



**The European Patent Office**  
**Erhardstrasse 27**  
**D-80298 MUNCHEN**  
**GERMANY**

Parma, 13 January 2003

**Subject: European Patent Application n. 93914555.3 (Lake Technology Limited)**

This is a follow-up of the letter already sent on 23 December 2002, which contained an opposition to the patent application referred above, and which I attach again here.

We did find the following paper:

**Barry D. Kulp – “Digital equalization using Fourier Transform techniques” – Pre-Prints of the 85<sup>th</sup> AES Convention, Los Angeles, 3-6 November 1988.**

It contains a detailed description of ALL the features actually claimed to be “new” in the above patent application, which has priority date 7 July 1992. The paper also describes a practical implementation done on hardware currently available in 1988.

Furthermore, the paper was written by a technician working at the Zoran Corporation, which was producing, at the time of writing, electronic devices which did implement the described technologies. As cited in the references of the paper, there was also a detailed application note describing the usage of the Zoran devices for implementing fast convolution.

What is more important is that, not only the technology described and advertised is the same claimed by Lake Technology Ltd, but also the goals for the application are exactly the same (room acoustics simulation, room equalization, virtual rendering of acoustical spaces, etc.). This means that the Lake’s application is unsubstantiated, because both the implementation details (convolution by means of FFT-processing, small partitions of the impulse response for reducing the processing latency), and the field-of-application were exactly described in the cited paper, which I attach here for more evidence.

Finally, it must be noted that the paper appears to be an AES pre-print. This is the most widely known source for technical papers about audio technology; the AES pre-prints are available from the Audio Engineering Society ([www.aes.org](http://www.aes.org)), who provides an on-line search engine and ordering system, and recently delivered a complete CD-ROM collection (the AES Electronic Library), which is where we did find it.

This means that the paper was NOT published inside the unfindable proceedings of an obscure conference, but it is available from the most known and easily accessible resource for technical documentation in the field of audio and acoustics. It is also interesting to note that the claimed inventor, David McGrath, has himself published several AES pre-prints.

We expect that these new facts put the word END to the process of granting the patent in the subject. However, if You need further documentation and analysis, please contact us. As already said in the previous letter, we will be very cooperative and we will provide You with all the information which we have.

Sincerely Yours.

Prof. Ing. Angelo Farina