

KLEI Copper Harmony (Bullet) plugs vs Eichmann Silver Bullet plug by Steve Reeve (Fine Art)

To date, all of the reviews on this blog (ie. prior to this one) pertain to products I have personally acquired and found to be exceptional performers. Since I am not a "professional reviewer", I was very surprised to find and email in my inbox one day, requesting my participation in a review of a brand new product from a company called Keith Louis Eichmann Innovations (KLEI). The product is their KLEI™Copper Harmony plug, which is the entry level product in a family of high resolution RCA connectors, the others being the KLEI™Silver Harmony plug and the KLEI™Pure Harmony plug (more on those later).

So what is so special about the KLEI™Copper Harmony plug?

Well, its body is constructed from a very high melting point polymer, with a silver coated copper centre pin and in place of the large metal barrel found inside the outer housing on most "conventionally designed" RCA plugs, there is a smaller polymer collar with a small silver plated copper conductor imbedded into the inside of the outer collar (see photo below) to provide the contact point for the neutral connection.



The neutral pin also extends upwards from the collar such that, when used with the optional metal housing, it serves as a grounding point.

Now this is not my first encounter with this style of RCA plug, since I currently have the Silver Bullet RCA attached to the source end of the Stager Silver Solids interconnects that connect my Schiit Bifrost DAC and my Simaudio MOON LP5.3RS Phono Stage to my Naim 5i Integrated Amplifier, which employs silver plated Neutrik DIN Connectors.

Having used the Silver Bullet RCA's for the last 10 months and being very satisfied with the details and dynamics they provided, I was very curious as to how much improvement an RCA plug utilizing very similar design principles (i.e., from a visual perspective) could bring to my system.

One thing for sure, connecting the KLEI™Copper Harmony to the solid silver interconnect conductors was very easy for two reasons:

- The centre pin connection is offset to the opposite side from the neutral pin, making both leads very easy to connect, which is far better than any of the conventional style of RCA plugs I have used in the past..
- The very high melting point polymer used allowed the pins to be heated up sufficiently to allow a very good solder joint, without melting into a puddle of plastic goop.

Once you remove the housing, one other thing that stands out about this RCA is the lack of any kind of cable strain relief support that is generally part of the barrel of most other RCA designs. But in this design, strain relief is actually provided for in the design of the Housing of the RCA plug, which has two hex screws, that can be tightened onto the cable, eliminating stress on the solder joints... note that the maximum OD Size of cable that can be accommodated is 9.0mm.

In my case, the Stager Silver Solids conductor is quite thin compared to shielded types of cable, so I elected to construct a strain relief sleeve around the cable, which was adequately supported by the housing and set screws.

KLEIInnovations (KLEI) are quite aware of the use of small diameter cables, so they supply with each plug with a small Cable Retainer(Grommet) especially designed for small gauge cables, ie. such as those used on the very fine wiring harnesses for turntable tone-arms.

Cut to the Chase please!

So with the KLEI™Copper Harmony plugs in place, I connected the cables and started the "burn-in" process. Since the cables were well used and due to the very small amount of metal used in the RCA, I had reasoned that the period of

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time required for complete burn-in would be less than other designs, but just to make sure, I had planned for around 150 hours, during which time I auditioned their progress several times.

My initial impression (i.e., within the first hour of listening) was that somehow, the team at KLEInnovations (KLEI) had discovered some magical metallurgical process in which electrons had been freed from their earthly bonds and allowed to proceed at faster than light speed to their final destination, not that my previous RCA's are slow by any means, but the KLEI™Copper Harmony RCA's are just that much quicker!

The detail had significantly improved, together with a noticeable improvement in dynamics and a deeper more spacious 3D image... and it was only going to better?

Well, there was a period of time at around 75 hours where something went a little "wobbly"... I can't think of a technical term for it

- There was a definite change to the presentation of bass frequencies that had many tracks sounding unnaturally bloated.
- On Eric Clapton's album Clapton Unplugged, the stomping of his foot on stage became almost nauseating.
- Several R & B tracks were skipped over because their bass was just too overpowering.

Fortunately, 24 hours later that particular phenomenon had abated completely and the bass had changed to a more deeper and far more detailed rendition, that appeared to be much more complete and natural, resulting in more realism. Eric's loud foot tapping is now an integral part of the concert... thank goodness!

Now that the burn-in period is complete, the entire image has transformed into one having a very precise placement of instruments and artists each surrounded by their own individual venue specific (or well intentioned engineer inspired) signatures with a very dynamic presentation.

One very good example of that is on the Oscar Peterson Trio album We Get Requests. The track You Look Good To Me starts with Ray Brown bowing his double bass and then continues with a bass lead-in, during which you can hear him humming the notes he is playing in the background. It was as if I had been transported into the recording venue, listening to it live, simply superb.

The Dynamics are now presenting a far more realistic presentation also...

- Initially, the most noticeable improvement in dynamics were with drums, where rim shots has the immediacy of small calibre gunfire and bass drums seemed to punch through the air like a canon.
- Electric bass also had significantly more slam to it and electric guitar chords were extremely crisp.
- As burn in progressed the more subtle textural details of these instruments became more vivid, but the dynamics of their presentation remained unchanged.

The music had more body and was simply more complete! On the upper end of the frequency range the most noticeable improvements in detail and dynamics were conveyed by instruments such as Cymbals, Triangles and Tambourines...

- The initial attack of these instruments is now very crisp.
- The decay of Cymbals and Triangles have extended significantly beyond their previous fall-off point due to the micro details now being revealed.
- and again there was the delightful addition of texture that was previously missing, especially with Tambourines.

One of my favourite tracks for presenting some very natural sounding Cymbal work is on Staple It Together, from the Jack Johnson album In Between Dreams. Also, on his album On & On, the crisp guitar work and the subdued bass line on Wasting Time, is dropped into a spacious image constructed by nicely applied reverb around the drum work. Vocals also benefit significantly, in that the discernible vocal textures now have more clarity...

- One of my all-time favourites, Diana Krall has revealed a whole new level of "s-e-x-y" with a smooth sibilance presentation and clearly audible textures in every whispery breath — the result is outstanding!
- The reproduction of the raspy vocal tones of Xiomara Lougart on La Habana Joven is another testament to their ability to transfer micro details in a very dynamic manner.

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- Christy Baron's whispery rendition of Ain't No Sunshine, with a solitary bass for accompaniment draws you right into the recording.

And last but not least, the cavernous venues of classical recordings are reproduced with breathtaking reality...

- One such recording is Iberia: Debussy – 3rd Mov't – London Symphony, Andre Previn conductor that is presented with amazing clarity in the midst of a dizzying array of instruments that can now be clearly heard and located precisely within the image.
- One of my favourite instruments is the Pipe organ, mainly for its many textures. The track Undring from the album HarmOrgan by Sigmund Groven & Iver Kleive is an excellent example of the depth of the sound stage that can be reproduced using these RCA's – definitely cavernous!
- One thing that did come to light with many orchestral tracks was the forward projection of the venue related acoustics to the point where they envelope the listener, but leaving the orchestra in the space behind the speakers — very engaging.
- The reproduction of the Cello has improved significantly, allowing their very distinct and individual timbres to be distinguished
- The upper frequency range of violins has actually become much smoother — the Violin Concerto no. 4 in D major KV 218 – Allegro by Marianne Thorsen/TrondheimSolistene is one such recording that highlights this particular capability of these RCA's extremely well.

I've used many words that describe what the KLEI™Copper Harmony plugs brings to the party...

- Dynamic
- Detailed
- Cavernous
- Engaging

But I think if I had to describe its outstanding performance in one word — it would have to be **Clarity!**

I cannot recall my modestly priced hi-fi ever reproducing music with such clarity. Every instrument, every artist, every venue, every album, is being reproduced in a manner that would normally be attributed to spending thousands of dollars on significantly better components — not a \$60 set of RCA plugs! Even my oldest recordings are revealing details I've never before heard. There is also a warmth that was previously missing, which is especially nice for digital playback, creating a more engaging rendition, with what appears to be a much larger "sweet spot" as a bonus.

So, just to make sure I was not hearing what my inner-self may have wanted my ears to hear, I switched to a second interconnect that is identical in every respect, except that it has the Silver Bullet RCA's on the source end. The Result...

- Noticeably Flatter and thinner sounding
- Less pace to the musical presentation
- A little more vague
- A little more muddied
- Definitely less engaging

Don't get me wrong, KL's old Silver Bullet RCA's are much better than the more conventional RCA designs I've previously used. But there's a new guy in town... the KLEI™Copper Harmony RCA from KLEInnovations (KLEI). Needless to say, the KLEI™Copper Harmony RCA's are now my new RCA point of reference.

Talking Techie...

So how did the guys at KLEInnovations (KLEI) achieve such improvements? Well, that's proprietary and their gonna keep it that way, but they did share that they have a proprietary formula, ie. **KL's Signal/Ground formula**, which I believe (and I'm speculating here) specifies for each of their RCA plugs, design features like...

- The metals used for the pins
- The plating used for the pins and its density
- The physical design of the pins

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As an example of this, the KLEI™Copper Harmony RCA has high purity copper pins (IACS 101%) that are coated with a direct dense proprietary high purity hard silver plating (IACS 106%)... the rest they wouldn't share.

What is IACS

- It's a measure of the conductivity of various metals relative to "Pure Copper", a standard developed for copper wire producers, having a rating of 100%. I was sent significant literature highlighting some of the design features and this information, including Australian pricing, is available on their website at www.KLEInnovations.com. Also to mention, there is also... the KLEI™Silver Harmony plug and the KLEI™Pure Harmony RCA Plug.

What are their benefits

- Well, because I have not tried them as yet, I can only make comment, based on my communications from KLEInnovations (KLEI).

To Paraphrase

- Using the KLEI™Copper Harmony plugs brings out even more of the detail, dynamics and improved imaging.

Future plans

- KLEInnovations (KLEI) future plans include KLEI XLRs, Spades, Bananas, Binding Posts, RCA Sockets, Resonance Devices etc... (but not necessarily in that order)

Conclusion

Oh come on — after all that! — do ya really need one? – OK...

Well, without even taking into consideration their very competitive pricing, especially when compared to some of the much more expensive competition that exists out there, and simply based on their superb level of performance, I believe the KLEI™Copper Harmony RCA offers... **One of the best "value for money" products in hi-fi today!**

So go out and buy them!

UPDATE... the KLEI™Silver Harmony plug is now installed and going through the burn-in process as I type this – so keep an eye on this blog for updates.



A highly recommended product

[Steve Reeve \(Fine Art\)](#)