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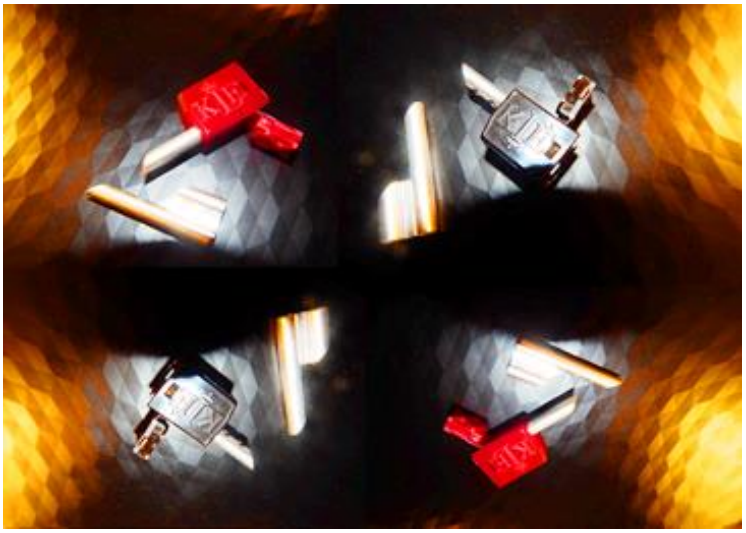
KLEI™Harmony Banana

BROCHURE



Advancing the art and science of the Banana plug
Keith Louis Eichmann (KL) proudly introduces
the Harmony Banana series

Don't let looks fool you. The KLEI Harmony Banana may resemble other plugs physically. But appearance is the where the story begins and where the story ends. Because of wind tunnel testing, many cars now have the same physical profile, yet they differ dramatically in things that really matter—like performance and safety. The same holds true with banana plugs. KLEI's Harmony banana is a turbo charged purebred in a package that from a user's standpoint is widely accepted and one that has proven to work acceptably well.

The Harmony banana is the beneficiary of a significant amount of out-of-the-box thinking. As with his Harmony (Bullet) Plug designs, Keith Louis Eichmann once again challenges accepted precepts in banana plug design – from mass, metallurgy, conductivity, to architecture. Resisting the use of exotic-sounding metals such as beryllium, rhodium, chromium, or highly machinable brass, he used a protracted period of research to understand new advances in processes and blends of complementary metals. He then used this research to select conductors with super conductivity being the goal.

Ultimately, it's the Harmony banana's superior conductivity that separates it from the other banana connectors on the market – even those that have a similar profile. And it simply sounds better.

The Harmony banana, as the successor to the Bayonet Plug from his ETI days, represents significant redesign and improvement. The mantle has been passed on, and none too soon. The Harmony banana embodies up to the minute, leading edge technology, delivering better sound than the previous fifteen-year-old design.

MATERIALS: From the very outset, KL has had an understanding of and a sensitivity to electron flow, his designs focus on signal integrity, the elimination or mitigation of causes of electron turbulence. A central theme in his designs has been his choice of materials. He made a conscious decision to not use a metal housing as standard on his bananas. KL uses highly heat resistant and electrically inert polymers for the housing. Not as a cost savings, but for better performance. In fact, the tooling required for these polymer housings arguably results in costs that are *higher* than those for metal housings.

OPTIMUM MASS: Bigger, thicker, and more massive doesn't add up to better sound. In fact, quite to the contrary. A studied, optimised, and in most cases a minimalist approach to mass actually results in better sound – and better electron flow. KL's proprietary signal to ground mathematical formulae, ensure an optimal architectural relationship between all metal complements and dielectrics that have been utilised. The result is control, and the avoidance of sonic compromises caused by skin effect. Controlling these parameters ensures a complete, full, and extended frequency range, where harmonics are conveyed, intact, from component to component.

METALLURGY: This is of paramount importance; and something that's been central to KL's designs from the very beginning. KL is committed to implementing and using only metallurgies that are *more* conductive than pure copper, and even pure silver.

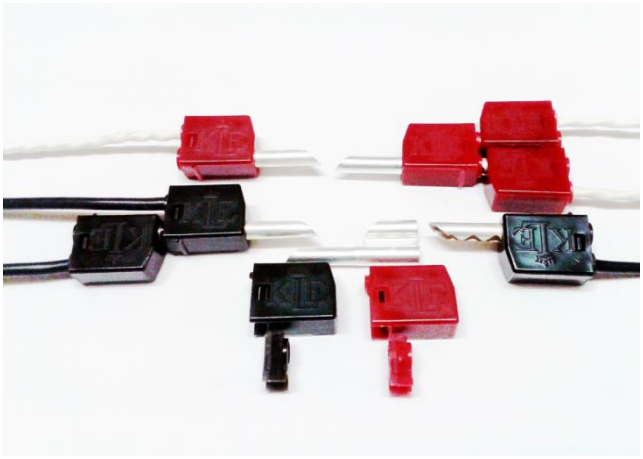
KL is in fact responsible for bringing IACS (International Annealed Copper Standard) into the audio conversation. Using *pure* copper (100% IACS) as a reference, the IACS percentage defines a metal's electrical conductivity relative to pure copper. For example, brass (25%~37% IACS), bronze (15 ~ 48% IACS), and rhodium (35%~38% IACS) are poor to average electrical conductors when compared to *pure* copper. Pure silver is better at 105% IACS. Gold is about 70% IACS. These numbers — 100, 28, 105 and 70 are known as percentages of IACS.

KL's Harmony bananas are all at an IACS rating of 101% or greater, and are breaking the conceptual boundaries that have been previously thought to be absolute. The metallurgy utilised in the Harmony banana represents new understandings that have grown out of research into the processes of forming and finishing—also, metallurgical affinities and intrinsic crystalline structures.

KL also rejects the use of passivation for preserving and protecting conducting metals—something touted by some connector manufacturers as being a feature. We are opposed to zinc, zinc oxide or these kinds of coatings, and simply will not knowingly compromise our IACS ratings for unnecessary protection.

It is important to note that the Harmony banana signal and ground pins are harmoniously formed in a way that the metallurgical processes work together and not in opposition to each other—both electrically and mechanically. Extrapolation indicates, electrically, that the utilised metal complements are at least as conductive as pure copper (100% IACS) or pure silver (105% IACS). In pure annealed form, pure copper and pure silver are too soft to machine and easily bend. As such, the machinable forms of copper and silver, as used in audio applications, have noticeably lower IACS values than their pure copper and pure silver forms. The bottom line is that conductivity (IACS percentage) is defined by a metal's formation, ie. its completed form. No matter how you get there and to quote KL, '*the proof's in the pudding*.' The Harmony bananas excel in this area, better than any bananas we have seen to date.

ARCHITECTURE: As a connector, the Harmony banana pins allow for easy soldering of small to large wires and, if necessary, crimping of the wire to be soldered, and for single stacking/connection of another Banana.



As an adaptor, the Harmony banana pins allow for dual stacking/connection which permits two Harmony bananas to be connected to one Harmony banana.

The Harmony banana housing is inserted from the front after soldering the wire to the Harmony banana pin. Once connected the Harmony banana housing assists in supporting the soldered cable, once the rear door is shut and locked.

The Harmony banana pins have been optimised in terms of shape, mass, and thickness; and are electrically superior and superbly constructed.

MATHEMATICAL MODELING: The relationships between ground and signal pin, i.e. metal complement, mass, and other critical parameters, are derived via KL's signal to ground mathematical formulae, and differs from Harmony banana to Harmony banana model. The Harmony banana metallurgy results in a progression in conductivity, >101% to >107% IACS, as you move through the range.

CLASSIC HARMONY BANANA

- Proprietary mathematical modeling is utilised to produce the Classic Harmony's ground to signal pin relationship, parameters, and determines the proprietary metallurgical processes that are used. Extrapolated: >101% IACS
- Heat resistant thermoplastic polymer Housing
- The Harmony banana pins allow for crimping, if necessary
- As a connector, the Harmony banana pins allow for easy soldering of small to large wires and for single stacking/connection of another Banana
- As an adaptor, the Harmony banana pins allow for dual stacking/connection which permits two Harmony bananas to be connected to one Harmony banana
- The Harmony banana housing is inserted from the front, after soldering the wire to the Harmony banana pin. Once connected the Harmony banana housing assists in supporting the soldered cable, once the rear door is shut and locked.
- Cable Conductor OD sizes upto 4mm (6awg)
- *Higher conductivity.*

Steve Reeve, reviewer for *Fine Art*, has the following to say about the Classic Harmony banana & Classic Harmony banana (as a Connector/Adapter):

'It took a while to bring the KLEI™Classic Harmony banana to market but I have to award kudos to Keith Louis Eichmann, and his team, for taking their time to "get it right".

The KLEI™Classic Harmony banana appear to allow every detail and nuance of the recording to be conveyed with amazing clarity and dexterity - something I have not observed to this level in any similar product.

They really are - the last thing you want at the end of your speaker cables!

I highly recommend this product!
'

SS, a customer, has the following to say about the Classic Harmony banana (as an Adapter):

'Firstly with respect to the KLEI™Classic Harmony bananas I purchased, recently, I am very happy with them and enjoying the improved sound quality they have made to my system. I purchased them as a relatively low cost interim arrangement, prior to upgrading to one of your QPURITY speaker cables.

I have inserted the existing Banana connectors, which are already attached to the Nordost Blue Heaven speaker cables, into the

Classic Harmony bananas. I wasn't necessarily expecting much (if any improvement) since the addition of Classic Harmony bananas, as adapters, are an additional connection with the existing Bananas.

However, I have used them for approximately 45 hours of play time and the addition of the Classic Harmony bananas, as adapters, are making a noticeable improvement to my system. That is more clarity, better balance, improved tone, slightly more depth to the sound image, more specificity to the sound image.'

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