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Emagic WaveBurner Pro

VST-compatible CD mastering and burning software with built-in DSP

By Francis Preve

KEYBOARD

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WaveBurner Pro incorporates all of the track arranging and CD burning functionality of the aforementioned apps, then ups the ante by including a host of professional-quality editing tools, graphically assignable track and index markers, and full compatibility with VST plug-ins. As if that weren't enough, Emagic has wrapped all of this flexibility in a surprisingly intuitive user interface. If you're comfortable with the look and feel of modern audio sequencing tools, you'll be right at home with WB Pro.

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Cubase forego SCSI entirely, this is a surprising – and for many, crippling – oversight. Fortunately, the folks at Emagic are currently working on FireWire support. I'm told it will be available in a soon-to-be released upgrade. USB support will take a little longer, but may be available by the end of the year.

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Getting around the user interface is generally a breeze. The Wave View window (see Figure 1) displays all regions and tracks graphically, so it's easy to see exactly where you are at all times. Levels and fade-ins/outs are always visible and editable via a variety of methods. Transport controls are integrated into the Wave View window, and the level meters have their own window too, so you can preview nearly every aspect of the finished product in real time as you work, just as if you were working in an audio editor.



Figure 1. The Wave View window displays all regions and tracks graphically.

Other windows include a List window (for arranging the order of tracks and regions) and a plug-in window that shows the active processors for a given region in serial order. One minor niggle is that the plug-in window is always on top of the other windows when it's active, forcing you to move it around (or reduce the size of the Wave View window) as you work. Windowing issues aside, WB Pro still has the edge over its competition in ease-of-use.

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After you've trimmed each region and assigned track numbers accordingly, you can add fade-ins/outs and adjust the level of each track individually. This is accomplished by grabbing and dragging points on each track's envelope, which is a straightforward attack-sustain-release affair. Adding crossfades is a piece of cake too: Just grab a track and slide it forward or backward in relationship to the other tracks, and WB Pro adjusts the relevant attack-release parameters to accommodate the crossfade, which can be linear or based on a curve. Each track can have its own curve shape, but this must be applied to both the fade-in and fade-out of the track. Not a big deal, but worth noting.

Track/sub-index markers can be added and removed with equal ease by selecting the appropriate marker tool and clicking wherever appropriate. Each marker's position can be moved after placement for fine-tuning purposes. If you're creating sound effects or loop libraries, these functions alone could be worth the price of admission.

Once you've organized your CD, you can preview the transitions between tracks by activating the Preview Disc function, which plays a small segment from the beginning and end of each track sequentially, allowing you to immediately assess the feel of each segue. Having done this by hand countless times, I found it a total joy to sit back and concentrate on the sound of the project I was working on rather than fiddling with the UI during the preview process. It's little touches like this that really put WB Pro ahead of the pack.

Processing

Each region can be normalized within WB Pro at any time during the mastering process, though it's best to apply normalization as you import audio into the app. After that the real fun begins, as Emagic has thoughtfully included a comprehensive array of mastering plug-ins. Each region can have its own processing, allowing for excruciatingly detailed fine-tuning of all audio aspects of a CD. Since you can assign multiple plug-ins serially to each segment, creating complex signal chains like denoising -> compression -> EQ -> limiting is almost effortless. According to Emagic,

all of the internal processing is done with 32-bit resolution; WB Pro's output is dithered to 16-bit only when the CD is actually burned.

The plug-in window allows access to each region's plug-in path in several ways, and simply selecting a region automatically displays the processors assigned to that segment. Each set of processors and their serial order can then be copied to another region or to the entire CD mix, or saved for future use. Wow.

Here's an overview of what's available:

Compressor. The included compressor is sweet. All the basics are covered, with added niceties such as continuously variable hard/soft knee adjustment, peak and RMS modes, and a handy gain recover option. In my experiments, I was pleasantly surprised at its transparency and general lack of coloration.

Multiband EQ. With five bands of fully parametric shelving/peaking/filtering tools, this EQ delivers all the essentials for cleaning up a finished mix. While I noticed a few subtle coloration artifacts, these tended to emphasize warmth rather than being excessively harsh or digital-sounding. Overall, the Fat EQ does the trick for all but the most intricate EQ tasks.

Multipressor. Multiband compression is the real secret to slick mastering results, and WP Pro's Multipressor is a terrific implementation of this technology, as it also includes downward expansion – a godsend for noise reduction techniques. Up to four bands of compression/expansion are available. The overall sound of this processor is remarkably clean. Tweaking the individual bands' dynamics settings is a breeze, as each frequency range is color-coded in the UI for easy reference. Also included is a super-useful "look-ahead" function that analyzes the signal before it reaches the Multipressor's input. Very, very cool. The only caveat is that this plug-in is fairly processor-intensive, so if you're running WB Pro on an older Mac, you may need to render the track and reimport it.

Denoiser. I have yet to hear a completely transparent denoising tool, and the one in WB Pro is no exception. The Fast Fourier Transform algorithm in this denoiser definitely adds a few artifacts to the signal, not unlike certain mp3 encoding algorithms. That said, if you're mastering crusty old analog tape tracks, the denoising artifacts might well be preferable to hearing your audio swimming in a sea of white noise. When used judiciously in combination with the EQ or Multipressor, the denoiser gave me results that were often an improvement over the original track.

StereoSpread. Using the time-honored method of splitting the midrange into a number of frequency bands and assigning them alternately to the left and right channels, this stereo image expander succeeds beautifully at widening the stereo field without damaging the transient response or mono compatibility of a track. User-adjustable parameters include the number of frequency bands, the effect intensity for upper and lower bands, and the upper limit of the highest frequency range to be affected. While sensibly mixed tracks usually won't require additional stereo processing, legacy mono recordings are perfect candidates for this type of mastering voodoo.

Limiter. While WB Pro's other dynamics tools are quite clean and flexible, the limiter sounded a trifle "hard" to my ears. Some may argue that this is the essential sound of limiting tools, but after experiencing the transparency of other products, notably Waves' outstanding +L1 Ultramaximizer, I feel the WB Pro limiter is a bit generic. The basic parameters are accounted for: gain, look-ahead, release rate, soft knee mode, and output level. Soft knee mode definitely improved the transparency, which made all the difference when I applied this limiter to the entire CD's contents as brick-wall protection against clipping. Discerning users may want to rely on the

other included dynamics processors or third-party plug-ins.

VST plug-ins. In addition to the above processors, Emagic wisely included full VST support for WB Pro. So if you have a favorite mastering effect that's not already present, simply drop a copy into WB Pro's plug-ins folder and you're on your way. This is a huge plus if you're a plug-in fanatic like me. I tried a wide variety of third-party plug-ins (including popular tools from Steinberg and Waves) and encountered no difficulties whatever. That said, the world of plug-ins is vast, and some apps may not be compatible. If you're in doubt, check with Emagic (or your plug-in manufacturer) for compatibility details.

Applying lots of processing to your tracks can sometimes lead to an overall gain increase. This is where Emagic's level meter plug-in comes in. It's basically a reiteration of WB Pro's master meters that can be applied to each region individually before they hit any global mix processors you may have in your plug-in chain. Strangely, checking for clipping is a manual process. You have to play your entire CD in real time, or burn a disc image, which isn't much quicker, to determine if there are any signal spikes that could potentially destroy a finished master. In light of WB Pro's attention to elegant UI design, I was surprised that, other than actually creating a disc image (which requires a big chunk of drive space, though only temporarily), there wasn't an automated process for double-checking the data before burning.

CD Burning

Once you've organized, edited, enveloped, segued, and processed your tracks, you're ready to burn a finished master. WB Pro offers a comprehensive array of Red Book compliant burning options. You can include UPC/EAN codes that contain product information for commercial vendors, CD Text data (album name, performer, additional credits) for CD players that recognize this information, copy protection codes, ISRC numbers, pre-emphasis, even frame offsets to compensate for performance discrepancies in vintage CD players.

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Mastering discs that make extensive use of audio plug-ins can sometimes tax older processors to the point where buffer underruns occur, yielding CD-shaped drink coasters instead of exquisite audio masterpieces. Emagic has taken slower systems into consideration by including both "Save as Disc Image" and "Bounce to Disc" functions, which create a data image of the finished product on your hard drive (provided you have sufficient space available). You can then use WB Pro to burn the image directly to CD without errors. Nice touch.

Conclusions

WaveBurner Pro is just what the doctor ordered if you're a Mac user looking to create finished CDs in a home or professional studio. Its editing features are excellent, and being able to add plug-ins to individual audio regions will allow you to clean up many a problem spot. I'm glad Emagic is working on FireWire and USB drivers for WB Pro, as this software delivers professional quality mastering tools at a remarkable price.

Multimedia technologist Francis Preve has remixed Orbital, Utah Saints, Salt-n-Pepa, cut.rate.box and Beborn Beton. Get the facts at www.fap7.com.

For information on purchasing this product, please visit:

audioMidi.com

sweetwater.com

Emagic WaveBurner Pro *(continued)*

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