

## **Charles Kirmuss' Presentation to the Audiophile Society**

Charles Kirmuss our founder and inventor of the KA-RC-1 Ultrasonic Record Restoration system, recently undertook a presentation to the Audiophile Society via Zoom, where he presented, generic information and science on the subject.

Topics covered were as follows:

- How are records made.
- Why do cleaning solutions not work.
- Why use distilled water.
- Why one cannot clean 12 records mounted on a skewer in a 40 KHz sonic, how do ultrasonics work.
- Why one cannot restore more than 4 records with the Kirmuss process
- How does Kirmuss remove the release agent.
- Shown are images of foil records tested in a 40 KHz skewered sonic, a 40 and 120 KHz sonic and proof of safe and even Kirmuss sonic action on test aluminium records, with proof of the release agent that bubbles up during pressing that holds dust that the needle hits creating those unwanted pops. Pops that are removed and not hidden using Kirmuss record ionization.

You can make your own aluminium records to test any ultrasonic and see if it is in fact using cavitation.

The link to the video can be found here on Youtube:

<https://www.youtube.com/watch?v=f5r0vL8RnAY>

Further reading on the matter validating the test methods and use of 10-25 µm thick aluminium foil to measure the distribution of sonic energy and reveal cavitation are recognised by laboratories globally and where in fact a group of Chinese Engineers have a patent issued them for using foil to test transducers and see if the sonic has evenness of performance. The latter is especially needed for records where one sees where one manufacturer represented in the test had uneven distribution of the produced energy.

This can be accomplished through modulation or inserting a resonance (we add 70 KHz), this is why our cavitation appears evenly without high areas of impact and others with no impact at all.

Note: A buzz sound has nothing to do with the presence of a working ultrasonic transducer.

Reading materials:

Aluminium foil test as a Patent:

<https://patents.google.com/patent/CN102042871A/en>

Aluminium foil test and not noise:

<https://sonixivblog.blogspot.com/2009/05/is-your-ultrasonic-cleaner-working-or.html>

<https://meridian.allenpress.com/bit/article/53/4/280/427983/Research-Ensuring-Cavitation-in-a-Medical-Device>

<https://laboratoryresource.com.au/?navaction=getitem&id=116>

In the UK all sonics used for medical or sterilization use need to be tested weekly with weekly test results memorialized in a log:

<https://training.isopharm.co.uk/blog/ultrasonic-activity-test-mythbusting/>

Society of Photo Optical Instrumentation Engineers:

<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/8768/1/Study-on-the-measuring-method-of-aluminum-foil-for-ultrasonic/10.1117/12.2011964.short?SSO=1>

<http://www.laytontechnologies.com/how-do-we-test-the-efficiency-of-our-ultrasonics/>

More information can be found on the rest of our website.