generator output to the input of the Analyzer Rohde & Schwarz UPD audio analyzer. In this no filters were turned on, whereby a measurement bandwidth was given to 300 kHz. was measured THD + Noise, ie the sum of all distortions + noise. The upper blue curve has been measured using this without the small slipstream Quantum Purifiers, the lower curve. One can be a true low but detectable improvement. This is quite audible!

Measurements on Large Quantum Purifier

The impedance measurement gave very similar results. Because of the physical size of the Large Quantum Purifiers measurement was not possible in a coaxial test facility. To document the effect, another measurement setup was chosen: as the signal source, a Rohde & Schwarz SUF served two noise generator, which produces broadband noise to 50 MHz. This signal was measured with a 10 MHz Si-

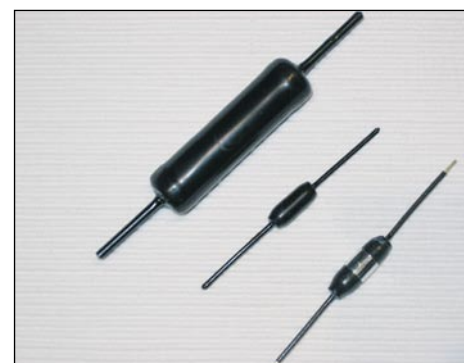
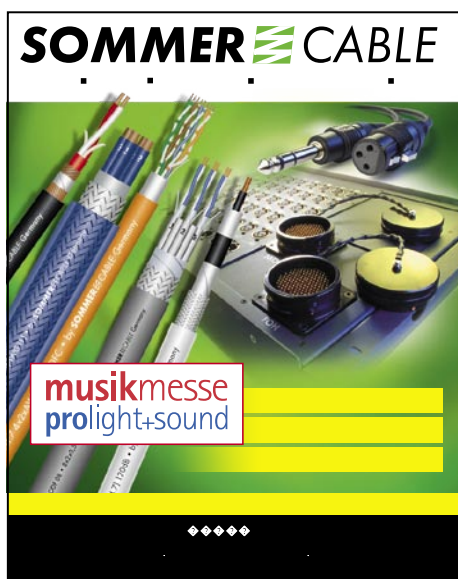
attenuates. The noise floor is however reduced by 10 dB. Such a large difference is very noticeable in the audio field. In addition, the Quantum Purifiers were tested acoustically and in our reference system. The Small Slipstream Quantum Purifiers were built into the XLR cable between DAC and precursor Large quantum



Impedance measurement

nus signal with a Power Combiner mixed. The result without Large Quantum

Purifiers turn were placed in front of the crossover of the middle / Hochtonteils (partially active system). The results corresponded to what is otherwise found in and on relevant websites and forums: The space improved in width and depth, it could be heard more fine detail, instruments were more clearly defined in the room without you recorded that losses in dynamics would have. In metrology, a use in electric meters and high-precision digital multimeters offers. Here, too, more stable measurement results were achieved with less interference.



Bybees in different versions