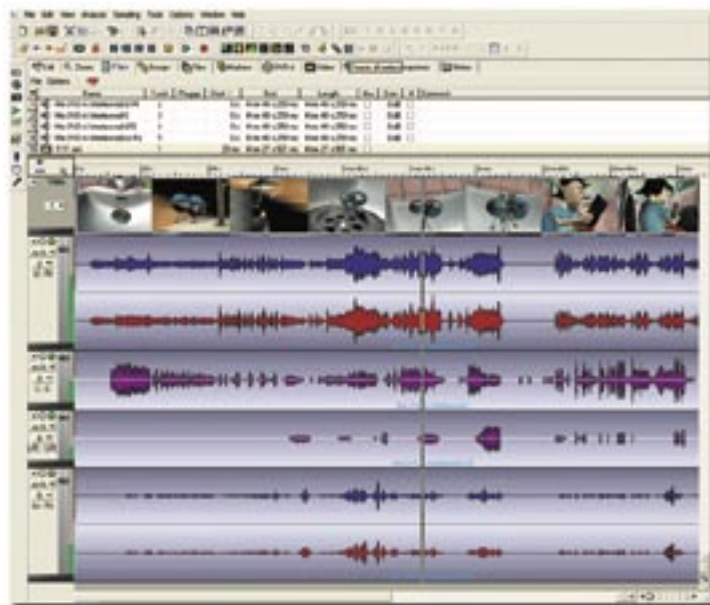


Steinberg WaveLab 5

WaveLab goes multichannel surround with DVD-Audio mastering and authoring facilities. Adam McElnea is there to experience the new soundstage.

Since its inception in 1996 WaveLab has had a distinguished career in the field of PC-based digital audio editing and mastering. It's been well supported by Steinberg and has enjoyed continual development, allowing WaveLab to keep pace with the increased demands on it in the studio.

WaveLab 4 gave v3 an Armani makeover with a new-look interface, increased file support, data and audio CD burning, analysis tools, and included professional plug-ins (check out AT Issue 22 for the full review).



WaveLab 5's main screen user interface.

What WaveLab 4 didn't address when it was released was multichannel mastering and authoring, but with v5 that's all changed. In fact, WaveLab 5 is arguably the only current application that *affordably* combines all aspects of high-resolution stereo and multichannel

The structure of a DVD-Audio project & its contents

A single sided DVD-Audio disc can contain one album

An album can contain up to nine groups (basically a group corresponds to a Montage)

Each group can contain up to 99 tracks

A given track may be referenced by more than one group

A DVD-Audio project can contain: audio content, optional value-added content such as real-time text and still pictures, a DVD-Rom sector for any type of data files and optional DVD-V (video) content for producing video 'hybrid' discs

audio editing and mastering as well as DVD-Audio authoring/burning – until now you would be up for big bikkies for this type of functionality.

Installation & Surrounding Montage

Installing the new version of WaveLab was a breeze and the Overview section of the 700-plus-page manual was a useful resource. In no time I was inspecting the 'new look' GUI. Actually, I was pleasantly surprised to discover that version 5's GUI is practically the same as Version 4. No complaints on this front – I don't know anyone who likes to re-learn a revised program's user interface and menu system. In fact, all of Version 5's new features seem to have been seamlessly integrated into the already familiar graphical interface. Let's look a little closer...

The changes may not have occurred in the GUI but they certainly have in the Montage section. Essentially the Audio Montage acts as a multichannel (unlimited tracks) non-destructive editing workspace with a comprehensive Label editor and CD-burning facilities.

WaveLab 5 dramatically expands this section to now include full support of multichannel surround data from input to output (provided you have an ASIO-supported multichannel audio interface). Eight channels can be recorded simultaneously, with support for up to six outputs in surround mode or up to eight separate channel outputs. (One peculiarity: WaveLab only permits the output of six channels [5.1] for multichannel work, but allows for the internal manipulation of a complete seven-channel [6.1 centre-rear] surround setup.)

Within Montage is a Channel Configuration menu, which operates in two modes for multichannel work: Surround Configuration and an 8-Channel Configuration. The 8-Channel mode (nothing to do with 7.1) utilises mono or stereo tracks; while the surround setups support both mono and stereo tracks set up in a standard 5.1 configuration: Left/Right Front (Lf, Rf), Centre (C), Left/Right Surround (Ls, Rs) and Low Frequency Effects (LFE).

It should be noted that WaveLab 5 doesn't currently support mixed sample resolutions within the same surround channel configuration. This is at odds with the DVD-Audio specification, which *does* accommodate mixed sample rates – you could have Lf/Rf (stereo) channels operating at much higher sample rates than the surrounds, for example. I suspect this anomaly will

be looked at in the near future as the 'non activated' menu facility is already present in this version to accommodate mixed sample rates.

For those looking for further direction in sound placement, Version 5 also incorporates comprehensive surround panning for adding that extra imaging excitement. This of course can be automated using surround pan envelopes.

A user-definable surround-to-stereo down-mixing option is also available for testing and creating a 'smart' stereo translation of the surround mix – a nifty and powerful feature, as stereo compatibility is an important issue when creating a DVD-Audio.

Further enhancements of the Montage section include support for DVD-A pictures and real-time text tracks, as well as support for video data for editing audio in sync with video. It should be noted that DirectX 9 must be installed to be able to use video tracks. Rudimentary editing is available to the above options based on simple time-line parameters.

As with Version 4, the Audio Montage environment is the place to prepare DVD-Audio and CDs for burning. You have everything you need to set up track IDs, gaps/pauses, crossfades, hidden tracks and Audio Title Sets (ATS) within the DVD-A view list. Manipulation of these parameters is intuitive and auditioning alternate track orders is a simple drag-and-drop affair.

The next step is burning, but unlike CDs, DVD-Audios cannot be burned directly from the Montage. Instead, once your DVD-Audio preparations within the Montage are complete, you then elect to create a DVD-Audio project. At this stage you can specify final authoring parameters such as volume ID codes, multi-sided DVD options, album names, auto play facilities, picture video standard protocols and optional editable DVD 'visual menus'. However, before you can burn a DVD you are required to render all contents of the DVD-Audio project to an AUDIO_TS folder (look out hard drive, you're in for a pounding!). Once rendered, a new Data CD/DVD window opens up containing an AUDIO_TS folder (with all the audio, visual menu content, still pictures, text data etc) and a (empty) VIDEO_TS folder. Optional data created by third-party DVD-V authoring applications can be added to the VIDEO_TS folder. The entire project is now ready to burn. With a click of the Write dialogue button, a simple adjustment of some further settings and it's as good as cooked!

(A couple of pointers: hard disk real estate gets eaten up when using high-resolution audio, so consider your storage capacities. Also, please make sure you've got something else to keep you amused when you're awaiting the finalisation of a DVD disc as it can take up to 15 minutes just to *close* the DVD.)

Given a Plug

WaveLab 5 now has an expanded Master section that supports surround plug-ins. The actual Master Level

WaveLab 5: a selection of key additional features

- Support for 8-, 16-, 20-, 24-, 32-bit files with up to 192k resolution
- Support for WAV, AIFF, AU, Ensoniq Paris 24-bit, Sound Designer II, Ulaw, MP3, MP2, WMA, AVI Audio, Sun/Java etc
- Programmable screen layouts
- Various loop and crossfade tools

Audio-Montage Features

- Clips can be processed with up to 10 virtual effects
- Track-based effects with up to 10 virtual effects
- Any number of clips can be placed on any number of different tracks
- Superimposing two clips automatically generates a crossfade in real time
- Intelligent overlapping and positioning of clips to avoid phase cancellation
- Volume and panning can be automated for each clip

Off-Line Effects & Functions

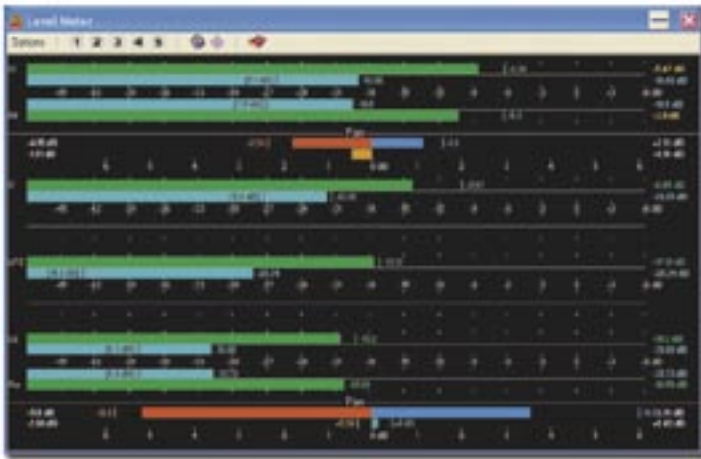
- Time Stretching, Pitch Shifting, Pitch Bend
- Automatic pitch recognition and pitch adjustment
- Harmonisation, Chorus
- Compressor, Limiter, Gate
- Normaliser, Meta Normaliser, DC Remover
- 3D FFT
- WMA Pro export (incl. 5.1 and 7.1 surround)
- Compatible with XSend/XReceive for audio file exchange with video apps
- Drag & Drop file support

DVD Audio Authoring

- Full DVD Audio support including high resolution stereo and surround formats (all channel modes defined in the DVD Audio specification are supported)
- 16-bit and 24-bit resolution with up to 192k sampling rate. WaveLab can create DVD-A disks up to 'stereo, 24 bit/192k' and '5.1, 24-bit/48k', and '5.1, 16-bit/96k'
- High resolution surround support with up to 24-bit and 48k for all six channels (24-bit/96k 6-channel surround requires MLP encoding – currently not supported by WaveLab 5)
- Instant non-destructive and reversible transformation from CD project to DVD-A project
- Support for DVD real-time text and static text, still images, slideshows, and graphic menus
- Support for gapless playback, audio-in-pause, hidden 'bonus' tracks
- DVD Audio grabber (for unprotected DVD-A only)
- Support of DVD-R/RW, DVD+R/RW and DVD-RAM drives
- Ability to import and burn DVD Video content
- Support for additional data content
- Supports up to 9 Groups with up to 99 tracks each
- Track sub-index support
- User-defined down-mix coefficients from surround to stereo with direct audio preview

pane itself now displays multiple output metering whenever the six-channel (5.1) configuration is selected.

Version 5 comes bundled with high quality plug-ins such as multi-band compressors, EQs, enhancers, limiters, gates, delays, phasers, dither tools etc. However, there is a caveat: many of these plug-ins are not compatible with multichannel operation. The currently bundled multichannel effects are: Peak Master, Puncher, Leveler Multi, Noise Gate, EQ-1



WaveLab 5's comprehensive multichannel Level Meter display window.

and Silence. Although these plugs can be applied to a multichannel session, they don't allow for individual channel tweaking, which is somewhat disappointing. Also disappointing is the fact that the only dither you can apply to a multichannel Montage is via Steinberg's 'Intern' algorithm – the onboard (and superior) Apogee UV22HR isn't compatible. That's the bad news. The good news is that WaveLab 5 now incorporates multichannel metering tools such as FFT, level and spectrum analysis providing end-users with a detailed view of their multichannel audio.

For true surround mastering and manipulation I would advise checking out the *optional* eight-channel Steinberg Surround Edition plug-in suite encompassing up to eight channels of professional compression, equalisation, loudness maximisation, reverberation, and LFE management.

In the Lab – Let's Burn

I found WaveLab 5 a breeze to work with. The program is intuitive and the familiar interface is a major advantage. And Steinberg has really smoothed the process of preparing DVD-Audio projects within the Montage. In fact, it felt like I was working within a familiar CD environment with a few extra preferences to consider. Although I did not actually utilise any video data, I did experiment with a slideshow image compilation with sound, and a text enhanced DVD-Audio project. All went off without a hitch, and I was amazed at how simple the entire process was. Anybody already familiar with the Audio Montage will feel completely at home with the new Montage 'surroundings' (sorry, had to get that pun in). Other standout aspects of v5 include the surround-to-stereo down-mixing, the automated surround panning, the drag-and-drop simplicity and the funky CD/DVD labelling software that lets you edit and print your own professional looking CD/DVD covers etc. Oh, did I forget to mention the sound? Yes, the sound: open, detailed, musical, *expensive!*

Hi 5?

Once again Steinberg has come up with the goods – v5 is stable, functional, quick on its feet, sonically hard to fault and well priced.

However, all of this doesn't necessarily come about without a few minor reservations. I would have liked true high resolution surround support (six channels at 24-bit/96k), however this requires MLP (Meridian Lossless Packaging), which is not currently supported within the program. The fixed sample rates within a single surround configuration is a little restrictive. Additionally, thanks must go to Steinberg for the juicy looking optional suite of surround plugs on offer, but how about throwing in a bunch of semi-professional, (true) surround plug-ins just to get us up and running in the world of 5.1 surround DVD-Audio?

Finally, the biggest question is: why upgrade to v5 if you don't need the multichannel features? It's a good question. Sure there are a number of other updates and tweaks in v5 (see the Additional Features box) but the draw card is the DVD-A authoring. And, like just about every other mastering engineer in Australia/NZ I don't make my money out of surround sound formats – it's all stereo. But also like just about every other mastering engineer worth his/her salt I have an eye for the future. You have to be ready for what's around the corner, and what's around the corner is more than likely to be DVD-Audio.

In short, I think Steinberg has backed the right horse here. Maybe v6 will include DSD/Super Audio CD, AC-3 (Dolby Digital encoding) and DTS support. We may well see 7.1 surround configurations for DVD-V authoring in the future as well. In the meantime far more expensive systems – such as Sequoia, SADiE, Samplitude and the like – still have their place, and rightfully so.

So even if surround sound isn't on your radar, upgrading to v5 offers you an incredibly cost-effective way of preparing yourself for the future. You're not going to find another package that integrates video functions, offers multichannel surround editing/mastering support and allows you to produce fully authored DVD-Audio discs at this price.



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 \$1,299 (upgrade from WaveLab Essential to Wave Lab 5.0)