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Virtual interactive Turntables

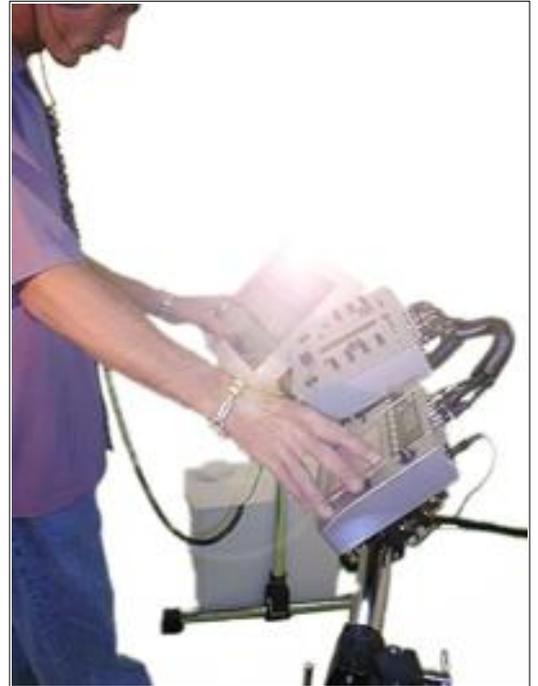
Remember when CDs and CD mixers began to replace vinyl and turntables in DJ booths? Well an equally revolutionary change is happening right now. MP3 and 'virtual turntables' are moving in.

Dance music and DJs have always been pushing the boundaries of technology and there's now a new set of hardware and software products emerging from around the world which will **blow your mind**. DJ and musician Evan

Bartholomew claims he has *"been able to provide 5 hours of continuous music at a desert party, keep the crowd ecstatic, and didn't have to pack a single piece of music or worry about sand getting into my needles."* How? Well it's now possible to pack a computer with 1000s of CD-quality tracks and the capabilities of two decks, a mixer and the traditional tools of the trade. It can cost next to nothing and future enhancements will have the ability to scratch audio which a friend has emailed you, throw in live 3D audio effects, DJ in multiple rooms at once and... who knows what next? "Powerful" seems like too small a word.

The story began with the development of the [MP3](#) music file type, which appeared a couple of years ago. This is getting picked up in the mainstream press as it's small file size and high sound quality makes it perfect for **bootlegging** across the internet. But that's another story. As Laura Betterly, co-founder of music tech company [Visiosonic](#) explains, *"MP3, for those who don't know, is an acronym of an acronym. MPEG 3 or Motion Picture Experts Group Audio Layer 3 is a compressed format for digital music files. To give you an example, instead of 15 songs on a CD, you can put up to 200 songs in an [MP3](#) format on a CD. This now also gives the music listener (or DJ) the opportunity to actually store their music on computer..."*

Months – or weeks in some people's cases – after [MP3](#) arrived, people had



tens or hundreds of [MP3](#) tracks sitting on their hard disk drives, which they'd either transferred from normal CDs or vinyl or traded and swapped with friends via email or the web. So it was only natural for someone to think of developing an **on-screen** DJ booth which could simultaneously play back two tracks at once, and which could be mixed, speeded up, slowed down and so on, from on-screen controls. In fact this idea seemed to have dawned on a whole set of people around the world at the same time, because in late 1999 we are seeing launches (or pre-launch hype) from DJ software developers in the US, Germany, France and Finland!

Who was first out with this idea will be a subject of debate. But for now, I'd say it has to go to Markku Uttula, Managing Director of [Disco-Nova Software](#), who produce the MP3000F MP3 DJ software. *'I've been a DJ on the move. You know, every evening, you pack your car with lights, amps, mixers, turntables and - for Gods sake - a quadrillion 12" black ones. Hard job for everyone, at least if you're not into weightlifting. When CD's arrived at the scene, I was pleased - much more music, takes less space and weigh a lot less. At that time I was introduced to the Amiga computer and tracker-music. I got a quite wicked idea when I noticed how much music it was possible to be fitted into a single floppy. Only later on, I found out about MPEG-audio that was even better solution than the original idea. This all happened over ten years ago. MP-3000F has in fact lived a long life, mainly in my **dream-reality** that consists of people being all nice to one another. But I actually found a few early illustrations that seem a little (very little!) like our application at present. These drawings of the programs user interface dated back to something like 1990. I actually started coding the program when I got my first computer over 90MHz. At the time it played only one MP3-file at once, and sounded like crap, but it was a start. After this, the dream faded into back of my head for a few years, and finally in August '98 I was introduced by a friend of mine to the Xaudio package, the decoding engine used in current version of MP-3000F, and I restarted coding once again...'*

Laura Betterly from [Visiosonic](#) tells a similar story. *"My partner, Joe ran the Lazer Entertainment Group in the New York area and was also a DJ as well as a musician. He was excited with the possible applications of [MP3](#) and DJing. No more lugging vinyl, no more trying to find a CD, no more chiropractors after a gig. We searched out the perfect developer for the software and found him on the **internet**, in Luleo, Sweden (half an hour south of the Arctic Circle). His name is Jorgen Hedberg and he designed an interface that not only mixed, but allowed beat matching, and a multitude of incredible features. Jorgen is a DJ and a programmer so it's the best of both worlds."*

If you want to get into virtual DJing right now then you have a handful of virtual turntables at your disposal. And the best news is that – if you are already PC/Mac equipped and wired to the internet – it wont cost you a penny. Almost all of the software featured here have **free** download versions available on-line. Some are time-limited (IE they're free but will only work for 30 days), others are feature-limited (IE only the basic features work) but some are completely free.

This new breed of DJ software sets out to **recreate** on a computer screen all of the traditional hardware a DJ is used to - turntables, CD-Players, equalisers and mixers. Other tools have been added to almost all of the products out there – like effect processors, BPM counters, tempo and pitch controls, time-stretching, instant pitch matching, the ability to place and save cue markers across your tracks and, for radio/mobile DJs, virtual jingle cartridges. But it's some of the simplest features that can be the most attractive – like an on-screen display of time elapsed and time remain for each track and – better still – warning lights when a track is coming to an end! In fact, as a PC can run more than one application at once, it wouldn't take much tinkering around to have one computer-based DJ performing in several rooms at once! Surely a mightier challenge than a six deck showdown!



You can choose which set of virtual decks work best for you by downloading trial versions from the web and simply having a play. The first **MP3** mixing product I ever came across was **Carrot Innovations** 'VTT' (virtual turntables). One of the most advanced software products comes from France – 'Virtual DJ+' by **Gmixon** is designed for both clubs and mobile DJs. Their

Pro version can automatically detect the BPMs of two tracks and automatically mix between them. It can add sound effects and has support for the **DirectX** effect standard and you can also plug in a joystick to move your music around a 3D space! The most user-friendly and professional products seem to come from **Visiosonic** whose PC-DJ, Digital 1000SL and Digital 1200SL products can all be downloaded from their [website](#). The first to include BPM matching was the MP3000F from **Disco-Nova Software**. BPM Studio from Germany's **ALCATEch GmbH** also shows a lot of promise and is heading in some interesting directions for the non-club/commercial DJ. These and other emerging products can be found at a new website dedicated to software mixing called [Virtual DeeJay](#).

Which product become the **leader** is too early to say at the moment. Although in the UK it will most likely be the one which is pressed on a CD, shrink-wrapped and available in the shops. To help you decide before you start downloading, Markku Uttula says that best thing about the MP3000F is *"Ease of use. We've tried to keep anything that doesn't need to be there out of the package. Also, the program follows the normal layout of a double deck **Denon** player, so it's quite easy for everyone that's never used any type of audio software to try this out."* On the other hand Laura Betterly from **Visiosonic** says *"Our product is stable and feature rich. We also spend more time testing than most other developers. We know how important it is to not crash at a gig."*

But **MP3** mixers and turntables are nerd-tools right? Surely no one is actually playing out with them? Wrong! R. Ferrière from **ALCATEch** (the

makers of BPM Studio) says: *"We've used BPM Studio for over a year in clubs in our hometown, and at the IFA '99 in Berlin. And **Radio Energy Sachsen** broadcasts live every day with the software for two 2 hours."* Markku Uttula from [Disco-Nova Software](#) says he plays live *"all the time, ever since version 1.0"* with the MP3000F. *"We have many DJ's around Finland that are using the program explicitly - without even taking two looks toward their old record cases. We work at many different types of clubs around Finland (Helsinki, Tampere, Hämeenlinna, Turku). Music played is mainly eurodance... I've also heard through our BBS (Bulletin Board Service) and email, that many DJ's use our software and that many restaurants around the planet are using it as a DJ-replacer. That's a shame, and before we release the final version, I intend to do something about this. I don't want to face the wrath of thousands of unemployed DJ's around the world! More than 3000 people have downloaded the software from our website."* It's [Visiosonic](#) that have gained the most celebrity users and made massive in-roads into replacing – or rather enhancing the traditional DJ experience. According to Laura Betterly, *"The software is being played live all the time. It runs in restaurants in Sweden, it is used by countless mobile DJ's in the US and Canada including Mobile DJ Of The Year, **Bobby Morganstein**. Ice T and DJ Evil E have taken the gear on the Warped Tour. We met Ice T at the [MP3.com](#) Summit. He was so impressed that he wanted to be the first major artist to take the gear on tour with him. Pierre J from Sweden uses the product daily too. Evan Bartholemew from [MP3.com](#) (the internet's biggest and most well-known music warehouse) used our gear to open up for Billy Idol at their IPO party last month. The Digital 1200 SL is used for many genres from electronic, techno, rap and hip hop to middle of the road stuff for weddings. We've had over 12,000 beta testers of the Digital 1200SL product in the last eighteen months. On the home market, I estimate about 30,000 users of PC DJ."*

It was Ice T that actually took the next stage of MP3 DJing on the road earlier this year. The venue was the Warped Tour and the next stage: dedicated hardware. Why take your laptop or PC to a club to play your MP3s with your chosen virtual turntable software when you can take a dedicated machine, which has maximum capacity and storage built in for the job in hand? This thought has led to some startling new developments – in the form of rack-mount, portable and tower units from [Visiosonic](#). [Alcatech](#) also offer a rack-mount remote controller which is available with the professional version of their BPM Studio software and comes in very sexy chrome or gold finishes and all sorts of colours. A similar rack-mount controller, for people who prefer buttons to mice, is available from Germany's [X.Audio](#), called the MpegDJ DoublePlayer & RC2000. Using this hardware also saves you from endless hours fiddling around installing the software, configuring your sound card and building in extra storage for all those MP3s you've encoded before donating your 12" collection to **Save The Children**.



[Visiosonic](#): *"The reason we developed hardware in the first place was to fill a need that existed. We found our users had several problems configuring their*



hardware. Our pro software only works with certain sound cards and the CD-Rom used to encode MP3s needs to be superior too. A non optimum CD-Rom could create a bad MP3 file or jitter. So our hardware is set up for jitter control." Also a dedicated matching saves you losing other vital info you may have on your computer if some punter decided to pour his or her drink into the DJ booth! "We also suggest to our professional users that you dedicate one computer to DJing. I don't think it's a good idea for a DJ to have his personal finances or other programs on the same computer as the one they are taking to gigs"!

With songs saved digitally as MP3s, mixing software and virtual turntables firmly at your grasp and dedicated DJ hardware now available, endless possibilities for the ultimate enhanced supercharged DJ trip are beginning to take shape. Like [Final Scratch](#) which is a combined hardware/software system that links your computer back to two traditional turntables so you can mix and scratch MP3s using that familiar "vinyl-on-turntable" interface. So decks may not be dead after all! [Final Scratch](#) consists of two decks and two special 12"s that are 'mapped' to software on a PC via a special box called the scratchAmp. As the developers [N2IT](#) say, "You can still use all the mixing tricks, slip the record over the slipmat, seek through songs using the needle, let it go, stop it, speed it up or down, spin it backwards, fast forward, and even scratch the audio. The software responds very quickly to record movements, the delay is virtually not noticeable."

"[Final Scratch](#) has the potential of being a breakthrough product. Remix artists love tactile surfaces like vinyl disks on turntables. [Final Scratch](#) lets them get their 'hands on' digital media," says Timothy Self, Audio Developer Evangelist for **Be**, whose BeOS operating system is a vital part of the [Final Scratch](#) set-up.

Meanwhile at [Visiosonic](#), the [SpaceOpera](#) has just been unveiled. Their newest creation is the next step on from their [MP3](#) hardware and software. "[SpaceOpera](#) is a unique, customised blend of the Digital 1200 SL software, specially programmed to work with a **Korg Kaoss Pad** and an analogue audio mixer, letting you control the 1200 software from the Kaoss Pad, scratch digital files, sample digital files, loop and control 60 effects programs, retrigger, and reverse sample phrases with touchpad control and fingertip precision." The KAOSS pad received it's exclusive first ever review in [DJ magazine](#) and the [SpaceOpera](#) looks set to take it to the next level.

But the sound systems of the future replace traditional turntables and needles? Or will they carve out their own niche, as CD and minidisk have alongside vinyl?

"I think you will see more and more performances that include computer based playback of digital files. The advantages outweigh the disadvantages!" says Laura Betterly. "I think that computers are the next

logical progression in technology. CD's for the most part have replaced vinyl and computers are rapidly replacing CD's. When you talk about re-mixing and editing as well as real time playback, I think it makes a lot of sense. If you can replace the look and feel of traditional turntables (which we are one step closer to with [SpaceOpera](#)) and make life easier for a DJ, I think we're very close to superseding traditional DJing. I'll give you an example, DJ Evil E uses the 1200SL as well as his turntables, but now, he doesn't have to bring as much vinyl to gigs as he used to. I think the virtual DJing will become more popular and replace traditional DJing as time goes on especially with kids on the net, using computers. As they grow up and start to create, virtual DJing will be the way they do it."



[Disco-Nova](#)'s Markku Uttula is a little cautious. *"It's always hard to predict things, especially the future. I don't even want our program to be used as an automiser, but as a normal development that we've already seen when people have started using CD's and MiniDisks instead of turntables. Anyway in Finland hardly any DJs use vinyl anymore, as it's quite hard to get your hands on vinyl records. You have to go at least to Sweden or Denmark before you find anything new releases on*

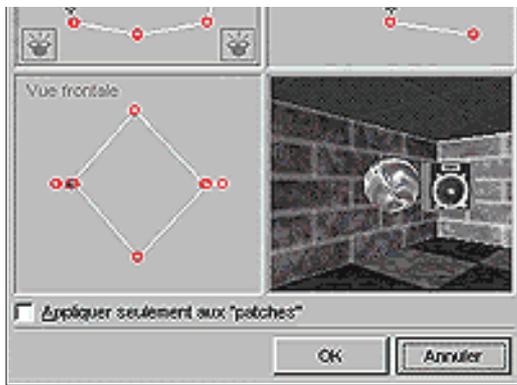
vinyl." Another point he makes is perfect sense: we all carry around hundreds of records or CDs, but only ever play one track from each. Why don't we just use MP3 to carry around the songs we actually use?

[N2IT](#) also see [MP3](#) as complimentary to traditional DJ tools. *"Real vinyl still has its advantages as you don't need a computer, and it's more direct than a computer will ever be,"* they told [Bringthenoise.com](#), the "underground world-wide internet radio". *"But it's a nice add-on to have MP3 files. It opens new possibilities."*

The crystal ball hasn't run out of energy yet. The future of the future is where it's at. "A midi hardware controller, another scratch deck, a remix product and a radio station model that includes a scheduler" are all in the pipeline from [Visiosonic](#). Hardware integration is another direction. Branko May from [BPM Studio](#) says that the next stage for their product is *"a broadcast edition with time management, fade start and other features. Also a special hotel version is also possible and future products may well include DMX light controls."* But there's going to be a battle with the other developers out there. Markku Uttula: *"When I started the project last year, my goal was set to nothing less than the perfect DJ tool, the best there is nor will be. I like keeping my goals high, you know."*



When the Lawnmower Man is really on the decks he may well be using [Gmixon](#)'s virtual reality club controls which combine various tools like a



joystick for 3D sound control and are viewed through a VR headset. Just as long as DJs themselves are never replaces. As [Disco-Nova](#)'s Markku Uttula points out, *"Maybe someone could code an artificial intelligence with the mind of twelve year old, add to that the [CDDB-database](#) and teach it to use our software. But hopefully this will never happen. Then we'd be in a*

*situation where nobody would need an actual DJ anymore. We'd all be sucked into some basement room of **Madame Tussauds**', and there'd be people looking at us, pointing fingers and thinking - what where they thinking a few years ago..."*

words: [Ian Peel](#)

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- [SMP3P interview](#) (Extra!)
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