

Q&A

MTM's panel of experts tackles another selection of your music technology queries – and reminds you all again to back up your work!

Safe and sound

Q How often should I back up my music files? I've been making music on my PC for a few years and I've got tons of stuff on it. I'm pretty bad at maintenance and a friend recently lost all his work when his hard drive crashed. What steps can I take to prevent it happening to me?

Jerry Bowles, London

A Backing up is something we should all do regularly, but hardly anyone does as often as they ought to. Sadly, it often takes a serious crash to make you start thinking about it properly. Since no system is foolproof, it makes sense to perform regular backups, just in case anything does blow up.

Good file management involves keeping all your music files inside one master folder, divided into subfolders. This may be My Documents in your case. If you have everything in one (or even several) folders, it's easy to back them up to DVD using Nero or a similar application. You can also locate all the files individually and manually drag them to the DVD.

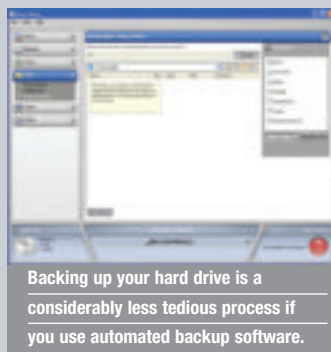
If you want to create a clone of your entire system, you could use Norton Ghost (£40), Dantz Retrospect (£89) or Roxio BackUp (£35) – all professional applications that will save your bacon should anything go wrong. There are also various shareware programs available, but make sure they are well regarded before trusting your data to them. An alternative – if you have a second hard drive – is to periodically copy all your data to it. A FireWire drive is even better, as it's probably not in constant use.

How often you back up depends entirely on how you work. If you change projects only a little at a time, you can get away with backing up every couple of weeks. If you work intensively, you should do it as soon as you finish a day's work. You'll get a feeling for how often you personally need to do it.

Some files will change more often than others. For instance, a Cubase project file will change every time you work on it. They're small, so they can be backed up to a USB memory stick. Audio files are bigger, but will change less often, so you may not need to copy them all every time. Samples collections will need backing up only every so often – and even then, only if you have modified them in some way.

Backing up may not be the most glamorous process in the world, but you'll be glad you did it if anything ever explodes. Usefully, most backup software enables you to schedule backups, so you could leave it backing up automatically every other night and not have to stand there waiting for it to finish.

Hollin Jones



Mastering your trade

Q I'm just starting to produce music at home, but I know nothing about mastering.

How do I do it and what software do I need to use?

Roo Via email

A Mastering, like mixing, recording and almost everything else related to the act of committing a sound to tape, is a very creative process – with a little bit of technical knowledge thrown in. Taking this into consideration, it is quite difficult to tell you specifically how to master – especially as it is going to be very different for every track that you produce. What I will try to do is give you an idea behind the processes involved in mastering and hopefully this will set you on your way to getting the most out of your finished tracks.

Your final stereo mix is usually the subject of the mastering process. The aim is to get it sounding not only polished and finished, but balanced in the context of other tracks that it will eventually be sitting alongside.

The tools you should familiarise yourself with are: multi-band compression, parametric EQ and limiters.

Multi-band compression is like normal compression, but it treats frequency bands independently. Therefore, you can compress your bass more than your treble, for example. The way this works is that your final mix goes through a crossover which divides up the frequencies. You should have full control over where the frequencies cross over and be able to compress each one accordingly. If you were to simply apply full-range compression to your final mix,

you might find that a loud kick drum or bass note will drag down the dynamic range of a cymbal crash occurring at the same time until it is buried under everything else. With multi-band compression, the bass notes can be compressed while leaving the trebles clean and clear.

Parametric EQ can be used to tweak the tone of the entire mix and gives you complete control over the settings. With normal EQ you might find that you can merely boost or cut particular frequencies. However, with parametric EQ you can choose the exact frequency you want to adjust and the width of the frequencies covered.

Limiting is the final link in the chain. A limiter is basically a brick wall compressor that will prevent the volume from getting any louder than a predetermined threshold. It is essential for making sure your tracks are at full volume while preventing them from distorting.

The thing you will discover if you're paying for mastering is that it is often the engineer's ears you are paying for rather than the particular equipment or software that they choose to use. It takes a fair amount of experience to master tracks, but with the right frame of mind and a good idea of what you want to achieve, it can be done fairly easily – and much more cheaply – in your own studio.

As for recommending software, there are plenty of packages to choose from. As usual, the choice comes down to personal preference based on the quality of the results, ease of use and, of course, budget – but not necessarily in that order!

If you're serious about mastering, check out Izotope's Ozone 3. It is a

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► high-quality, all-in-one mastering package that retails for around £170. The program (which supports all major software hosts such as VST and Pro Tools) includes multi-band dynamics, parametric EQ, multi-band harmonic exciter, multi-band stereo imaging, loudness maximiser and a lot more besides. Check out www.izotope.com for more information. The software can be purchased and downloaded online.

Rob Baldock



Most MIDI controller keyboards now have all the features you'll ever need – and some are highly portable, too.

Keyboard conundrum

Q As someone new to the world of MIDI and keyboards, I am looking to purchase a MIDI controller keyboard and am finding myself lost in the specs. With a price ceiling of \$1,000,

I am hoping to get clear comparisons between the Korg Kontrol, M-Audio's Oxygen or Keystation Pro 88, the Novation X-Station or any other you may suggest. For someone like me interested in making hip hop, pop, jazz, house and – hopefully – developing as an artist, I cannot tell which is the right purchase. For instance, reviews said the M-Audio's Keystation Pro 88 was great, but buyers at zounds.com said it was awful. The keys did not feel right, velocity was wrong and the sensitivity was not consistent – none of which was ever mentioned in the published reviews that I read. I am trying to figure out what to look for in a MIDI controller keyboard that will make it a good investment as I am a beginner with plenty of room to grow. Any answers that could help me cut through all the garbage and maybe some advice on good online buys would be more than helpful – I don't know where else to turn!

Haki Flores Via email

A Given the types of music you are making, I wouldn't suggest an 88-note keyboard such as the Keystation 88 for your main keyboard – the heavy action emulates that of a piano and is ideal for a pianist, but makes it difficult to play synth-style lines. A lighter action (semi-weighted) is more flexible and would make your main keyboard more useful, plus you can add hammer action at a later date if the need arises.

Keyboard sizes range from two to six octaves (25 to 76 notes). Five octaves (a 61-key keyboard) is ideal – anything smaller and you'll outgrow it quickly, plus it might not be suitable for all of the different styles of music you play. Five octaves is the standard size for most professional synths and workstations. It also makes sense to buy a controller keyboard that has some controller knobs – it's well worth the extra flexibility.

Even today's cheapest controller keyboards have a reasonable action and nearly all enable you to choose different velocity curves. My recommendation would be the evolution MK-461C (£199) – it has good synth action, plenty of controls (including nine faders and 12 knobs) and is the most useful size. But, in terms of versatility, I would opt for the Novation X-Station 61 (£549), simply because on top of the excellent keyboard features (61 keys with aftertouch plus nine faders, 24 fully assignable rotaries and transport controls), Novation has added not only an excellent audio interface, but a decent synth, too, so you can use it as a standalone synth when those moments of inspiration strike – and that will ensure it never becomes redundant as your studio grows.

Rob Holzman

Mono muddle

Q I have been recording my MIDI tracks to Pro Tools and I was wondering what the difference is between recording a kick drum in mono or stereo. Is there any difference in terms of volume or doubling of the sound? If there isn't any difference, is it always better to record in stereo when recording MIDI as audio? When do I need to record in mono?

Bumchong Kim Via email

A Regarding kick drum samples, it all depends on whether the original sample is mono or stereo. Kick drums are invariably recorded in mono, but samples can be stereo if some reverb or natural room ambience has been added to the dry sound. So, if the sample is stereo, by all means print it to Pro Tools in stereo. On the other hand, there is no advantage to be

Which bass?

Q I'm after some advice on the best bass instrument to use in the production of drum'n'bass. I've just started out and have acquired a G5 Mac with Logic Pro 7.

Alex Hawkins Via email

A As with so many sounds these days, there are a variety of options open to you. I'm guessing from your question that you're not a bass player, so we can leave guitars out... Basically, you can choose hardware, sampled instruments or virtual instruments. For drum'n'bass you'll probably want either synth sounds or double basses.

Hardware instruments are tactile and look cool, but they cost more and take up space. If you do decide to buy a keyboard, try looking at the Novation K Station (around £250), which has a brilliant phat quality to its basses as well as loads of real-time controllers for morphing the sound. It has only a two-octave keyboard, but that's fine for bass. If you have money to spend, Clavia's Nord Lead is hugely capable and is used by many leading artists, but it may put a dent in your finances at around £1,000. The other thing about hardware synths, of course, is that you can use them easily on stage.

An increasingly popular option is to get a virtual instrument, whether synth- or sample-based. You'll find that Logic Pro comes with some rather nifty bass presets for the ES series plug-in synths as well as for the EXS24 sampler. Many samples collections and sampled instruments are available in EXS24 format as well.

An attractive alternative is Spectrasonics' Trilogy plug-in (£200). With a large core library of sample-based instruments, it has pretty much every type of synth, acoustic and electric bass you'll ever need. It's also available in AU format, so it'll work with Logic. Check out www.spectrasonics.net for information and audio demos. If you're after loops, visit www.timespace.com and browse through the extensive range of drum'n'bass-themed samples CDs.

Hollin Jones



The Novation K Station produces particularly huge bass sounds.



Spectrasonics' Trilogy has a massive core library of unusual and interesting bass instruments.

gained from recording a mono signal onto two tracks. It will merely be a split mono signal and – although the combined signals might seem slightly louder – you can achieve the same effect by pushing up the volume fader on a single channel. Ultimately, recording in stereo is worthwhile only if there is a difference between the information carried on the left and right channels.

Huw Price

Switching sides

Q I've been recording at home for a while now using a setup which includes a Dell Dimension 5000 series PC with a Pentium 4 3GHz processor and 2GB RAM running Windows XP Professional (SP2). My audio interface is an M-Audio Delta 1010, which, apart from M-Audio's clunky mixer software, has proven to be a great piece of kit for my needs.

I run the I/Os of the Delta 1010 through a Behringer 2442FX-Pro desk and have various other outboard kit, including a Behringer Ultra DI-Pro, a POD XT Pro and Tannoy Reveal 8D monitors (which I bought after reading your review in Issue 27). Until now I've been working quite happily with Cubase SX1.06, and had made up my

mind to upgrade to Cubase SX3 until your review last month of Pro Tools M-Powered!

I'm primarily a guitarist and play and record with a band that's a typical line-up of vocals, guitars and drums. Although there's not a keyboard in sight on stage, I've acquired quite a few VST instruments that I use at home. Over time I've also added quite a few VST effects to my arsenal, which I'm very familiar with and have really come to rely on. Needless to say, most of this stuff doesn't support RTAS. I've heard that FXpansion produces VST-to-RTAS and VST-to-ReWire adaptors, but do they preserve the original VST graphical interfaces, or display something that looks and feels completely different?

On the one hand, I really like the idea that I can take a Pro Tools project into a professional studio for additional editing, mixing and mastering, but I'm really not sure about giving up my VST instruments and effects. Secondly, I've heard that Pro-Tools M-Powered does not support audio channel monitoring. Is Digi planning to fix this in a later release? Is this limitation also the case for MIDI channels? If so, this would be a real limitation for me ▶

With parametric EQ, the Q control can be used to adjust the width of frequencies affected by the gain.



Trading up

Q I use a PC with an Athlon 600, 256MB of RAM and a 20GB hard drive running Logic Education with a Creative Sound Blaster AudioPCI 128D for audio and MIDI. Assuming something like an Audigy external soundcard will be better for the tasks I perform, can you say exactly how it's going to be better for audio and MIDI on the same computer instead of the PCI 128D – and how, exactly, it would connect to the computer? I usually run about 10–15 audio tracks with some automation – not heavy – a couple of VST instruments and about six or so VST effects in Logic. I've noticed that Logic pops a bit on playback. Is this likely to be down to the spec of my computer and would using an external audio card relieve the strain on my PC or would it make no difference?

Pete King Via email

A In terms of the workload of audio tracks and plug-ins that you quote for your usage, I would say that you are doing quite well for a machine of that specification. The pops are quite likely to be a consequence of the performance (especially CPU speed) and hardware compatibility of your system. You could try to improve matters with a few software tweaks, especially increasing audio buffer sizes. Unfortunately, I cannot think of any obvious minor hardware upgrades to recommend.

Even for a machine of the age of yours, the PCI 128D is quite a basic Sound Blaster card. A Sound Blaster Live or Audigy card could be an upgrade worthy of consideration, especially if you use SoundFonts. However, they do have shortcomings, such as fixed sample rates and the lack of low-latency ASIO drivers. A newer Sound Blaster card could theoretically take some of the load off your CPU, but only if you used the built-in DSP for effects and synthesis – and I don't think that's actually what you are after.

I would not elect to use a USB audio device in a machine of this age as there were many compatibility problems with USB interfaces in earlier PC models. Your system does meet the quoted minimum requirements for the E-mu 0404 or the M-Audio Audiophile 2496 PCI card audio interfaces. These will support ASIO drivers and give you much better sound quality (especially the E-mu), but they will not ease the load on your CPU.

In my opinion, you should probably live with what you've got for now and save your money for a comprehensive upgrade of your system sometime in the future.

Phil Rees

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► as I play and record VST instruments using MIDI Thru since I have only a MIDI controller keyboard rather than an outboard synth.

I'm really not sure which way to jump now and I'd appreciate your opinions and advice.

Alan Webber, Surrey

With reference to your question regarding the merits of Cubase SX3 against those of Pro Tools, it is fair to say that each platform is of exceptional quality and to choose between them is primarily down to personal preferences about the individual working environments. Both programs should easily run within the

Stepping up from an older program to a newer one like Pro Tools M-Powered puts lots of new tools at your disposal.



specifications of your workstation. What's more, both programs are just as capable of interfacing with your external kit.

Having worked with Cubase SX1, you will find upgrading to either Pro Tools or SX3 equally rewarding, as both offer new opportunities for developing your working practices. However, you may find the learning curve between SX1 and SX3 to be less demanding, having previous experience of the SX environment.

Being primarily a guitarist in a working band, you should find that either program is capable of providing you with excellent hard-disk recording and mixing facilities; whichever format you choose, both will enable you to transfer data into professional

Pro Tools systems, either directly from Pro Tools or indirectly from SX in the form of an OMF and MIDI file export. Using the latter format would prevent you from transferring any mixer parameters such as effects and channel settings.

With respect to having to give up your VST effects and instruments, you will find that many major plug-in manufacturers are currently providing RTAS support through updates to their software.

Alternative options to VST instruments and effects include – as you have correctly mentioned – the FXpansion VST-to-RTAS and VST-to-ReWire adaptors. Both of these applications should provide excellent integration of VST plug-ins into the Pro Tools environment without any significant alterations to your working practices. However, in Pro Tools you will find that the range of MIDI-editing environments and MIDI effects are not as extensive as in SX3.

To summarise the answers to your question and suggest a course of action, you will find that although the programs are comparable, there are issues that set them apart. Generally, SX3 will provide you with a greater range of functions without the need to upgrade third-party applications (and this is reflected in the price difference between the two programs). To upgrade

THE EXPERTS

This month's expertise courtesy of:

- Lecturer Hollin Jones ■ Jigsaw Systems' Rob Holsman ■ Confetti School of Recording Technology's Rob Baldock and Paul Wallis ■ Phil Rees of Philip Rees Modern Music Technology ■ Producer and engineer Huw Price

GOT A QUESTION?

- Have you got a question that you'd like the Music Tech Magazine Q&A team of experts to solve for you? Then send an email to: editorial@anthem-publishing.com with Q&A in the subject line, or write to: Music Tech Magazine Q&A, Unit 1, The Old Brushworks, 56 Pickwick Road, Corsham, Wiltshire.
- Please include your full name, postal address and a contact telephone number, even if sending your question via email.

to SX3 from SX1 should cost you no more than £100 through Arbiter Music Technology. Pro Tools M-Powered will cost you £239 from M-Audio, plus additional costs for the FXpansion adaptors (£55 each).

Unfortunately, there is no demo download of SX3, but there is a limited-function (save- and export-disabled) demo of Pro Tools M-Powered available from the Digidesign website. It is important to note that if you wish to try this software, the demo version will work only with specified M-Audio hardware and cannot be used otherwise.

Paul Wallis

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