

JIMMY'S TOP 50 TWEAKS/PART ONE

HI-FI CHOICE

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Needle Talk

Published in Oct 2004 (HFC 259)

50 Hi-fi is usually positioned in a socially convenient room location – often quite close to the listening seat, or between the speakers. Nothing wrong with that. But for those playing vinyl, don't forget that most cartridges (moving coils especially) produce reasonably high levels of 'needle talk' – a thin somewhat brash/edgy high frequency sound – as the music plays. Although low in volume level, needle talk can nevertheless be detected, and its presence impairs

clarity, transparency, and cleanliness. To minimise these ill effects, position the equipment as far away from both the speakers and listening seat as possible. Failing that (for turntables with no lid or dust cover), erect a temporary barrier in front of the turntable so that needle talk is blocked.

This temporary barrier needn't be too elaborate – even the sleeve of the LP being played could be pressed into service – all that matters is that the cartridge's physical 'sound' does not have a direct line to your ears!

“...don't forget that most cartridges produce reasonably high levels of 'needle talk'...”



Extending HF response

Published in Nov 2004 (HFC 260)

49 It's well-known that the ear's high frequency range deteriorates with advancing age. So, it's unlikely that many listeners aged (say) 40 or over would be able to hear much above 16kHz. Indeed, if your daily working environment is noisy, it's possible your hearing limit may not extend beyond 12kHz or 13kHz. Does this mean the finer points of the finest hi-fi systems will be lost on you? Not a bit! For reasons hard to explain, a hi-fi system with extended

bandwidth produces audible benefits even for those with restricted high frequency hearing. So adding a set of Super Tweeters (such as the Townshend Maximums, which extend the high treble out beyond 100kHz) results in crisper detail and a more holographic presentation that can be heard by all (even non-believers).

If you combine extended high-frequency bandwidth with the same at low frequencies (super-tweeters and sub-woofers in the same system) the total effect is further enhanced.



Cleaning turntable drive belts

Published in Jan 2005 (HFC 262)

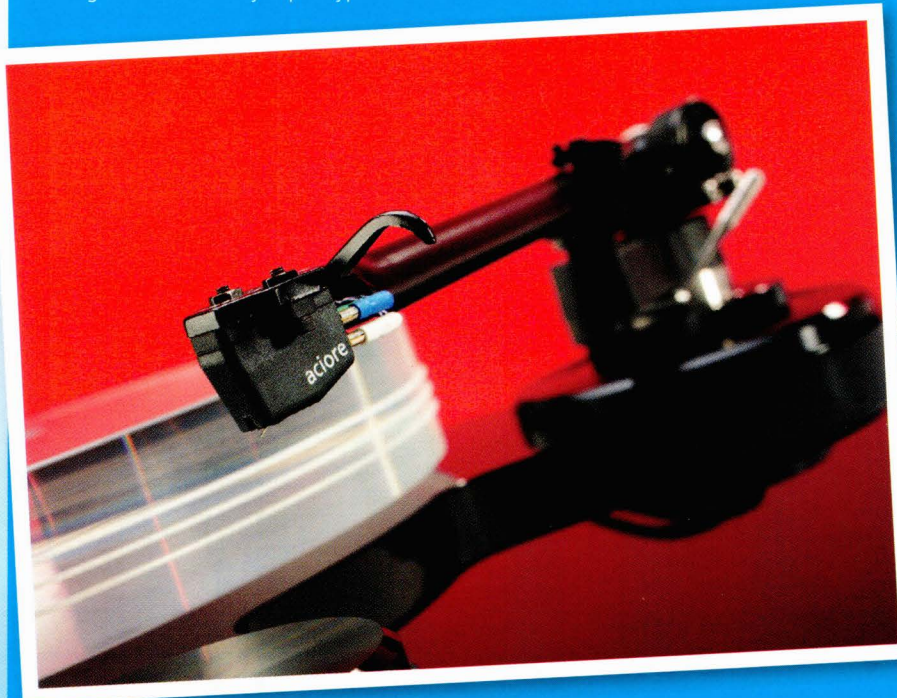
48 CD, with its complete absence of speed

fluctuations, made everyone more aware of the pitch irregularities that plague all but the best analogue turntables. But even a first-rate turntable can suffer from pitch wobble unless the drive surfaces and rubber belt are kept spotlessly clean.

Trouble is, you need fingers to put the belt on; and even newly washed fingers tend to be greasy! Rubber drive belts respond well to being washed in a Fairy Liquid type mild

soap solution, then carefully rinsed-clean, and dried. But only wash a one-piece moulded belt – a glued and spliced belt may come apart at the first hint of water!

The metal motor pulley and turntable inner platter can be cleaned very effectively with isopropyl alcohol. To maintain the ultimate cleanliness, don thin protective gloves (cotton or latex) to avoid finger grease on the belt. Not only will the music be more stable in pitch terms, it will also sound more solid and focussed.



Reversing the direction of cables

Published in March 2005 (HFC 264)

47 Sometimes, for no immediately obvious reason, a hi-fi system doesn't sound quite right. The sound is by no means poor or unpleasant; just missing a certain indefinable 'something'. Sometimes, this disquieting

amp. If possible, you could even reverse the direction of your speaker cables. It might not work; you could end up with a worse result. But equally it may do the trick. Change one set of cables at a time, and switch everything off before doing so. Keep volume levels unchanged, and listen carefully

“Change one set of cables at a time, and switch everything off before doing so.”

feeling only occurs at certain, predictable times of the day – which usually means either your mains or your state of mind is at fault. Sometimes, though, the system just sounds out of sorts at all times.

If that's the case, try reversing the direction of a set of cables – for example, the interconnect between pre and power amp, or CD player and

for any differences. Although many audio cables are marked for 'correct' direction, sometimes results may be preferable the opposite way. It's always possible that mistakes were made during manufacture, or that your particular system functions better with a reversed connection. Try it and see!

Telephone ear

Published in Dec 2004 (HFC 261)

46 Quite apart from the health concerns regarding electromagnetic radiation from mobile phones, having a loud and rather

perceived sound is quite distinct, it indicates that your ears have differing sensitivity and frequency response. Hopefully, a day or two spent phone-free (is that really possible??!) should see your

“Hopefully, a day or two spent phone-free should see your two ears back on equal par.”

'peaky' transducer pressed close to your ear for hours on end is a problem – and a problem that's exacerbated if you always use the same ear. After having been on the 'phone for a while, it's interesting to put the handset to your other ear. If the

two ears back on equal par. If nothing else, the telephone can provide a quick simple indication as to whether or not your hearing is roughly equal in both ears. Re-establishing equilibrium may prove less straightforward!

Balanced inputs/outputs

Published in Jan 2006 (HFC 275)

45

Not by any means a majority, but nevertheless quite a few upmarket amplifiers and CD players feature so-called 'balanced' inputs and outputs. Balanced operation is used in professional audio – recording studios and suchlike – for its improved sound quality and rejection of noise. With balanced working, the negative is active and

need a set of cables terminated with XLRs to go balanced. Both items being connected need to have balanced inputs/outputs – you can't connect a balanced preamp to an unbalanced power amp and enjoy proper balanced operation! And the benefits of balanced? An increase in gain (+3dB), and a bigger more dimensional sound with greater separation and improved fine detail. Buying balanced connecting cables won't come

“Balanced operation is used in professional audio for its improved sound quality...”

kept separate from ground – it effectively acts as a 'negative' of the 'positive'. Usually, balanced connections are made using XLR plugs. So, you'll

cheap, but if your pre-/power amp and CD player offer balanced working, the cost should be justified.



Reversing tweaks

Unpublished from 2007

44 Although it's not always possible, from time to time, it's worth reversing (or removing) some of the tweaks you made to your hi-fi system – just to see if they're still having a

“...it's worth reversing (or removing) some of the tweaks you made to your hi-fi system...”

beneficial effect. For example, suppose two or three years back your sound was a bit bright and harsh and you bought a Mains Purifier to try and smooth things out. At the time it certainly did the trick, and

reduced that unpleasant edginess. But since then you've upgraded your amp and bought a better CD player. The result is a much cleaner smoother sound. Maybe now you'll feel the Mains Purifier has a slight dampening effect on the music. While it

undoubtedly cleaned up the sound a few years back, now that you've got a better amp and CD player there's not so much need for it. Indeed, the music sounds much livelier without it.



Nothing between the speakers

Published in Jan 2007 (HFC 289)

43 A simple but surprisingly effective way of maximising sound quality is to make sure there's nothing situated in the space between your two loudspeakers. That means, no hi-fi, no TV set, and no furniture! Free space between the speakers allows your hi-fi system to

unwanted reflections. Alas, many users situate their hi-fi and/or a TV screen centrally for practical reasons. Although not ideal, you can reduce the ill effects of this by pulling the speakers as far forward as is practical, while pushing any centrally-placed equipment back towards the rear wall... and well behind the speakers.

“Free space between the speakers allows your hi-fi system to image more coherently.”

image much more coherently and precisely, creating a vivid believable soundstage. In particular, you'll find you get a more solid central image – probably because the presence of objects placed centrally causes

The worst thing is having the speakers in-line with a row of electronics neatly placed in-between – you wouldn't believe how badly this messes things up from an audio perspective.

Don't get con-fused

Published in July 2007 (HFC 295)

42 For safety reasons, all electrical equipment sold in the UK is supplied with fuses built into the mains plug, designed to blow should something untoward

each separate piece of hi-fi. That's a lot of connections that could be improved. Having completely unplugged the system from the mains, clean each and every fuse and its connectors with a good contact cleaner and replace it. You could

“...there will be fuses in the mains plug, and inside each separate piece of hi-fi.”

happen. And there's a lot of safety between you and life-threatening mains for good reason, but this does mean there will be fuses in the mains plug that goes in the wall socket, in the distribution board itself, in the mains plug for each individual item of equipment, and inside

also upgrade the fuses to audiophile versions, although upgrade the mains lead to an audiophile version before fiddling with fuses. However, it's distinctly unwise to replace fuses with higher values (if it used a 3A fuse, replace it with a 3A fuse) or to by-pass fuses altogether.

Should you clean up your mains?

Published in Mar 2006 (HFC 277)

41 Mains purifiers seem to divide opinion: some swear by them, others swear at them! A dirty electricity supply affects the way your hi-fi sounds. The cleaner the mains, the cleaner and truer your hi-fi system will sound. Dirty mains robs the sound of its purity and subtle delicacy. However, not everyone worries

Sonically, dirty mains creates a false brightness and liveliness that many listeners find engaging. Clean up these impurities and the sound may seem dull; too clean and well-mannered. There are many ways of cleaning up the mains supply – some simple and cheap, others complex and expensive. If you decide to experiment, always try one device or treatment at a

“The cleaner the mains, the cleaner and truer your hi-fi system will sound.”

about this! If you like loud in-your-face music, a little added aggression may be just what's required.

time, and don't move on to the next until you're sure it works.



Leaving kit permanently running

Published in Dec 2005 (HFC 274)

40 Most hi-fi systems require a 'warm-up' period before they sound at their very best. Usually this takes around ten to fifteen minutes, but with some items there can be further improvements after several hours. Switching products on and off is stressful to internal components;

preamp, too. The power amp I always switch off – it's safer. With valve equipment, there's the added concern that all tubes deteriorate with use – some very much so – which means that leaving items permanently running could lead to replacing valves every few months or so which can be expensive! It all boils down to how much better your

“Most hi-fi systems require a ‘warm-up’ period before they sound at their very best.”

the sudden surge of voltage (especially when the item is cold) can cause failure. Speaking personally, I tend to keep my CD player and DAC permanently switched on, and the

system sounds after its been running for a while. If there's not much change, you might as well switch everything off.



High and low volume levels

Published in Jul 2005 (HFC 268)

39 Depending on music and circumstances, sometimes a hi-fi system is required to play quietly, yet still sound detailed and lively. At other times it's expected to play loudly,

components, especially amplifiers and loudspeakers, its important to understand these conflicting characteristics and plan accordingly. You can't have it both ways, so decide beforehand where to compromise.

“You can't have it both ways, so decide beforehand where to compromise.”

yet still retain refinement and control.

Alas, it's not easy to achieve these conflicting extremes! A big powerful system capable of high volume levels often sounds 'flat' and anaemic when played at low or moderate levels. Conversely, a system that sounds lively and articulate at low levels may lack control and refinement (and even suffer break-up) when pushed hard. A high-power loudspeaker with stiff cone and a big powerful magnet offers excellent control when played loud. But having a big magnet usually results in an over-damped sound at lower volume levels. It's a *Catch 22* situation. When you're choosing hi-fi



Spring clean

From the HFC archives

38 For some strange reason, the

screws that secure the electrical connections in separate non-moulded mains plugs seem to slacken off over time. If your mains cables are fitted with such plugs, it's worth disconnecting everything once in a while, and checking that all the screws are properly tight. While you're about it, take each mains fuse out and clean the contact caps to get rid of corrosion and dirt. Clean the plug pins, too. With all



the various mains connections clean and firm, you'll find your hi-fi system sounds much better.

“...take each mains fuse out and clean the contact caps to get rid of corrosion...”

Keep tables stable

From the HFC archives

37 If you're using dedicated equipment stands, particularly those made from metal and glass with adjustable spiked support points, it's very important to avoid wobble. This easily happens with four-point supports, where only one spike needs to be out of alignment to cause problems. Trouble is, spike

loudspeaker, can bend the support so that it appears solid and free from wobble when it isn't. That's why it's vital to check the firmness of each individual section of a support stand. With multi-tier stands (like the Mana) check each section for solidity before going on to the next. To start with, the stand or support needs to be firm and free from wobble with no equipment in place. Only

“...the sheer weight of a big amplifier or turntable can bend the support...”

misalignment can be disguised by a certain amount of 'give' in the materials used – the sheer weight of a big amplifier or turntable or

then will you get best results. And – use a good spirit level to check that each section is flat and level, not skewed over slightly.

Choosing and using

From the HFC archives

36 If you're planning a journey, it's a good idea to have a destination. If nothing else, it means you know when you've arrived! It's the same when you upgrade your hi-fi; knowing where you want to go in terms of getting better sound means you're better able to determine your goal – and to know when you've reached it.

There's definitely an art to choosing hi-fi components. It's not simply a matter of selecting the 'best' items, putting them together and automatically getting a great sound. More important is selecting components that work well together and suit your room, so that the whole produces results greater than the sum of the parts.

It's a bit like one or two Premiership football teams that don't have any real stars, but nevertheless play in a highly organised and cohesive way. Such teams can beat others that may be far better in terms of individual talent and skills, but aren't as effective as a complete unit. Having brilliantly gifted players does not by itself create a great team.

I think hi-fi's the same; a well-chosen compatible combination of components in a sympathetic listening room can produce results that sound vastly preferable to an expensive but mis-matched and incompatible system. The question is, how do you achieve a hi-fi system that works to the greater good?

Alas, there's always an element of chance involved. You may be lucky and have a

particular combination of components that works brilliantly in your gaff. But take it over to a friend's place and it sounds terrible.

So, have a route map before deciding to improve your hi-fi. A vague notion that things could be better is not enough. Simply trying something new in order to see if the change represents an improvement, is a bit aimless; you need to know where you're going in order to get there!

Identify something specifically wrong with your hi-fi – for example, the sound distorts during peaks. This makes your task much easier. In this case, you'd simply buy a bigger more powerful amplifier, and/or loudspeakers with greater efficiency and increased power handling. But what if your misgivings are subtler and less tangible?

Suppose you feel that the sound you're getting – although quite good – could be even better? You've no specific complaints, but believe that spending a few hundred pounds on a new super-duper amplifier or CD player would bring worthwhile improvements. There's only one thing to do – try it. Preferably in your own home.

Ask your dealer to let you borrow that new amp or CD player – use it for a couple of days – and see if the change gives the improvement sought. The acid test is always when you eventually return to your original set-up. If, on going back, your reaction is one of disappointment and dismay, chances are the new item really was and is a lot better.

Have faith, brother

From the HFC archives

35 In its strictest truest sense, High Fidelity refers to the faithful accurate reproduction of sound. Not necessarily a sound that's enjoyable, impressive, pleasing, or beguiling – though it could (and probably will) be all of those things too – but truthful and correct; neither adding nor subtracting from the original. Trouble is, it's

“Trouble is, it’s becoming harder and harder to hear pure natural unamplified music...”

becoming harder and harder to hear pure natural unamplified music – even buskers in the street use small PA systems! That's why it's valuable to acquaint yourself with live natural sound – from a solo acoustic guitar, a piano, or even a drum kit.



It's akin to knowing how freshly-squeezed orange juice tastes compared with the stuff you get in cartons. Now, some prefer the taste of orange

squash to the real thing – sadly, that's their choice. All I'd say is – if that's the case – don't pay the higher 'freshly-squeezed' orange juice price for carton juice! Ditto with expensive hi-fi.

Getting the voice

From the HFC archives

34 Of all musical instruments, the human voice

remains the most difficult of all to reproduce accurately. With many instruments – guitar, piano, percussion – a little tinkering with the tonal balance can offer superficial 'improvements'. For example, a slight lift in the 3kHz presence region can increase tonal brilliance and transient attack, giving cymbals greater immediacy and guitar strings greater bite. Great! The music now has added colour and vibrancy. But then a female voice starts to sing and suddenly the sound is



edgy and wispy, with a rough, exaggerated sibilance. On mens' voices the effect is even worse; rough and 'chesty', as though the singer had a frog in their throat. That's the problem when parts of the frequency spectrum are exaggerated; it's great for some things – terrible for others. But – remember this: if you can get male and female voices sounding natural and right, everything else will sound natural and right, too...

Axis of evil

From the HFC archives

33 It's surprising how many hi-fi systems sound better when you stand up (rather than sit down) to listen.

One explanation is that your ears are no longer directly on axis to the high frequency drive units. This makes the treble sound smoother and less

speakers on short stands that situate the tweeters below ear level. Alternatively, angle the speakers from behind so they point downwards slightly. You can even try turning the speaker upside-down on the stand. Things nearly always seem to sound better when your ears are at a height roughly level to the top of the speaker enclosure. So,

“Things always sound better when your ears are level to the top of the speaker enclosure.”

bright, without compromising brilliance or immediacy. One way of achieving similar results from a seated listening position, is to put the

having your ears on-axis to the tweeters is not a good idea if you want a sound that has maximum smoothness, integration, and coherence.



Keep your CDs clean

Published in Jul 2006 (HFC 281)

32 Although compact discs seem largely unaffected by things like fingermarks and scratches, sound quality will suffer if discs become heavily soiled. That legendary (should we say 'infamous?') *Tomorrow's World* jam-smearing session from the launch of CD proved to be an impossible dream as soon as players began to make it to real reviewers.

than it would have been had the playing surface been kept spotlessly clean. The brighter and shinier the surface of the disc, the better it will sound. CDs are tricky to clean without causing fine surface scratches. One way is to use a removable sticky label, putting the sticky bit on the surface of the disc so that loose particles are removed without the need to rub.

Badly soiled discs can be washed using a mild

“A badly soiled CD may play without jumping, but the sound will be more congested...”

True, a CD player's error correction circuitry can disguise some of the problems, but only up to a point. A badly soiled CD may play without jumping, but the sound will be rougher and more congested

soapy detergent (like washing up liquid), and then gently patted dry with a clean cotton cloth or paper towel. But the best advice has to be – don't let your discs get dirty in the first place.

Noisy environments

Published in Oct 2005 (HFC 272)

31 For the proper enjoyment of music, a quiet environment is essential.

Only then can you hope to hear exactly what's being played and how. If your attention is constantly being interrupted by extraneous noises, it's harder to concentrate and lose yourself in the music.

Yet, sadly, noise is a part of modern everyday urban life. Unless you live alone in a remote house in the middle of a field, it's likely you'll have noise to put up with – be it cars whizzing past, neighbours, people in the street, passing trains or aeroplanes, or other residents in your

house or flat. Interestingly, the annoyance value of noise depends greatly on how clear your hi-fi system sounds; if it's really good, you should find it easier to concentrate on the music without outside sounds becoming a distraction.

If you're tweaking or trying out a new amplifier or pair of speakers, ask yourself if there's any subjective difference in the nuisance value of outside noise. If so, go for the component (or tweak) that makes outside noise less obtrusive. If the external noise is really loud, you might need specialist help from an acoustician; the results are effective, but don't come cheap.

What to do with bad recordings

Unpublished from 2006

30 Sooner or later it happens; you buy a recording and it turns out to be Total Pants. The sound is awful – brash, harsh, aggressive, boomy, thin, congested – and completely unacceptable for playing on good-quality

improvements. On your current set-up, a particularly recording may sound terrible; but make a few changes and (miraculously) problems that once seemed so huge can reduce or disappear altogether. It's as though your hi-fi system's faults exaggerate faults in the recording, making

“The sound is awful and unacceptable for playing on good-quality hi-fi.”

hi-fi. Or so it seems. But don't bin it just yet. Often, such recordings can be very instructive when you make changes to your hi-fi. Your super-quality recordings will always sound great; it's the not-so-great ones that respond most to changes and

them seem far worse than they are in reality. Most recordings sound surprisingly good providing they're played on a hi-fi system able to reproduce their virtues without exaggerating the faults!



Combinations...

Published in 'Collection 2006 (HFC 282)

29

Legendary Jazz
Trumpeter Harry
James used to say he

never compared bands – only nights absolutely right; even the best band has the odd off-night. Equally, there will be nights when everything gels and the music flows like wine. And hi-fi systems? Similar criteria apply – except I'd put it differently and say that great sound is largely about combinations and situations. In other words, having the right equipment optimally placed in a sympathetic room.

If you're lucky, you can achieve outstanding results from components that (while good) are far from being state-of-the-art. Equally, it's possible to have a very



expensive system that sounds foul simply because it's ill-matched – either to the room itself, or both. And that's the trouble with hi-fi – there's too much luck involved. A system can sound great in one room and terrible when moved to another. Why? It's a total mystery. Even Harry James would have been baffled.

Align your mains-plug screws!

Published in Nov 2007 (HFC 299)

28

Here's a slightly whacky tweak for those of you with standard type mains plugs with slot-screw cable fixings. Detach the mains plug from the wall socket or distribution board and

negative and ground are horizontal and the positive is vertical. Replace the plug top and align its fixing screw so that it is horizontal. If you have a screw fixing cable grip (mainly found on older plugs) align these screws so they are horizontal, too.

“align the slots so that negative and ground are horizontal and positive is vertical.”

remove the plug top so you can see the wires. Hold the plug so the ground pin is at the top with the negative and positive to the left and right respectively. Now, align the slots on the screws so that

Having done this, you should find things sound a wee bit sharper and better focussed. Repeat the procedure for other mains plugs, even on non hi-fi items, and the improvement should be noticeable!

Don't OD on tweaks and accessories

Published in Sep 2006 (HFC 284)

27 Sometimes you buy an accessory – say, a set of support cones – and the benefit it produces is huge. So much so, you decide to buy more

preamp and power amp will improve things further. Some 'improvements' merely create shifts in the tonal balance, making things sound sharper and more forward. In moderation this can be a good thing. But

“Taken too far, it may make your system sound lean, aggressive and too forward.”

of the said item in order to get an even greater improvement. But take care! Just because a set of cones under your CD player produces a worthwhile increase in clarity and sharpness, it doesn't necessarily follow that putting similar cones under the

taken too far, it may make your system sound lean, aggressive, and too forward. So, always make one change at a time. And don't assume that, just because having one of an item worked, having ten of it will make things ten times better!

One tweak at a time

Published in Nov 2006 (HFC 286)

26 When making changes to your hi-fi system – whether it's a minor tweak, or the replacement of a major component – it's essential not to make several changes all at once. If you simultaneously make three or four changes, chances are one (or more) might not be beneficial. The overall sound may well be enhanced because two or three of the changes you made were improvements. But the sound would have been even better had you evaluated each change separately and realised one of the changes made things sound worse. So, discipline yourself; make one change at a time. And don't move on until you're sure the change is a definite improvement. Live with the change for a few days, then (if possible) go back to things as they were before.

Sometimes, what seems like a big improvement is merely a difference – live with it awhile, and you'll hear the downside.





Pick of the Tweak

When tweaking your hi-fi system, it's absolutely essential not to make more than one change at a time. If you make three changes at once, two of them might be highly beneficial, but the third less so. The result may still be an improved sound, but it could have been even better.

Also, tweaks have a symbiotic relationship with one another. Individually, you might judge three different changes to be beneficial. However, when all three are combined, the result is less than the sum of the parts. Three tweaks that each produce a sharper more focused sound, may become over-bright sound when combined.

There's more. Suppose your hi-fi system initially sounds too sharp and rather harsh, with spitty vocals and edgy violins. You carry out a number of tweaks to counter this, and the result is a smoother cleaner sound. Then you upgrade your CD player, and suddenly the sound is much

“In hi-fi, two wrongs can sometimes make a right.”

cleaner, with far less high frequency edge.

You may now find some of the tweaks that worked before are no longer beneficial. Things change, tastes change and what was fitting the bill perfectly a few years ago might not hit the spot today. This is especially true of products used outside of the system, such as room-tuning devices and the like. These tend to be 'fit and forget' products, and the problem is the 'forget'

bit... these product are installed and then overlooked when the next product upgrade comes. They may improve the sound with the upgrade, they may not. Point is, if you change components, consider it a perfect time to investigate the effectiveness of every tweak.

What once created a smoother more-even treble, now seems to dull the sound and lose brilliance. Hi-Fi is a very subjective thing, and opinions about good sound are heavily influenced by personal taste and expectation.

It's possible the once beneficial tweak in question did actually make things 'worse' (damping dynamic attack and softening fine detail), but because the sound was too forward and bright, the result was judged more pleasant to listen to. In hi-fi, two Wrongs can sometimes make a Right.

So, that's why you should always undertake one tweak at a time, and (where possible) periodically go back and reverse tweaks you made a while back. It's the only way to ensure every change is taking you in the right direction.

That's the joy of hi-fi, though. It's one long playtime for grown-ups. We get to play with the products when they first come out of the box, then we get to play with them again, as we experiment with products that may or may not enhance the experience. Then we test and test again to see if there is a difference and whether that difference is worth the effort. Just make sure you don't get so hung up with the process of tweaking that you forget to listen to music!

Don't miss the second installment of Jimmy's Top 50 Tweaks next month, on sale 06.03.

IsoTek has a permanent home in our listening room!

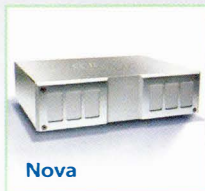
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