

Pink Triangle re-launches. It now hosts the entire turntable range plus stand-alone electronics.



## With Isolation Bubble *by* Funk Hear your music...NOT your deck



The Master Tape: It's the best sound there is.  
Records are cut from it, they should sound really good.  
Unfortunately your "deck" is getting in the way.

*By isolating* your cartridge *from* the deck  
Your music gets close to Master Tape Sound.  
(Think about it!)

We can grow ONLY with YOUR satisfaction



## The Isolation Bubble and Master Tape

Since nothing sounds *better* than Master Tape, it's that clean sound you're after.

How to get it?

Only the cartridge gets the music from the groove. That's your music is at its best.

But with *arms* and turntables getting in the way it all goes wrong.

Can we remove their effect?

To visualise it, take a glass of water. It represents music. In most cars it spills.

The music is distorted by outside forces – arm, deck etc.

Put the superb *Isolation* of a Rolls Royce in the way. No water spills.

That's Funk's **Isolation bubble**.



The isolation Bubble system *isolates* the cartridge from the deck. It is the solution.

**Funk wants as many people as possible to enjoy our level of quality**

Turntables, new or old, €200-€50k+, you really can *hear* your records approach Master Tape quality.

No one even looks at the problem this way. Then again, they don't have Funk's solutions.

Here are just two customer comments:

*"I have the impression I'm now listening to a Master Tape"*

*"...I can't say enough about the results, WOW. Well done funk firm."*

**No one understands analogue like Funk**

This document shows how to reach way beyond what you thought possible.

Our money back guarantee gives peace of mind, but forums agree, Funk simply delivers.



### Hi-fi+ - Innovation Awards 2021:

*"If you looked up the term 'blue-sky thinking' in the Turntable Dictionary, there would be a picture of The Funk Firm – and its founder Arthur Khoubesserian – staring back at you. Whether it's the company's own turntables, its unique and innovative arms, modifications for other makers turntables or any one of a range of game-changing accessories for turntables, The Funk Firm makes products that continue to redefine what can be extracted from the grooves of a record.*

*The Funk Firm is a perfect example of 'leaving no stone unturned'; the company's 'Enfunkation' of a deck means looking at every single aspect of how a record is played to extract more information at each point. With what might look like small changes, the results are truly remarkable. With decades of turntable innovation under Arthur's belt, you'd think he'd take a rest. Not a chance!"*

## Your music should sound like the master tape that records have been cut from...But they don't.

So you ask your dealer who suggest a new deck. Certainly it'll sound different, but does it deliver the *best* solution? The problem is NOT the deck itself! Specific components get in the way leaving you unhappy.

Below is listed the worst offenders. It's the result of exhaustive A-B comparisons. (Is there any other way?).

Sitting at Number One is The Arm!

2: The Mat (and Platter)

3: Sub-chassis / Motor Position problems

4: External feedback

Funk's Isolation Bubble kit has been developed and refined precisely to address the issues. It comprises:

**F•X arm – Houdini cartridge isolator – Cobra headshell– APM mat - Bo!ng feet**

(Funk also has bearings, PSUs and plinths but these are lesser order offenders, so in no particular order:

Motor – Cables – platter – VTA – Power Supplies – Plinth – Bearing)

Read this and then judge how they match up to buying a new deck.

### **1: The Arm - Magazines just don't care...**

Doing A-B arm comparisons you realise how much they negatively impact reproduction. That's why records no longer sound like master tape - The arm's role in getting records to sound right then is critical...

Yet magazines DON'T share this concern. Why? Look at the space they devote to cable reviews. Are cables truly *that* important? Who's right? Us or them? That question tells the story. But can you see why?

First, look at "comparing cables": They're easy to do, but note: They don't work in A-B comparisons!

Cables cost stupid amounts of money, yet for increasing cost, how much *difference* is there between them?

Do you buy them because you don't want to risk losing out? But is the money you've spent good value?

Now arms: **Reality check: Compared A-B, differences are heard in seconds**. Differences really are **that** great.

Don't take our word, ask thousands of people who've heard comparisons by Funk over the years at shows!

If it is the case that arms are significant, why aren't they reviewed? Why do mags and reviewers ignore them.

Here's a clue: Put yourself in the place of the reviewer. Editor: "I've got these cables I'd like you to review".

Reviewer: "No problem" (Hum dee hum hum...Unplug this...replace that...Unplug that, replace with this...write).  
"Here's your review".

Now try doing the same with an arm... ER...er...

For a start, on what deck? Certainly NOT the reviewer's cherished deck! He's spent how much on it? How long setting it up, fine tuning...? There's NO WAY it's being pulled apart for a one week arm review! A "new" deck?

That's an unknown, plus for a *fair assessment* It needs to have two arms (= two armboards), and it needs space.

It'll need time setting it up, tuning before the review can begin. Magazines WON'T pay for that.

All in all, modestly priced arms? We have a stillborn review. And oh look. It doesn't happen!

Reviewing arms properly is a technical exercise needing a correct setup:

a) Measuring kit – accelerometers, FFTs PLUS for fair and valid comparisons

b) a deck with 2 arms – say, Funk's Super Deck Grande (SDG) with armboards, twin cartridges.

Get all of that and actually *fitting* an arm isn't particularly difficult, the review is relatively easy to do.

The results ARE definitive – Immediately one HEARS which is better – c.f. show demos; measurements deliver meaningful insights, finally validation is via master tape, albeit more kit, more money, more space yes and hassle.

There's no getting away from it: Reviewing arms is considerable effort. Without reviews, most of you are left *believing* "arms are good enough", "they're rigid" or "perfect", hence: "Not worth worrying".

Manufacturers have taken advantage of this and made life easy for themselves (and you) – "Our arms are GREAT!

All that is wrong and hopefully, now you're less sure.

Arms are critical in Isolation Bubble. By exploring more thoroughly, you'll better understand their role.

(Final thoughts on cables: They're great for reviewers - there is no reference, measurements make no sense, tying down differences is a black art, it's not science. Cables are ethereal. Anyone can (and does) say anything!

Perhaps we're being a tad harsh. Reviewers do have one vital bit of kit – the armchair... Review an arm anyone?)

### **“Big oak trees from little acorns grow...”**

Musical *textures* lie in the *small* not the big – Get the small **signals** correct and big ones *will* follow. Take HDTV. “The Big” we’ve had since tv began. HDTV delivers the *smallest* information - texture. Sound is no different. The signal **ONLY** comes from the cartridge – it is the most important component and to be protected from external junk.

### **Your cartridge: It’s a highly sensitive, “mini seismometer”.**

Hold the cartridge body and move the stylus. You get music.

*It also works the other way:*

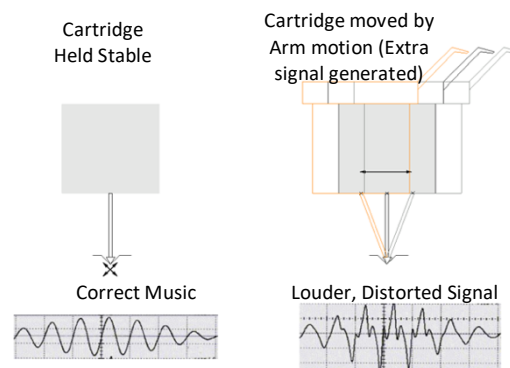
With the stylus in the groove, move the body, you get junk.

It mixes with the music and it’s a sonic mess.

The arm is directly connected to the cartridge.

You think of it as passive. You’ll soon see it’s NOT.

The arm is the worst offender on the deck!

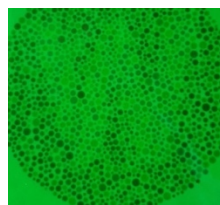
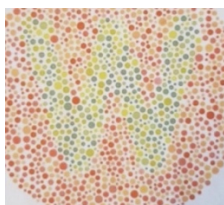


The following visuals represents its effect on our music.

It is a combination of two artefacts. Colouration and vibration.

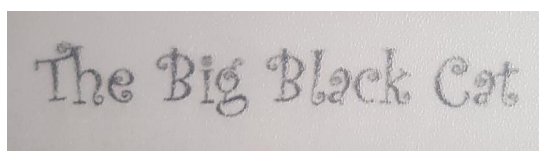
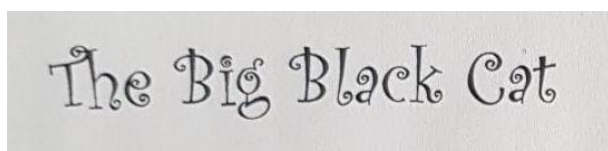
1: Colouration. In audio, sounds not found in the original Tape signal enter and mingle with the wanted music and mix. It’s like adding a dye to paint and mixing. Reproduction starts to differ from the original.

Within the salmon pink background of the left picture is a faint green “W”, representing subtle nuances in the recording. On the right it’s been overlayed with a green filter, representing added external artefacts - arm resonances, mat reflections and so on all. The W is still visible - we still hear the message, but the masking effect on information shows how definition is altered.



2: vibrations: Here vibrations literally wobble the cartridge. Try talking whilst someone’s shaking you.

Resolution is lost, images are defocus and edges blur into the background. Delicate signals get disrupted and so depth perception is lost – See the image on the right. We still get the overall message, but crispness has gone and once these distortions get in, you’ll NEVER get rid of them.



### A good foundation:



Funk and Pink Triangle epitomise:  
Isolation Bubble + Funk's Motor and Drive system:  
To quote the results from a German magazine:  
"...the lowest wow, flutter & rumble in Audio history".

Vector – FX3 - Houdini

### The Journey begins as the stylus traces the groove.

"Traces"? Its accelerating at over 20,000G! *That's not tracing, it's pile-drives* sonar vibrations into the disc, *and* up the cantilever *through* the cartridge body (it's a pretty solid lump) across into the arm – That's when we hear "needle talk".  
It's our first clue of the trouble ahead that needs dealing with.



### The Dominatrix - The arm is dominating the cartridge.

**Lesson:** Strike a tuning fork. It's pretty quiet. Place it on a sounding board. Now you hear it, decaying, *s-l-o-w-l-y*. We're taught to bolt cartridges firmly to the arm. Doing this now creates a new "cartridge-arm" unit. View stylus vibrations as the tuning fork. They reach the "cartridge-arm" to include the arm tube - it's the sounding board - it vibrates. As the tube vibrates, it *vibrates the cartridge*. We now have a case of the tail wagging the dog. It's just added distortion to the music signals and it's permanent.

**This is true of 99.9% of all arms.** Yes, nearly *every single* arm!

### When is an improvement, not an improvement?

**REGA:** You might have a P1 - P10...Each one "improving on the previous model". Given they all use the "Same" felt mat, "Same" rigid feet *and an RB arm* - 3xx, 808...3000, (different numbers, but measurements show they are effectively the same". Old or new there's little difference in beam castings. How much can the *sound* improve between them? It's a fair ask. (To answer that, see P22)

But this isn't about just Rega. Look around at other reviews: -

**Project's** "X1 Excellence": "A fine turntable...*compromised by a mediocre arm*". (HiFi World)

**Technics' 1500C?** "...wonderful motor... *a(nother!) mediocre arm*". (n.b. 1500c's arm can't be removed)

Are we being unfair? After all, these are "budget" units. Things *should* improve at the high end. Do they?

Technics *flagship* SP10R partnered with the superbly *engineered* £5k Glanz arm: Ortofon's A95 £5k

*Flagship* £5k(!) wouldn't work in it! It's **NOT** what you'd expect from such a deck + arm.

Arm problems are everywhere you look.

100 years **and** the arm *meant* to hold the cartridge stationary, has failed in that task - spectacularly so. Arms literally inject permanent distortion into your music. Forget master tape performance!

Just how bad is the situation? First, a reviewer's perspective: Alan Sircom, HiFi Plus:

"...with the **frankly shocking realisation** of just how **most arms act as a resonant obstacle** to the sound", and, "**The Funk (arm) just doesn't do that**" and more: "**The FXR (specifically F•X) is the star of the show**" (FXR and FX3 have been awarded "Tonearm of the Year" (FXR has now been superseded by Funk's FX5X)

### The answer:

Amplifiers, cds, cartridges all have flat frequency responses. Arms should be the same. They should show as a FLAT line, at the **bottom** of the graph. When we look, however, measurements tell a totally different story.

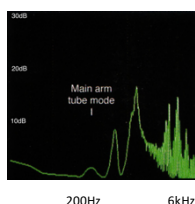
With thanks to Hi-Fi World and all copied "as is", these results show bending modes from 20Hz-6kHz, of some well-known "quality" designs: RB 3000, SME V & today's carbon fibre arms.

The deviations aren't minor. They're all equally messy. Quite simply, they're "Horrible!"

These are 100% representative of 99.9% of arms on the market, including millions of "S" shaped arms.

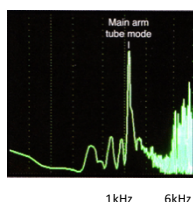
*In the quest for the best, a poor arm is a full stop. It's simply a false economy.*





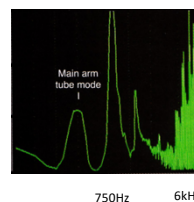
RB 3000: 20dB  
Wide Spikes

Rega's RB arms have broad spikes reaching 20dB. You'd reject any speaker with a 20dB spike (+/- 10 dB). 20dB then is massive.



SME V: 30dB  
Big Spike

SME V is a tapered, damped, magnesium (exotic material) tube. It has a narrower spike... Unfortunately, it's 30dB!



Carbon: 38+dB  
HUGE!! Spike

What of the **Carbon arm**? Multiple peaks, one *exceeding* 40dB! It's so extreme that we have no comment to add.

Change the arm, the sound changes. It all fits! (Now try doing that with cables)  
Seeing arms all this bad is proof that arms are the weakest link.

### Materials?

Carbon, magnesium, titanium, straight, "S" shaped, all appear "stiff", but they're tubes. Tube mechanics" dominates. Being short, we can't see flexing. *It doesn't mean it's not happening*. If the tubes are 1m they'll whip like a fishing rod. Flexing is now easy to see. No one tube wins over the other. They're "just different".

Bending. It physically vibrates the cartridge = distortion.



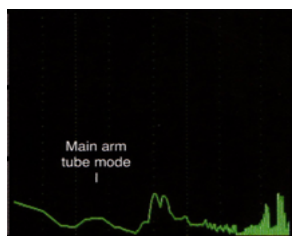
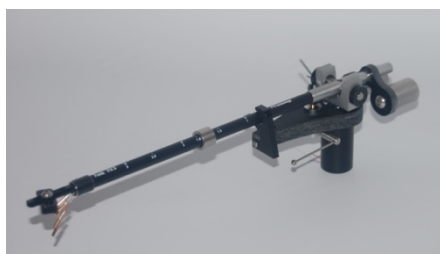
### Light at the end of the tunnel... Funk's F•X technology: FX5X, FX3 and FZ.

**Funk's F•X** is different. It's not a "tube". It's a complex **construction** found in Funk arms. First it has a *thin* tube wall (FX3 and FZ). This stores very little energy. An internal cross-brace provides incredible stiffness. The meagre +6dB has been achieved *without damping*. Effectively it removes the "green wash" on Page 2. FX3's curve below tells the story.

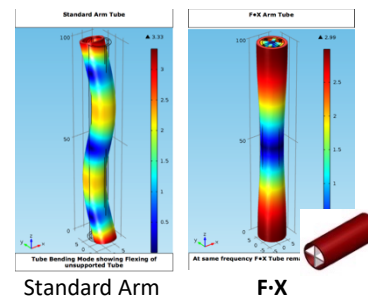
A user's experience is "...the recordings all sound incredible - without smearing".

*At shows, demoing of FX3 v SME V or RB3000, the differences are heard within seconds!*

F•X: Minor +6dB Peak



Where's any *spike*? It doesn't even look like an arm response.



Standard Arm

F•X

The image on the right shows our in-house Proof of Concept modelling analysis. It is supported by the HiFi World graph which shows just how well **F•X** works. **F•X** maintains rigidity.

**F•X's** unique arm-beam is found only in Funk arms. (**FX5X** is Funk's entry level **F•X** arm, has a 9dB peak)

### Funk's new FZ.

This is the ultimate for **F•X**. Its measurements are in the noise floor, it has a "zero resonance" signature. It's totally inaudible...

FZ is a true Reference arm, yet it doesn't cost £20k, £38k or £57k but a sensible £5k! These other reference arms have effective masses of over 60g! We wonder just what real-world cartridges they are meant to match. FZ's mass is a sensible 18g.

But that's not the end of the story. FZ take the march on all arms with REER- Rear End Energy Rejection. Something people haven't considered: If an arm is perfect, it'll **HAS** to transmit energy perfectly to the cartridge! REER prevents this. No other arm has it. The resulting detail resolution and dynamics from the cartridge is the closest we've yet heard to Master Tape.

FZ. It really does stand apart.



### Achromat: The “humble” Mat supports your Music...Go to the Top Class

Only the mat supports the disc. Recall, sonar vibrations are travelling in it. Boundary changes from disc to: felt/rubber/metal/glass, means vibrations bounce back to the stylus. It reads them and generates more distortion. Only it can only absorb the 20,000G of energy away from the stylus, The mat’s role has just elevated from “just a mat” to: *Uniquely critical*, but only if it *mimics the disc’s characteristics*. Felt, glass, metal, or rubber can’t do that.

**Static-free, Achromat** actually matches the record allowing the energy to enter, where millions of tiny bubbles have tiny walls that flex, dissipating the energy smoothly. Clever stuff.

**APM:** Advanced Platter Mat: **7mm thick:** It has a dual role: Achromat bonded to a glass. It’s Funk’s latest top performing mat. It kills resonances, literally matching 1200G’s results, on all flimsy platter decks. E.g. 1200s, PLX 1000, Reloops, as well as all vintage Japanese decks - PL12D, SR222, Dual 250 and so on, allowing it to perform its main role as a mat and to improve performance!

APM is so good it is now supplied as standard in all Isolation Bubble kits.

### The Houdini Story...Forget Goliath, do it properly. Go challenge an entire Industry!

Houdini’s performance hike not just for higher end decks. more significantly benefit budget decks, such that it can be argued to be genuinely the next Step in Analogue. It all started with one fanatical, music-loving, boy at school. Upon hearing records NOT sounding as good as master tapes, he asked one, deceptively simple question: “Why don’t records sound as good as Master Tape?” After 40 years he had the answer and with it a depressing realisation: The answer has been to our collective cost...



#### ...“Hold the Cartridge Firm”

For 100 years the BIGGEST, most successful companies, Rega, Thorens, Project, Technics, SME, Linn, Audio Technica and so on, have all insisted: “Bolt cartridge-to-arm very *firmly*”. It was universal advice and *seemed* the logical thing to do. (Some even added a 3<sup>rd</sup> screw! Like that’s going to make the slightest difference). This advice is still supported by the magazines, the “cognoscenti”, the “experts”. So, aren’t they all right? As with the emperor’s new clothes *my ears told me “something” was wrong*. But what?

At school I was in awe of all the “great” companies. I wanted understanding, enlightenment. I wanted *maximum musical enjoyment*. Then slowly, year in, year out I noted that despite ALL their money *and resources*, all they did was peddle their same story - Same felt mat. Same AC motor. Same poor physics, (in truth, no physics I could see!)... One company even has their own record label i.e. like me they’ve had master tapes...yet to this day, *they’re still pushing felt mats*, this despite all the physics, *and our ears(!)* not supporting it! For 40 years, our industry has specialised in pseudo-scientific fog. Why? One word. Profit! Me? I said I was fanatical, so I bought decks, each one “better”. All I could hear was the same poor sound. Ask yourself: What have these manufacturers offered you, the music-loving listener, that’s *new* and *actually better*, not just a different presentation of what’s gone before it? If the answer is “Nothing”, they’ve held the industry back. Now, you might not care too much about that, but do you realise it translates to holding back *your musical enjoyment held for 40 years...All for profit!* (Well, you now have Isolation Bubble).

A very simple case in point. I started Pink Triangle in 1979 and immediately went against the industry with *my first patent*: the acrylic platter. I was laughed at. Physics told me acrylic would sound better than felt. It did. Now, other manufacturers are happy copying me and we have a market awash with acrylic platters. Then came Achromat? (*new patent*) Why? Because it sounded better yet ! And now? APM...

Search 50 years of patents for “*sound quality*” in turntables - NOT engineering processes (they don’t help). You’ll find very, VERY few. I’ve mentioned two from me but the fact is *I hold more patents than any of them!* Patents are no game. They’re costly. The patent office is ruthless in rejecting bad applications. Inventions must be novel – you have to be clever. How do I, a single individual, hold these patents?

*My goal is nothing but performance*. It drives *my* ideas (and I have yet more patents to add).

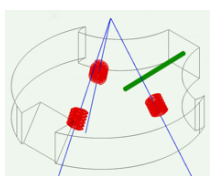
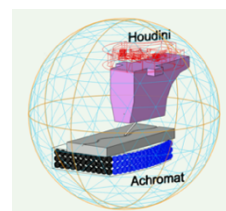
Upon hearing the results from Isolation Bubble with FX3 and Houdini, this is a common reaction:  
*"I have the impression I'm now listening to a Master Tape"* Accepting you too should decouple, here's a consequence: If decoupling is correct, then *every single un-isolated deck in the world is compromised!*  
All Regas, Linns, Thorens, Technics, Pro-Jects, VPIs and so on. There's my challenge:  
 Using rigour, not snake oil, come back with a counterargument. The fact is, there is none. It's checkmate.  
 BUT, how can one small voice stand up against a whole industry...and be right?  
 Brand loyalty makes it worse - You've bought *their* product. You WANT them to be right.  
 Knowing now that all I care about is sound quality, are you still convinced they're right?

**It's got nothing to do with the Music...Except, it is.**

If Houdini is so great, why isn't everyone jumping to broadcast this new development?  
*Follow the money!* This is all about ££s, ££s, you give manufacturers *and* magazines buying their product.  
 If *others* promote any of my products, they admit I am right (*they* didn't come up with the idea).  
 Loss of face translates directly: Loss of market share – loss of advertising revenue. That's what magazines rely on to make *their* world go round. It is as simple as that. (Recall: Cable reviews are easy! ££s).  
 ...But, "their" world, doesn't mean it's "your world". It's up to you. Make it about your music.

***"...If we could only hang the cartridge in space, we'd really hear our records..."***

To hear *just* the cartridge in an arm it has to be a highly rigid- FZ. Such things are expensive to make – fancy technology. We also have the problem of otherwise good decks but who's arms can't be removed! (SL1500C, PL12D, Dual 250 and so on).  
 To date we'd given up. Now we have Houdini. NOW you see why it was developed!



It's a complex design: *Developing it took two years* - a whole other story.  
 Three miniature springs aligned to form a "virtual anchor" from where the bottom plate hangs. It is then stabilised with a "torsion tether". Each hand assembled with real skill.  
 A "perfect" arm is costly. The next best value combination is a good, low-resonance arm (FX5X or FX3) and Houdini, which excels at filtering junk - "Junk" is really bad. In budget decks the Cobra 2 headshell accommodates Houdini's thickness and provide VTA adjustment.  
 Ultimately it's the results we're interested in, and these do speak for themselves.

***"I thought my days of big gains were long behind me, but Houdini blew my tiny mind"* - Oracle user.**

**...The real magic:** *Even the best streamers don't (can't) compare...*

Achromat + F•X arm (FZ, FX3, FX5) + Houdini. Hear why Master Tape is so good.  
 Sending comparative files ("With" and "Without") is taken for granted. There's a problem, and it's good:  
 We'll say: "If we send you a Houdini file, you won't hear the difference". You'll think Houdini is bogus (snake oil...yada...yada...), that there aren't differences. You'd be missing Houdini's BIGGEST strength.  
 Compare Houdini live. You'll hear differences. At the same time, record it digitally - 24/96 should do it, (higher if you want). That's when the fun starts.  
 With the *recorded* files... the differences are difficult to distinguish!

**Live? Digital? Houdini. Just what sorcery is this?**



Using current technology, NO digital recordings match live!  
 The problem is: The problem's insurmountable.

In 2022: digital turned 40. 8-track, cassettes, CDs, all history...But NOT discs. Colouration, ticks, pops, wow  
 People still *prefer* good analogue over digital. That's bonkers. Analogue shouldn't stand a chance. So why?

Recall: "Musical Textures lie in the small, not the big"? Houdini is actually *allowing the cartridge to do its thing*. If someone asks for a demo of HD tv on a *non-HD set*, you'd say: "Can't be done" Period.  
*And that's exactly what we have with Houdini.* The day job for the stylus is it reads the groove directly, *true*, continuous transcription, loud all the way down to *molecules*. Digital can't do this.



For all of it's "precision", low-level signals can only be "created" by injecting noise, "dithering" – Triangular, Gaussian etc. The signal's not "real". It's very, very clever mathematical trickery, a fudge.

"Mastering the mix" is a firm who create digital plugins.

To help visualize dither they created following:



The fourth image is recognisable as David, but it's still not quite all there...What's missing are the small detail areas. No. We're NOT anti-digital. We're NOT saying it doesn't sound good, because it does, and without it we wouldn't have all our fancy mixing, but there's no getting away from the fact that the ear / brain has the ability to *distinguish between* analogue and digital. It's the results that speak:

The brain prefers the 'umble groove grinder.

F•X, Houdini and APM have made that difference greater still.

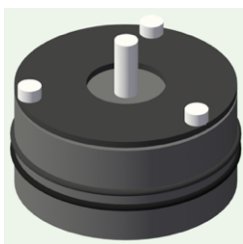
This can only be good for music in general. It's certainly good for us now.



### ...External junk - isolate the deck:

Modern turntable fashion is for a rigid platform, leaving all sorts of external junk is free to enter. We don't feel them, but our stylus (seismometer) does, insidiously generating strange signals. High performance decks avoid this with a suspension.

If your deck is rigid, **BoIngs** are cost-effective and easily fitted; their isolation is as good as found on any high-end deck. The following is a customer's description of their effectiveness:



*"The Achromat & RP6 BoIng arrived today...I have to say they've saved me a fortune! Having been relegated to a smaller room in our house (teenagers expand to fill any void) I've been unhappy with the performance of my KEF R100 speakers and have struggled to get them to sing as they used to in their previous location. Achromat and the BoIngs have put the icing on the cake. Base is deeper, better controlled and the timing just sounds more musical. The KEFs no longer chuff from the port in an attempt to keep up.*

*I may end up changing them in the longer term, but for now they're back where I want them, so that's a couple of thousand saved at least. Dance music is as energetic as it should be and Eva Cassidy sounds as melancholic as she should. I'm listening to The entry of the Gods into Valhalla from Das Rheingold as I'm typing this and cannot wait to explore more of my music. Thank you, thank you"*

### Conclusion:

I set myself just ONE challenge: To get THE BEST from records... AT ANY COST and for everyone.

With Isolation Bubble I deliver on that promise.

With it, Record replay is closer to master tape than ever. You can all now get the very best in sound from records on *whatever deck you might have* – Not just Funk or Pink, nor those with bottomless wallets.

Who else has that aspiration for your musical enjoyment?

## The Isolation Bubble kit: Detail and Specification:

**F•X:** Creates a more rigid arm beam that doesn't whip like a fishing rod. It holds the cartridge stable. Select as applicable.

Models: **FX5X (9dB)**; **FX3 (6dB)** and **FZ** - reference class (in the noise floor). **Variations: Lenco and Thorens.**

**Spec:** Standard Rega geometry / fixing. Different geometries available on request (Extra cost options).

**Houdini:** filters junk thereby allowing the cartridge to resolve the smallest of details. The lower cost the deck, the better it performs/ It works superbly on decks with fixed arms.

Depending on your cartridge, select from: **Threaded or Bolt through.**

**Spec:** 1.1g. Spacers needed for SME IV / V and Linn arms. Thickness: 3mm .9g /5mm 1.5g etc.

**Cobra / Cobra 2:** Cobra: For use with "S" Shaped arms straight, SME style removable headshells.

For decks with no VTA (PL12D Dual 250etc), Cobra 2 has VTA built-in.

**APM: Advance Platter Mat:** APM is the new default mat for Funk.

It creates an ultra-stable support under the stylus. For <£200, It kills platter resonances to the *same standard* as £5,000 1200 G/GAE – We think this is a very impressive result indeed.

This is necessary due to the extreme level of ringing coming not only from the millions of 1970s thin platters that include PL12D, PL512, Sansui SR222, Sony, Denon, Toshiba and all other similar designs of the day) but also today's SL1200 and SL1200-style platters: Pioneer PLX 1000, Reloop (all models), Audio Technica models, Dual 250 etc).

Having created an inert support allows Achromat to deal with stylus vibration energy.

**Spec:** 7mm; 740g; 297mm and 287 underside. (3mm and 5mm and lipped still available)

**Bo!ng:** Isolation for decks with rigid or semi-rigid feet. 3 weight bearing variants:

**Spec:** 0-15kg; 15-25kg; 25-30kg+ and supplied as sets of 3 foot (e.g. Rega) or 4-foot (most others)

**Additionally: -**

**Drop-in arms for Lenco and Thorens are available as standard or F•X based variants.**

**State of the art, sub-chassis mounted DC Motor upgrades for Thorens and LP12**

People are different and it's important that our customers are happy customers.

Our full refund guarantee promise gives you peace of mind.

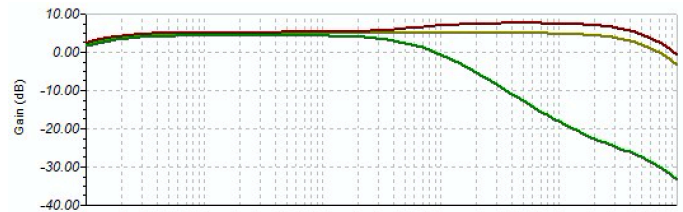
PLEASE! ALLOW the post time to actually get returned goods back to us!

**... But the story's not over yet.**

## Akutrak - Winner: Best Phono Stage - HiFi Plus 2022



It corrects the signal and gives us a level playing field.



Amps cds & streamers all have a flat response. *Cartridges don't.* To date *this problem has not been addressed.*

For the technically minded, *this has nothing to do with RIAA!* If the response from the cartridge isn't flat, *there's nothing RIAA can do about it.* For 100 years we've been living with faulty responses. Compare the sound against Master Tape and again it doesn't sound as good. *Left like that it never will.*

Think about it: *Input* the response from a non-flat cartridge, the *output* is the same non-flat response, *only, louder!* Just how dumb is that? And this is irrespective of how much one spends on the phono stage! This is where Akutrak comes in:

Akutrak has solved this problem. With Akutrak, you get the desired flat response, *with any MM cartridge.*

Akutrak is a state-of-the-art, moving magnet phono-stage. Its inherent sound is: Open, delicate, musically informative. With Akutrak, cost-effective moving magnets compete head on with expensive moving coils. Akutrak actually "reads" the load from the cartridge and corrects the response. The graph shows Akutrak at work:

**Green:** This falling response is 10 dB down at 20kHz and is very dull. (Incredibly it is from a very reputable turntable manufacturer!) *Many* of you reading this text will have owned one. This makes it an ideal, and representative candidate with which to demonstrate Akutrak's ability.

**Yellow:** (middle) This is the corrected response via Akutrak and is very flat.

**(Red: (top))** This shows the response can be further modified if so desired.)

Akutrak is not a filter or tone control. If it were, peaks and or dips would be seen with different cartridges.

To use Akutrak? Simply turn the **Eros** knob and listen until it sounds "right". Your ears will tell you.

**(Eros: Equalising the response** correctly back to how they were recorded, your records WILL sound just "Right".)

Akutrak's capability doesn't end there. **Eros** helps to *balance* the system to your room.

What of the discs that don't work in our system? We all have them, yet we enjoy the *music*.

Again, Akutrak. **Eros** moderates recording with screeching highs *or* muffled, unintelligible recordings.

Akutrak. Clever indeed. Love your music. **The world's most advanced MM Phono stage:**

Alan Sircom's review concluded: **"This gives an exciting glimpse into what turntable replay can sound like and I think for many, there might be no turning back".** *Clever indeed. Love your music.*

**No one understands Analogue like Funk**

The following is work in progress - More examples soon - P8, Thorens,)

### More Turntable limitations...

#### Motors and PSUs: Doing it correctly:

The next aspect of improvements is correct motor selection and *alignment*. When Pink started back in 1979, it rejected the AC motor of the day, universally used in Linn, Rega, Lenco, Thorens, Garrard and more. Instead, it championed the use of DC motors. For years, decades in fact, it was met with derision by Linn. Now, more and more manufacturers are seeing the benefits, and in 2009, mysteriously and without credit to Pink, Linn themselves “discovered” The DC motor.

The DC motor itself, is NOT the point. It's the application. To this day designers are still applying both AC *and* DC motors *incorrectly* - They are in the wrong place and in the wrong position, which wouldn't matter, only once again, these effects can be heard.

A technical white paper on turntable design describes this in detail and can be obtained separately. Given it is technical, for our purposes here, we shall take it as read and proceed.

Called Klear, Funk now has state-of-the-art solutions for LP12 and Thorens 150/160 decks.

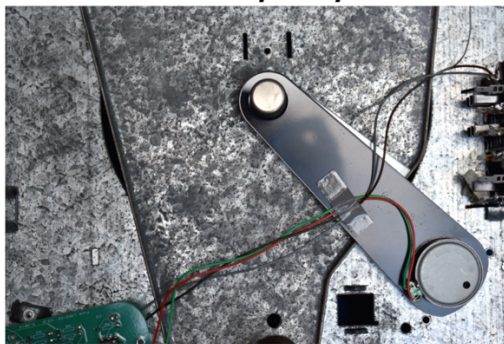
A new kit mounts a smooth DC motor not on the top plate but **on the sub-chassis**.

The benefit is this removing outside world coupling of the belt to the sub-chassis eliminates serious LF interference.

#### LP12: fits Keel & Steel chassis



#### Thorens TD 150/160/166



#### Power supplies:

Smoothie has been designed for all DC powered turntables, not just Vector, LSD and Gett! Why a power supply? It reduces the work the servo performs, allowing for a smoother drive of the platter. It is normally supplied as 12V and delivers 1A of lab standard clean, fully regulated low distortion power.

24V for Technics decks, thus removing the associated field on-board transformers and / or switching PSU.

#### Bearings: Spin, for Pink Triangle and Technics.

Spin is very close tolerance bearing with ultra-hard jewelled running surfaces. It lowers rumble and reduces wow.



*Spin for Technics*



*Spin for Pink Triangle*



**9. I'm being told to buy a new deck, that it's not worth upgrading an old and/or Budget deck (GL75, Denon, Thorens TDs, Aristons, Rega P1 / P2, Pioneer PL12D, Sansui 222, Dual and so on). And that I'll get better results with a new deck. Is that true?**

**Old v New:**

1: Dealers are not a charity: They have no interest in you upgrading - It WON'T make them money.  
2: Fact: A new deck won't have Isolation Bubble's improvements - F•X arm, Achromat, Houdini and Bolngs. These few components are the critical ones in transforming turntable sound. You need them. On any new deck, then, you'll still have to buy them just to get to where we believe you can be right now. There is another argument: Your car is pulling to the left, say. "Can you fix it, Mr. Garage?" "Certainly, Sir. Buy a new car!" With everything else working, how much sense does that make? And in the next section we prove it's the same with a very high class deck:

**Budget decks. Is buying a better deck in the range always better than upgrading? A user's perspective:**

Another interesting question. The argument ought to be self-evident:

A budget deck is not as good as a higher end deck. You are encouraged to spend on a more expensive deck. As we've said, you'll still need to buy Isolation Bubble.

Now, consider this: Technics decks are ever popular. What will Isolation Bubble do to their *budget decks*? Once upgraded, can they still be considered "budget", or, have joined the rather high-end!

The usual user comment: "My deck *doesn't* justify it", is potentially replaced by the opposite sentiment. Upgrading the *cheapest* decks brings the *biggest* rewards. Experience Isolation Bubble's transformations on a Rega P1, Sansui 222, Technics GR (we prefer it to 1500C) and myriad other modest turntables...

**To repeat a user's perspective:**

*"...Actually, I sold my SL-1500C today with its Achromat. I've been using the stock rubber mat on the 1200GAE this afternoon and I definitely miss something...Houdini and Cobra are on my mind."*

1500C with Achromat, is entry level and compared to to High-End Technics, *sans* only Achromat.

Straight away he's not happy. Buying up the range, he spent +£3,100 yet where's the "improvement"? Where's the benefit?

Had he instead kept his 1500C / Achromat, he'd have saved £2,600 in the process! (The upgrades costing £500 and taking the performance further towards the Master Tape). *Plus*, these components can be transferred to: "Prettier"? "Better"? decks, when funds allow. Not the other way round!

It IS a difficult pill to swallow. "How CAN spending *less* really give *more*?" and, "I REALLY fancy "X, Y, Z" That one? I'm afraid we have no answer. Dealers are tied into the brands they carry, so won't help you, and it's quite understandable – after all, they only make money when they sell you something new.

**In addition to the Rega user's experience with FX3, here's another *user's experience*:**

Hi Arthur,

*I've just installed the FX-3 tonearm on my LSD. I spent the first evening playing my favourite "hifi" albums (Talk Talk, Lloyd Cole, Blue Nile, Pink Floyd, James, Radiohead etc). It was a long evening enjoying the absence of rumble and the amazing bass slam.*

*The second night I played Steve McQueen by Prefab Sprout. Where it previously sounded over-produced and smeary, it sounded great. I then pulled out a selection of much loved albums that sounded worse the more I upgraded my hi fi system. I started with Magazine - Correct use of soap, which I have hardly listened to over the last 20 years as it sounds awful on my system - but this didn't sound like a muddle - everything was separated and I still had that bass slam. I then spent another 5 hours digging out other Magazine albums and then lots of other "lo fi" albums - Joy Division, Echo and the Bunnymen, Stranglers and they all sounded incredible - without smearing. It's added about 100 albums onto my listening list. I thought the problem was that the cartridge was worn out, I even dug out my old PT turntable and suspected the output valves on the power amp, but the arm has changed everything! With hindsight it*

*seems obvious to make an arm very light and eliminate resonance - but I never thought just changing the arm could make such a difference!*

*I have a busy couple of weeks ahead, discovering what my albums sound like, but that arm is a work of genius! Please sign me up for your new cartridge decoupler and alignment tool - Can't wait!*

Mike - Sent from my iPhone

## REGA:

### Light at the end of the tunnel...

Aug 2019 HiFi +’s Alan Sircom reviewed P3 / Rage (with FXR), comparing it to a new, upgraded P6 / **RB808**: (Achromat, Bo!ng & **F•X**)

*“The Rage 1 is funky great”*

For the full review: <https://hifiplus.com/articles/the-funk-firm-rage-1-modifications-to-rega-turntables/>  
Techradar compared SME’s V directly to FXR: The differences were that notable they were heard in just seconds:

*“...the V adds a distinct bloom to the sound...again smears detail...**This was a shock.**”*

FX3 (& FXR) bring a unique “Balance” to the sound”. FX3 is a reference used by three reviewers.

Paul Rigby / Audiophileman also reviewed the upgrade and rated it 10/10. It was only his 9<sup>th</sup> top rating in over 400 reviews. It is now available as a video or text:

Text: <https://theaudiophileman.com/rage-1-funk-firm-review-rega-planar/>

Video: <https://www.youtube.com/watch?v=4h4qg2gcdfo>

For the many Planar 2 and 3 owners, our recommendation on performance is “Upgrade your Planar, or even P1/2!” At a UK show we did just that. We upgraded a 40 year old Planar 3:

Bo!ng Isolation feet, Achromat and only Funk’s entry level F•X arm, FX5X (9dB peak). Note: No Houdini. And then compared it to a current front runner, A P8, fitted with RB3000.

We decry felt mats. Dealers support them. To make things fair, P8’s felt mat was first compared to Achromat. If the dealers are right, felt would win. Achromat won (are any of your really surprised?) With public agreement, the P8 reference kept the Achromat.

The upgraded Planar 3 still cost less than P8 / 3000 / Achromat. That should matter little for P8 being the superior deck ought to win, easily, only, the result was that even with Achromat + RB3000, Planar 3 won... A result that is now a matter of public record.



With all that you’ve read so far, is there any need for us to say any more? Well, we couldn’t resist including this one from someone who fitted Funk’s full upgrade including FX3 to a P3. Here it is, pasted just as we read it!

Good morning Arthur,

All I can say is



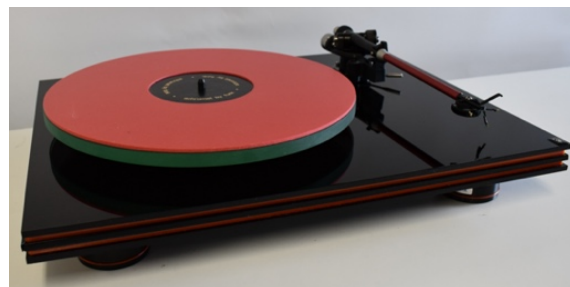
!!!!!! O - M - G !!!!!



*The clarity and definition of the sound, how the stage is painted, how the subtle nuances are extracted - IT IS JUST AMAZING.*

*This upgrade is worth every cent I invested.  
Thank you!!!*

Funk introduces its new ROK plinths for Rega owners. New, attractive and customisable. ROK is inherently an ultra-rigid plinth construction - there is no relative motion from arm to platter, with very high energy dissipation properties- It has virtually no resonances going from the plinth to the arm. ROK costs £600 and comes complete with Funk's VX DC motor.



You can select the layer colour to suit your taste and match Achromat to the lines of the plinth. Simply transfer your bearing and platter and arm and ROK's uniquely powerful and clean low frequencies delivery will allow for a sound free from structure borne colourations. Options: Houdini, Achromat, Bo!ngs and arm upgrade to FX5X or FXR. With a cartridge from Audio Technica (we can supply) and Akutrak, you will have a stunning looking deck with a truly top level performance and. What will it cost to better it?

## Lovers of idler drive turntables – GL75 / 78 and Garrard's 301/401,



### **Goldring Lenco's legendary GL75 /78 meets Isolation Bubble and ROK.**

for this well-thought of turntable, ROK's elegant re-thinking transforms what is otherwise a deep and inelegant housing. Multi-layered construction provides an inert support for the chassis with Bo!ngs fitted. Customise the colours to suit your taste and have a unique and stylish talking point.

For the budget conscious, F5L replaces the original highly resonant arm cost-effectively.

As a drop-in it neatly uses the existing lift mechanism.

Houdini and Achromat, complete the transformation. It's that simple.

Given how well regarded GL75/78 is, however, top tier performance comes from the new F•X based FX5L and FX3L. Your GL75/78 is now as good as it can be - An extraordinary player indeed.

With GL 75/78's new upgraded design now in the forefront of analogue reproduction, why not partner it from Audio Technica's superb MM cartridge range?

VM760SLC combined with Akutrak provide a class-leading performance. For you that means years of the ultimate in musical enjoyment.

Fully configured, this deck easily holds its own against much more expensive modern offerings, delivering the well-beloved impact and vice-like grip of idler driven turntables, but now with openness and sweetness characteristic of approaching master tape.



### Cobra, Cobra 2 and 1970s style “budget” decks.

VTA (Height adjustment) on Technics decks is limited to just 6mm, preventing the use of Houdini, which itself is 6mm, leaving no extra for adjustment. The Cobra 6mm extra-height headshell was born.

People then started to ask about 1970s decks, with NO VTA adjustment. 40 years on, it has to be said that their sonic limitations against most of today’s offerings are insignificant.

Enter Isolation Bubble. It doesn’t just bring them up to today’s decks, once again it genuinely propels their performance to the high end, and it does so cost-effectively. Here’s how it all works:

An apparently insurmountable obstacle to regarding these decks as “high-end” was the fixed high arm, which applied to countless designs: Pioneer, Sansui being the most popular of the day. This limitation, also applies today - Audio Technica, Dual 250 and more. Are all of these to be consigned to built-in obsolescence entry-level and then thrown away? In fact all are capable disc spinners – they spin at the right speed and don’t rumble so the business end is good. All they just needed was Funk’s TLC.

Cobra has evolved: Cobra 2. It neatly side-steps the fixed arm problem by providing VTA adjustment at the headshell end. Now, not only Houdini but different height cartridges can be used as well.



Most of these decks have hard feet, leading to feedback degradation. Fitting Bo!ngs solves that. Finally, cost-constraints means these platters are very thin and they ring badly. We’ve met ringing before. To try to control that, they are supplied with a thick rubber mat. It only further degrades performance, or, “Cheap turntable”...Until APM. In one go, APM both controls the platter’s performance *up to 1200G standard*, (just tap it and listen!), *plus* it has Achromat, which the others don’t - inc SL1200G / GAE.

So, the modest 1970s deck, from one of any number of brands, with around £700 plus cartridge and you have a high end player plus you’ve just saved yourself a serious amount of money!



Read PL12D’s review in Audiograde



Audio Technica AT120XUSB

APM - Kills Platter resonance  
HOUDINI + COBRA 2  
(VTA COMPENSATING HEADSHELL)  
BO!NG- Superior Isolation

<https://audiograde.uk/review/isolation-bubble-by-the-funk-firm-review/>  
– *this is representative of any such decks: If you have any questions, get back to us.*

You might miss out fitting a new arm, but, but still, look at the outlay v performance.

Even against today’s *good* offerings, you’ll still be left with a smile!

Using Isolation Bubble, the weak elements have been corrected, so is it really that much of a surprise?

## 11. Technics and similar (PLX1000, Reloop and so on)



***SL-1200 / GR / G / GAE / SL-1300 / SL-1350 / SL-1400 / SL-110A / SL-1500 mk II / SL-1600 / SL-1700 / SL-1800 / SL-1900 / SL-Q212 / SL-D2 / SL-D3 / SL3300...It's a big range to cover. If in doubt, please ask.***

Isolation Bubble is designed to suit the above Technics models as well as Pioneer PLX 1000, Reloop, (all models) and other similar designs.

**Arms: FX5X, FX3 or FZ**

**APM:**

**Bo!ng: 1200 (For G and GAE: 25kg: Use "Heavy")**

**Cobra + Houdini – All models**

**Options: Smoothie, Spin –These fit specific units only. Check suitability first.**

Text: <https://theaudiophileman.com/sl-1500c-upgrade-kit-review-funk-firm/>

Video: <https://www.youtube.com/watch?v=4h4qg2gcdfo>

*To fit a better arm to 1500C is impossible. Given the minimal price difference, 1200 GR is the preferred option as from that model inwards, arms can be upgraded making it long term a more flexible choice.*



## 9. Reviews and Testimonials of Houdini:

Art of Sound: Scroll down half-way to find the entries: 1200G / Hana; Decca; Dynavector XVT-1

<https://theartofsound.net/forum/showthread.php?70533-Matt-The-Funk-Firm-and-Houdini-the-latest-offering-from-Funk/page23>

German Forum:

<https://www.analog-forum.de/wbboard/index.php?thread/149830-funk-firm-houdini-ein-decoupler-spielt-wie-entfesselt-ein-hörbericht/&pageNo=1>

A beautifully crafted review in Tannoyista:

<https://www.tannoyista.com/2020/11/the-funk-firm-houdini-and-achromat.html>

Stereonet:

<https://www.stereonet.co.uk/reviews/the-funk-firm-houdini-cartridge-decoupler-review>

A review in HiFi Wigwam – Houdini on three arms: RB2000; Audio Note arm and Funk's FX3

<https://www.hifiwigwam.com/forum/topic/150448-funkfirm-houdini-and-achromat/>

### Testimonials:

*These are worth reading individually because as we ourselves learn how Houdini works in different systems, we're discovering how different people pick up on different aspects of performance improvement of the same product.*

*This contrasts with most other upgrades which have only a limited effect and can thus be easily described.*

*As you read, it's self-evident Houdini sits outside of that.*

**"I thought my days of big gains were long behind me, but the Houdini blew my tiny mind" Oracle Delphi user.**

*"This tiny little thing is truly amazing:-) seriously the biggest upgrade of my audio equipment to date"*

*"I have the strong impression that the sound I am hearing is vastly superior to a live concert. This is not surprising since the recording engineer would have placed their microphones in the very best location to avoid unpleasant reflected sound and resonances. That would never be at seat level. This was particularly evident listening to Bach organ music, where I had the impression I was perched in front of the actual organ pipes, rather than seated in an echoing church.*

*So the benchmark has been raised yet again."*

Houdini and Achromat arrived yesterday, and I couldn't resist to test them right away. Mounting my bolted Nagaoka cartridge on the threaded version of the Houdini was no problem at all.

You for sure know the outcome, I have to admit that all the promises prove true.

Especially the Houdini made huge impact on my turntable, in short: more musical and 'real sounding' of instruments and vocals, more 3D, more dynamism and liveliness, more details, more bass..., all this without any subtractions.

The Achromat was tested after having installed Houdini ... especially after having used it with the adhesives at the end (I first tested back and forth with the upgraded 'neoprene' mat which is already better than the original felt mat of Project)...Achromat strengthens / enables the positive impacts of Houdini even more.

I was expecting/hoping for a positive effect after having read the reviews, but am still shocked how big it actually is because I've thought having already a pretty good working system.

My 2 friends with turntables will not like the outcome as they have to spend some money now 😊

Thanks a lot for these great products and your much appreciated advice!!!!

*"Yes. I'm surprised how this is going to change the whole game. You have thrown a big spanner in the works. Every manufacturer will be and ought to be cautious on how to move forward, given the tonearm is taken out of the equation."*

*"I've got to say that this is one of the most astounding upgrades I've heard. And it's less than one side into a record!!"*  
Now added to with the following:

Every once in a very long while, I come across a component or a tweak that surprises me in my long quest for reproducing music with Absolute Fidelity. Last week, I was sent something that took this a huge step forwards. The first album I put on was Bert Kaempfert's Strangers in the Night - a worn out, thin, crappy pressing with mediocre sound. I was going to let it run for a bit to settle down before I fine-tuned the alignment and settings. I set the stylus down, and walked away to my office to do some work.

But I couldn't do any work. I had to come back and sit down to listen. This mediocre-sounding album just came alive. I already loved the music from my childhood, but the sound grew in dimension, clarity, and dynamics. From an album I used as background music, it became music that captivated me and brought back memories.

Needless to say, I did not get any work done that day. And spun album after album - the worst sounding in my collection.

Magically (may be that's why the designer calls it the Houdini), every album I put on sounded amazing.

The Funk Firm Houdini will not be easy to sandbox. This is because it will sound different on every different tonearm/cartridge/turntable combination. I can even imagine that it could sound worse with some cartridge/tonearm combinations (but the price of the Houdini should preclude those combinations).

For many years, I have been fighting with the problem that Houdini solves. One of the biggest problems with the record player is vibrations caused by resonances. To explain why this is so, we have to understand the analog music reproduction chain.

When musicians play and sing, the soundwaves physically vibrate the diaphragm of a microphone which turns this physical energy into electrical energy. The "electric music" then drives a cutter-head to cut a physical representation of the music into the grooves of a record. In turn, this physical groove drives the stylus of a cartridge to generate electrical energy which eventually gets converted back to soundwaves by the loudspeaker.

When the grooves of the record vibrates the diamond stylus, the vibrations travel up the cantilever to drive moving coils (or magnets) to make an electrical signal and it is this signal that is amplified. However, the vibrations don't stop there. Vibrations will travel through to the cartridge body, and from the cartridge up to the tonearm, and down to the structure of the record player itself.

All those vibrations cause resonance in the tonearm tube, can be reflected back to the cartridge by the tonearm bearings, and will be picked up again in the coils of the cartridge. To minimize this reflected and non-musical vibrations I've been obsessively tweaking the cartridge/tonearm interface with blobs of Bluetack to try to dampen arm-tube resonance, precise adjustment of the torque on cartridge screws to adjust the interface, and even little espresso cups of water on the arm-board.

The Houdini makes all this unnecessary, and when you hear the difference, it is a revelation. Unfortunately, it now means that I'm going to have to obsessively tweak the resonances on the cartridge body itself

Disclaimer - the designer Arthur Khoubesserian sent me two of these to try. I've asked for a bill as I'm keeping both, (Gary Koh: Genesis Loudspeakers)

Hi Arthur,

after a few hours of enjoying music I honestly can say that I love your Houdini 🥰

It improved my system in a way that no other component was able to do ( and I invested a lot ... ) It didn't change the tonal character of my system in any way, but it purified the tones. Much lower sound floor, much more details, much more timbre and character in voices and instruments. The bass is "detoxified" from disturbing resonances, therefore more precise and a little bit leaner sounding. But the best the Houdini does is the unbelievable 3D staging. It's like being live in the concert hall. The instruments are clearly separated with much air between them. A very new level of my system 🙌. It made a big step forward from hifi to live music, which makes me enjoy music more than ever. Thank you 🙏😊



Invoice please!

Regards

Christoph

Dear Sir,

You are a genius!

Halfway through my first album since the veil was lifted.

I cannot believe how good this is.

Thanks again, Gary.

Arthur,

I would not have believed this kind of sound reproduction was possible. This is an utterly amazing product.

I agree with everything you say on your website about the improvements. The sense of actually being present in the recording venue is overwhelming.

I remember the Hi-Fi choice review of the Pink Triangle Anniversary "Possibly the most detailed, clear and neutral deck around. Likeness to master tape is uncanny".

"Detailed, clear and neutral" do not do justice to the Houdini. I think the recording engineers of the 60s and 70s will be smiling in their graves at how this brings their work to life. This is the sound they must always have wanted, and it's not just neutral, it's vibrant, it's emotional and it's fun, just like being there (only better sound quality!)

I am definitely keeping it.

The Isolation Bubble. Copyright Arthur Khoubesserian 2022. [www.thefunkfirm.co.uk](http://www.thefunkfirm.co.uk) [info@thefunkfirm.co.uk](mailto:info@thefunkfirm.co.uk) 44 (0)7846 798367



Best wishes, Keep well and many thanks, Patrick

Hi Arthur

Now playing the first side of Simon and Garfunkels greatest hits.... OMG

Individual instruments..

Voices like I've never heard them before.

Clarity

Fast punchy clean bass

Headroom (as I call it)

It's like I'm there

And best of all the wife can hear the difference too.

Thank you Kev

"This arrived today...spent some time earlier fitting it...I can't say enough about the results, WOW. Well done funk firm."

Reviewer: (VPI Prime)

"It's now attached to a Hana ML. My word! To be fair I was expecting an incremental change, but I seem to be getting more of everything while cutting out the VPI Prime. I actually found myself turning the volume up – not because I couldn't hear properly, but because I could without fear of nasty little artefacts becoming audible."

Saffire / FXR: "I don't have time to go into it right now, but f\*\*\* me that isolator is unbelievable, biggest improvement I've ever heard with any upgrade. It's better EVERYWHERE

I put some seriously complicated stuff on and handled it with joy and shows what the speakers can really do (*this guy listens to a lot of Trash. He's using a pair of Curvis with BMR driver and a couple of REL subs. Never been to his room but I'm told it's not small.*)

I was expecting improvements but minor, given that I'm running the FXR, but it was huge.

If I'd spent thousands on a new arm I'd have been happy.

What I'd said to Matt...Amazing. Thanks."

Tarantella / FXR: (This guy has 2,000 albums, AR amp, Proac Response 2. Felt he wanted to replace the speakers)

"Just had my first quick listen. The Houdini is quite something.; I'm very impressed. Before, I thought the Kontrapunkt B was a bit weedy, but it seems to have grown a pair...

There's definitely more space for individual instruments to breathe, separation/ depth improved, soundstage better balanced. I don't think I'll need new speakers!! Result."

Acoustic Solid: From an International dealer: "He was kind of in a shock (positive) regarding *loss of distortion*. Describing the Denon 103 a beast with a very stiff cantilever, it transfers all the resonance to the arm causing massive distortion. He has twice returned "The Magnificent Thad Jones" album to the seller, thinking that the record is faulty, until he realised that it was Denon not being able to play or let's say not compatible with AN arm. A deeper soundstage, more air around instruments and more + tighter bass were his comments. But again, his main shock: The lack of distortion. He says that *this device makes the cartridge-arm matching problem... "history"*.

"Only in the past few days could I say what the diamond profile is doing. Refinement is sublime"

Rega P3: "This is amazing. Really. How is my music now filling all the air in my room. I keep wanting to see what the next record sounds like but can't – I can't move to take this one off..."

From a dealer:

Well what can I say. I've heard things on the Carpenters Hits I didn't know were there - reverb on Karens voice, Layers of sounds so easy to hear, etc.

Using a Lyra Argo (old) on the FX3 you sent with the Houdini. Going to try on better system downstairs when I get chance. But seriously impressed.

Just thought I would let you know. The others have'nt heard it yet.....

And: ...Jon has heard it now with Grace Jones Pull up to the bumper track. The traffic sounds like it's in the room - and although played loud does not sound harsh or edgy with a holographic sound stage. He was blown away!

Andrew

*Just a quick update on the Houdini which was received on Saturday. I don't know how you do it but it is truly amazing! I can't believe the difference it has made. My whole system sounds like it has had major upgrades.*

*One very happy customer here.*

*Darren.*

Bonjour Monsieur Arthur

Pardonnez-moi mon anglais mais....."Wow f###ing Wow!!!"

The H is amazing and as I have said already, you are an audio magician!

Yes please - I'll keep it. Please send me payment stuff. The result is a hugely different and better sound. We tested it on "The Concert in San Francisco" after some Baduism for a female vocal test - just gorgeous.

Thank you  
Yours, R

### **Further on arms...**

As the music comes from the stylus, it's battling against the arm. Let's analyse the problem further:

### **We need an improved arm – What does the industry say? Here it is stepping up a gear:**

#### **Perhaps “Zero-Play Bearings” are what we need?**

According to Rega (and Linn), “eliminating bearing play is critical to performance” (RB808 / 3000). They claim bearings that are not assembled with zero play, *apparently* results in “loss of information”. (In fact, both Rega and Linn were preceded by SME's £5,000+ V with its tapered, damped, magnesium arm tube *plus* ABEC-7 bearings.)

All are “reference” arms. Each is *sure* to get “more information”. So why the “*apparently*...”?

“More information?” “Loss of information?” When it comes to marketing, these are really terrific strap-lines, but they do beg a question: “What does “Loss of information” mean? More importantly, what does it actually *sound like*”? It's such a simple question. Any dealer *with the answer* would jump to demonstrate it. Yet, we've not heard of any that do!

Groove Information is just two things: Vibrations (frequencies) & Hills / valleys (amplitudes / loudness). That's it. Nothing else.

More information? Are there *more* frequencies? Is it *louder*? Can Sinatra's voice magically appear in a mix? How about “Loss of information”? Do we *lose* frequencies? Does it get *quieter*? Maybe we now *lose* Sinatra? Until *tested*, it's speculative. It's not real science.

Fortunately, it CAN be tested. Easily. We've done it in public. *Why haven't others? Could this be why:*

If “New” (improved) suggests “better”, then “Old” must mean the opposite, “not as good”.

Take an old RB300: Old, “poor”, bearings v RB3000/808 with new, “Perfect” ones.

(+ RB3000 has superior cabling, + a new, specially coated casting. RB3000 will get MORE information.)

Things aren't looking good for the RB300. Should we give up before we start?

The test is straightforward: 2 arms (**Same cartridge!**) 1 deck: - Funk's 2-arm SDG is the ideal tool here.



A switching box makes it easy, faster and fair - you don't have to worry about aural memory.

*Seeing how easy this is, how come we've never heard of anyone, manufacturer, or dealer offering it?*

*We demonstrated it Bristol 2018. And the result?*

Both RB300 and RB3000 sound *significantly the same!*

**That's why!**

Typical of Funk, *this wasn't the end*... People were then invited to “play” with both arms. Puzzlement turned to amazement when it was found that the bearings on the 300 had been fully de-tuned. They were free to rattle! At the same time, the 3000 was perfect. And STILL they'd heard NO DIFFERENCE! What's *really* going on?

Bearings are designed to *spin*. In arms they don't. Arms go up / down, just a few degrees, *or*, they swing very s-l-o-w-l-y, ~ 40°. The balls in the bearings are point-contacts supporting the arm, like a Uni-pivot, where one can *lift* the entire arm off the bearing!

All arms operate as “continuous contact” devices. Contrary to folklore, arms don’t constantly jump up and down on their bearings. Indeed, the idea that arms lift off (i.e. lose contact) whilst playing is nonsense. (Oh, and the math doesn’t support it either!)

“Close-coupled bearings” have no credibility. They are a(nother) clever, irrelevant *marketing* distraction.

“But arms sound different”. No one said they didn’t. We’ll just have to look further.

### ... “Damping”?

Damping tape or “special” coatings are no good. The arm *still* flexes. Furthermore, damping can store energy, only to release it later, changing the sonic character for the worse. Apply damping with care! Let’s now see how much damage can a “deck” do...to the cartridge? It’s a bearing, platter, plinth and motor. The effects on the cartridge (music!) are minor. If the cartridge isn’t held stable, you’re in trouble. Our next port of call is the other side of the stylus...The mat!

### ... “Special Materials”?

“Super” materials - Magnesium. Titanium. Carbon – When used for arms, however, sonically, their “remarkable” properties matter little! That’s because all arms tubes are... tubes. They all bend with different signatures. In other words, great to talk about, and... you guessed it: *marketing*. Here’s a totally fair wonderful real-world example:

Technics “S” shaped arms are the same design: 1500C’s is aluminium - “bad”. 1200G / GAE’s is Magnesium - (again) “Superior”. But, is it?

Recall this user’s experience, unwittingly describing the point beautifully?

*I sold my SL-1500C (£899) today with its Achromat. I've now been using the stock rubber mat on the 1200GAE (£4,000) this afternoon and I definitely miss something(!)... Houdini and Cobra (+£412) are now on my mind."*

*Despite spending +£3,100 where’s benefit? GAE has: A “far superior” arm, yet he got NO sonic improvement! (We can’t resist he missed his Achromat!! - Thank you!)*

This example underpins our message: If SOUND is what you want, look to upgrade what you have. *You’ll get much better performance and for far less outlay!*