German language YouTube channel: *Hören und Fühlen*

Published April 5, 2022

https://www.youtube.com/watch?v=joQH4bB0Xnc

English language translation

Welcome to a new edition of *Hearing and Feeling*.

Today I've got something special for you. By way of introduction, it's a way to affect the sound of loudspeakers by reducing distortions of the speaker cable.

The lithuanian company LessLoss run by Louis Motek has become well known worldwide for its application of unusual technologies to cables and D-to-A converters, and brings gear to the market which affects sound quality.

Recognizing their achievements will, as always, depend on the gear one happens to pair them with.

The company develops many technologies which are used in different products.

There's the C-MARC technology, which finds crucial application in the build geometry of their cables.

I've brought here a new C-MARC power cable by LessLoss.

It's a very light cable, very flexible, and requires great effort to build.

This one cable has a nearly 20 hour build time.

And the inner geometry is really so different from anything currently on the market, one really has to admit that Louis Motek embraces extraordinary measures.

But, as always, it's most fascinating to hear these technologies in action, and I was especially interested in getting the Firewall for Loudspeakers to test.

Here we have one pair for one loudspeaker, marked red and black.

And I'd like to describe some of the technical aspects here. So here it goes.

Here we have the terminal, tailored for use with different cable terminations.

You can use bananas, spades, or bare wire. So on this end you connect the end of your speaker cable, and from here you connect to your speaker terminal.

You can choose this end as banana or spade. This choice doesn't affect the price.

So for normal loudspeaker inputs you'd use two units, and for bi-wiring setups you'd use four units, per loudspeaker.

They're about 30 centimeters long.

The flexible lead here is in fact a C-MARC cable by LessLoss, with its very interesting internal geometry. I'll explain more about it in an upcoming video.

This cylindrical part is interesting, in its glass appearance, inside of which you can see a pair of components. I'll get into those in a second.

It is a cylindrical column shape of hard resin.

Inside here we can see the signal splits into two pairs of solid copper rods, which are preformed to specific lengths.

Now, these special copper rods are highly sensitive.

They are solid core, and have been treated by an entropic thermodynamic process.

This results in a highly controlled specific extreme aging of the copper.

Entropy is tied to irreversibility of processes.

Through this thermodynamic process sensitive conditions are achieved whereby an object's condition is no longer reversible.

As a result, the copper parts thus prepared are extremely sensitive while these conditions apply.

They become matte and soft. In fact the copper itself becomes flabby.

One could say like this cable here, easily flexible.

This is a result of the processing.

Because of this physical sensitivity, the structure is encased in a liquid resin which when hardens keeps everything in place and grants the soft copper its rigidity again.

But not only that. This rigidity also has to do with the elements that surround the copper conductors.

These two elements are a kind of gill-shaped shroud which encapsulate two copper rods each. These aren't physically connected but are coupled only by magnetic field interactions.

So then this whole assembly is immersed in liquid resin which hardens tightly over time. This is a laborious effort.

The special in-house processing of the copper bars alone takes about 30 hours.

Clearly, these are very labor intense products which require much attention to detail.

These very gill-shaped shrouds which surround the copper bars make up the essence of what LessLoss calls its Firewall technology.

These gill-shaped shrouds sort of remind one of looking into a vacuum tube, the type you'd find in a driver or preamp. The gill shape reminds one of the screen on such a tube. This gill-shaped element is placed in a magnetic field over the signal conductors and then held in place through the hardening of the resin.

It's known that in a solid core conductor the signal flow from low to high frequencies moves from the center to the outer surface.

As such, the higher the frequency, the closer it is concentrated at the surface of the conductor.

This is the so-called Skin-effect, and this is where LessLoss's approach is applied.

The problem addressed is that any signal which is introduced to the loudspeaker cable at the amplifier is subjected to high frequency interference “garbage” by the time it traverses the cable.

This is where the concept developed by LessLoss applies. The signal can be liberated from the induced noice since this noise is known to be of high frequency origin.

Addressing this noise on the signal line is not unique. Known U.S. based manufacturers have developed their own solutions to this problem, each in their own way. This is logical and also audible.

Due to all cables exhibiting capacitance, it's only natural that they will capture high frequency undesirable noise along the way. The only question is, what effect does this have on the audio signal, the one we want to preserve?

This is the logic followed by Mr. Motek. By means of this elaborate construction he achieves the eradication of a large portion of this high frequency pollution from the signal.

These same LessLoss technologies, namely the Firewall and C-MARC technologies, are used in their power filtering solution as well.

For power they offer the technology enclosed in a small wooden enclosure, but the same idea applies, namely that high frequency garbage is stripped off the desired signal.

I'll get back to the Firewall technology when used for power as well as more detail on LessLoss's power cable performance later on in a separate review.

But today I will focus on the Firewall when used for loudspeaker signals.

As I said before, it's pretty easy to connect, so it's really easy to test.

And you can really hear the effect that it has on loudspeakers immediately.

The idea here is that the Firewall should have no influence on the signal directly. Nothing should be changed in the sense of adding anything, changing anything.

The only thing that should happen is the reduction of distortions resulting through the signal's passing through the cable, the same high frequencies we're all constantly exposed to. This problem is getting audibly worse and worse, especially in the high frequency bands. That is the problem which should ideally be addressed here.

I have had these Firewalls here for testing for several weeks now.

I tested them with several loudspeaker systems.

I have tried the firewalls with tube amps, and solid state amps. I tried them with full range speakers, high efficiency speakers, horn-based speakers, classical dynamical two and three way speakers and with my Rogers LS 3/5. The effect of the Firewalls is always perceptible.

There's no question about whether this might be self-delusion or wishful thinking.

You hear the effects immediately.

The Firewall technology when used on power is really remarkable.

But I'm getting ahead of myself. It's so good on power I'll dedicate a separate Easter special presenatation on it later.

So what happens to the music?

The music gains a peacefulness without becoming damped.

It's not as though you're sitting in a room and try to damp it out with curtains, damping material, that sort of thing.

On the contrary, you gain clarity through peacefulness.

I'll describe it in terms of different frequency bands.

I wouldn't say the bass is perceived to be deeper, but it is for sure more precise and I'd say springy.

It's extremely audible that acoustic bass becomes more differentiated, and extremely more colorful and impactful.

This is not something that is added to the signal, but it really comes from the absence of distorting impulses. This is how I perceive it audibly, because it was immediately noticeable.

This is also noticeable in the midrange. I really hate to use the term, but I really must do so here. It sounds more analogue.

It sounds softer, but without smearing anything in the process.

It sounds more sonorous, without at the same time losing any differentiation between lows and highs.

On the contrary.

So really it's a focussing effect which allows you to hear more than you could hear before.

Like when you clean the window glass, the glass remains the same and so does the visual material behind it, but you can see more clearly through it.

I got different results with different loudspeaker types. I'll get to that in a moment.

The high frequencies are affected least in my opinion, but the do become in a way softer on the ear.

By this I certainly don't mean that they are reduced, or that any frequency bands are cut lower, or separated in some way. That's not what I mean.

What I mean is that it's a type of smoothness that at the same time binds the differentiation of differing frequency bands.

So for instance listening to a soprano voice, I get the feeling that that's really a human voice I'm listening to.

This is by no means wishful thinking.

For certain it is not.

Especially with acoustic instruments, the differentiation increases drastically.

So let's say, in baroque music, with smaller ensembles, with, say, harpsichord accompaniment, one can really hear the differentiation very well.
This is all to say that, according to however much noise casts its shadows on the sound, this noise is suddenly removed and it improves the overall resulting performance.

When you can clearly make out bass and lower mids, this can also have a side-effect that it seems the high frequencies have been lessened, for real musical tones are never made up of just one frequency band. So if we make lower and low-mid frequencies finer, softer, but also more differentiated, this will also seem to influence the high frequencies, as it seems new frequency bands appear.

That's just the way it is. It has to be said. Restrictions? Well, yes.

This type of thing is audible, but I'd say it might not suit every individual listener as a matter of taste, so that everyone would say unanimously “Yeah, that's exactly what I've been looking for!”

Of course not.

I've also experimented a lot with american “Supercables,” and often times I could hear things I simply didn't like.

It doesn't have to appeal to everyone.

Again:

Everyone should test in their own configuration, because the speakers, the speaker cables, plug the amp alone, these three are so different, that the audible effects will be determined by these primarily.

So for instance bass especially is influenced by the room acoustics, right?

So in this sense it's not always only beneficial if I have “more” of something by reducing something else, like distortions in the sound.

But I must say, the influence of loudspeaker cables are small compared, but the characteristics of loudspeaker cables stay the same.

Don't worry about the Firewall influencing their existing influence.

The Firewall for Loudspeakers don't influence the sound's characteristics.

It only cleans the sound, protects it, or removes from it the radio frequency trash that the speaker cable without even knowing it is transporting to the speaker anyway.

And the speaker cables, like I said, their sound characteristic is not influenced, it is merely helped by the lack of negative influence in that the signal is cleaned.

With speakers the effect is the same. With amps as well. I tried tube amps and transistor amps. The effect is exactly the same. You can still hear all the characteristics of each piece of gear.

I switched back and forth several times between transistor and tube amps. The Firewall did not influence their individual characteristics.

Now regarding loudspeakers.

Die Rogers 3-5 hat sehr davon profitiert.
The Rogers 3-5 benefitted greatly.

This speaker really shines in the midrange and the highs also are pretty good. The bass doesn't hold up so well normally. But now the high bass was much better differentiated and clear.

I had a lot of fun with that; it really was great.

With the large horn system, I found that the highs really benefitted and were more pleasing.

So often with horn systems the weak link is the high frequencies. The place where one would say "that's a little too harsh on my ear."

Whether this is because the noise was reduced and actually had an effect on the high frequency band of the audio, due to the Skin-effect or whatever it was, I really can't say, because I have no way of measuring it.

But it is obvious that the slightly shrill highs actually disappeared and it was quite pleasing as a result.

But it could also be that it was just a higher resolution portrayal of the lows and mids which created a good gel with the highs.

I can't really say.

In classically built loudspeaker construction, the differences were also immediately noticeable.

I would say, whether the sound idea with a classical solution of a 2 or 3-way loudspeaker combined with a transistor amp also goes in the desired direction of change, must be determined. Because we all know that, for example, when we experimented with an external filter to linearize the impedance curve, which affects the sound in a similar form, although not of the technical implementation as with LessLoss. This is very very different in the way it affects the sound. But here you can also say that we always go into a musical flow of change, whether you like it or not, everyone must decide for themselves.

Let's move on to high sensitivity speakers with only one driver.

Here I would actually not recommend them.

This is of course a question of taste, for each his own. But wide-band drivers do generally have a lower high frequency cut-off.

Here, in my opinion, the naturally limiting high frequencies of the solution doesn't gel well with a fuller, better defined bass and mid-range (of course for elderly such a high frequency cut-off doesn't need to mean much), so I'd say the influence is not especially beneficial in my experience.

However, the effects mentioned before as still obviously there: the springiness, the instantly recognizable, obviously better, more colorful bass. It just isn't matched by the driver itself at the high end of the spectrum.

The changes are definitely there and you can hear them.

So this is really something one has to try for oneself.

And one really should. They are priced as this set of four at 1656 USD.
That's not cheap by any means.

But when you consider you'll get this effect at every listening session, with any source, and since the speakers are playing with any chosen equipment combination anyway, that's something you have to decide for yourself.

Certainly you should really test these.

Really you have to hear these things. Will there be a sonic impact? Yes.

Definitely, and these are changes you hear instantly.

This is true of all Firewall products and the LessLoss power cables, and all C-MARC cables. You hear it instantly.

Is it always a positive change?

Yes, I would say so.

I recommend the old and faithful test of putting them in, giving them a few weeks, and then taking them out. At this point you will hear the most extreme difference, especially in the high frequencies.

With wide-band one-driver speakers, my personal opinion, not so much.

With classical two or three-way systems, as well as with monitor type speakers, perfect.

With horn-based speakers, also very nice in my experience.

Bringing about the transparency of all tones, the musicality, the emotionality, and really, I have to use the cliché, the more analogue type sound, this is really what the Firewall does.

So, to sum up my test for today: make sure to try these out. For many, this can be a real eye-opener, especially when you consider your system to already be well balanced and mature, these will take it to the next level. Fantastic.

They require a lot of labor to manufacture, so even if the price seems quite high, my opinion is that they are really worth it.

To be fair, there really is a lot put into these in terms of hours and material and especially research and development.

So here's my tip: try them out, give them a listen. We'll see each other again soon when I test some other LessLoss products for you. Have a great day.