



Review: Microboards CX-1 Disc Publisher

By Jan Ozer - Posted Oct 26, 2007

Microboards' CX-1 Disc Publisher costs about \$2,100, with a 100-disc capacity and industrial-strength look and feel. It's the fastest automated printer/recorder I've worked with, and in testing, it produced the highest print quality I've seen. There are some negatives, however, including the lack of a Mac version, and a disc-input hopper that isn't for the squeamish, so don't take your credit card out yet. That said, I wouldn't be surprised if you decide to do so after reading the review.

Software and OS Support

Microboards controls the printer with Prassi Zulu2 mastering software and includes the SureThing label design program for disc label creation. The version I reviewed included support for only Windows 2000 and XP, but Microboards promises Vista compatibility by the end of 2007. The unit does not support the Mac and probably never will, and it doesn't offer shared use over a network.

Hardware

The recorder in the CX-1 is the Sony Optiarc 5170, which was announced in August 2006 as the first drive produced by Optiarc, the merger of Sony and NEC's optical storage departments. Read/write specs are impressive, with 18X recording speed for DVD±R, and 8X for DVD±R DL. CD-R recording speed peaks at 48X.

To get a feel for the field reliability of this drive, I scanned some of the user boards, which revealed early read/write problems that have been resolved by recent firmware revisions. You can Google "Sony Optiarc" and "5170" and you'll see the threads that I'm referring to, most notably [here](#). In checking the Optiarc website, I saw that drivers were up to revision 1.13, and the support site was current up to Oct. 1, 2007, or 2 weeks before I started testing. The 5170 looks like a high-performance drive with a good track record and very good support from the vendor. Certainly our tests bore out the performance claims.

Microboards uses an HP inkjet print engine that is identical to those used in the HP Officejet 5600 All-in-One printer. According to the HP specs, the 5600 can print up to 4800x1200 resolution, and it has a monthly duty cycle of up to 1500 pages per month. HP's ink cartridges are much cheaper than Microboards, however; the HP color and black cartridges are priced at about \$17.98 direct from HP, compared to about \$50 for the CX-1's V102C color cartridge and about \$40 for the V101B.

Unfortunately, you can't use the HP cartridges on the CX-1, as Microboards optimizes the cartridges to "ensure that the more specific tolerances of disc publishing are met." Microboards warns against using remanufactured or refilled Microboards cartridges as well, citing an increased risk of exploding or overspraying that could essentially destroy the integrated robotics and recorder.

Microboards claims that a color cartridge will yield about 225 prints with 100% coverage, for a cost per disc of around 22 cents. I burned about 140 full-coverage discs during my testing and used about 68% of my first color cartridge, which computes to about 200 discs per cartridge at about 25 cents per disc, which is certainly in the ballpark. Black cartridges should print about 1,000 discs, which is probably near the Sharpie range in terms of cost (4 cents per disc).

My full color discs printed in about 107 seconds at full print quality, a bit faster than the rated 115 seconds. As you'll see, however, since the CX-1 can record and print at the same time (with recording generally taking much longer), print speed is irrelevant for most projects.

These preliminaries aside, let's meet the hardware.

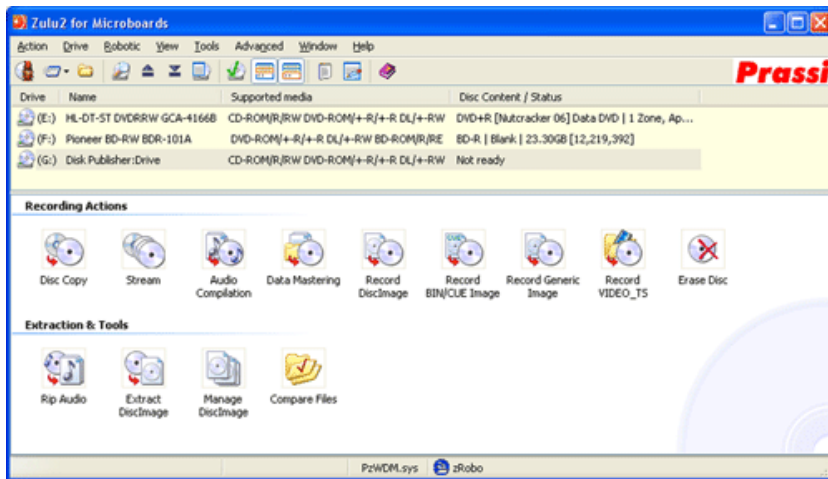
Setup

The CX-1 had a solid, industrial-strength feel, though it felt lighter than its rated 42 pounds. Assembling the unit took fewer than 5 minutes—you screw three input posts into the back and screw the output bin on the front. Attach the power cord and USB cable, and you're ready to go. At 24" wide and 24" long, the unit is bulkier than most of its competitors, and the output bin hangs off the front, so you'll need to install the unit on a table or other surface where you won't inadvertently bump into the bin. I installed it under my standing desk, atop two HP computers of equal height, with the output bin sitting off to one side. Certainly not elegant, but effective.

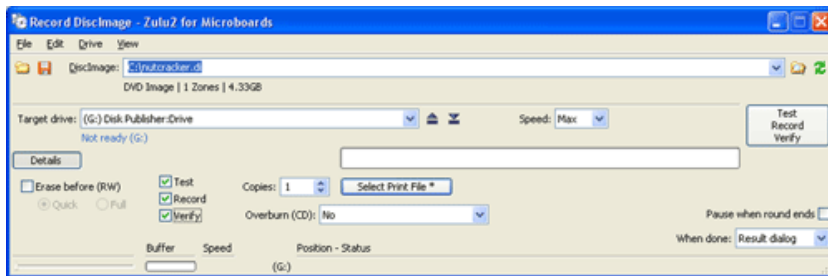
The input bin is on the back of the unit; it's pretty much out of the way, but the blanks are uncovered, which can mar printing if dust and other detritus fall on the blanks. The CX-1 can hold up to 100 blanks, but the input bin is pretty funky and takes some getting used to. Specifically, you insert the first five or six discs flat into the input bin, then stack the rest at an angle against one of the input rods. Since the bottom feeder hole in the input bin is only slightly smaller than the discs, it felt like the blanks might drop through to the conveyor belt, which actually happened a time or two, though I just reached in and pulled them out.

Ultimately, I stopped grabbing the blanks by the sides and used the center hole in the disc to delicately drop them into place, which worked well. Note that you'll need to repeat this operation only if you run out of discs, since during operation, the discs stacked at an angle fall naturally into place. Overall, while not as sexy as those robotic arms you see on other units, this loading schema worked well during testing, with no jams or dropped blanks.

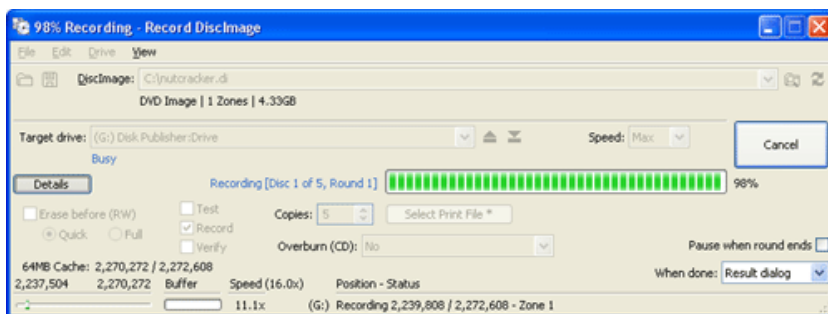
Duplication Software



The Prassi software is spare, but generally usable and easy to learn. When you run the software, you'll see the main screen shown **above**, with icons for all disc operations. The software provides all typical operations, including disc copying, audio compilation, data mastering, recording a disc image (.DI) and generic image files (.ISO, .IMA, .BIN, .UDI, and .UDF), as well as recording Video_TS folders and erasing disc.



Once you select a job type, you choose record options in a second screen (above), with typical Test/Record/Verify options. You specify the label to print by selecting a Surething project file.



During recording, Prassi displays a status menu that shows recording speed, cache size, and recording position (**above**). You can save each job as a .PTH file, making it easy to perform repetitive tasks. You can also set up multiple projects in a batch, though Prassi could make this function easier to understand and use. Specifically, to set up multiple projects, you set the When Done list box from "Result dialog" to "Do nothing," which ensures that projects sequence correctly.



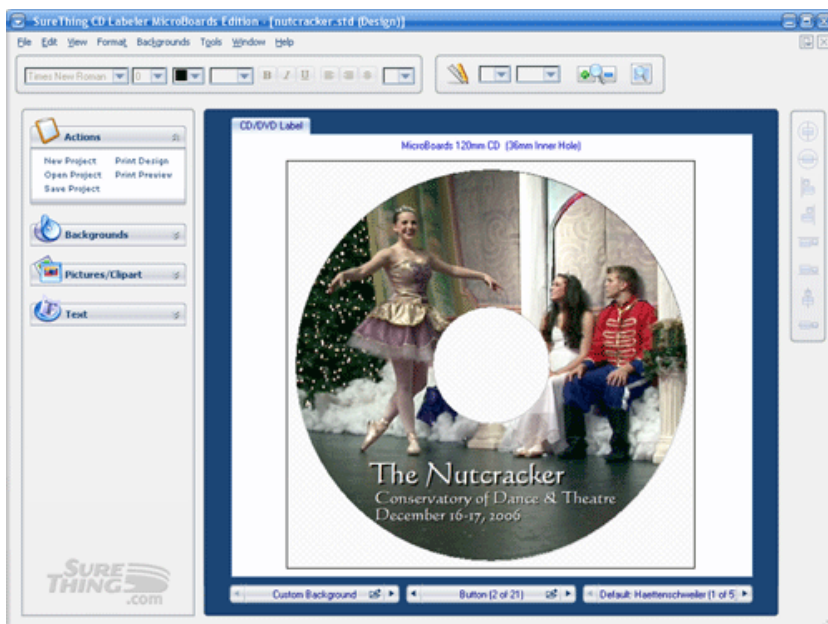
You can also use stream mode, where you insert your master, followed by the desired number of blanks, and then another master up to a total of eight masters (and, of course, 100 total discs). You can also specify a print image for each master (**above**). The software will identify each master, create a disc image, record and print all blanks following the master, then start anew when a new master appears. I tried this with four masters printing five discs apiece and it worked perfectly.

Performance

Operation is very efficient, with the CX-1 feeding a disc into the recorder while the previous unit is printing. This means printing adds only a few seconds to the overall process, which makes a difference with high-quantity print runs. At the start of the burn, while writing to the inside of the blank, the burn rate started at about 6.5X, but it quickly jumped to 8X at about 25% of completion, peaking at 11.1X at the outer edge. This is the fastest printing performance I've seen on any automated unit, or stand-alone DVD drive for that matter. For the record, I tested recording speed on both Verbatim and Ridata inkjet-printable media with similar results.

As a result, the CX-1 produced and printed ten 4.4GB discs from a disc image in 74 minutes, compared to an 84-minute burn-only time for the XLNT Idea Nexis 100 AP CD/DVD Publisher that I tested recently. On a 100-disc project, this means finishing more than an hour earlier, which is definitely a deadline-saver in tight situations.

Printing



SureThing is a proven disc-labeling package with lots of great options, including high-quality canned backgrounds that help you look creative even when you're uninspired. If you go this route, you'll find the design interface extraordinary, with the simple ability to toggle through backgrounds, text layouts, and fonts until you find an engaging and unique look (**above**). The program also includes a number of standard icons like DVD Video, Compact Disc Audio, and the like that come in very handy.

I produced two labels to test print quality ranging from best to worst case. In the best-case scenario, I created an original label in Surething using an exported HDV frame (1920x1080) from Premiere Pro. The worst case was a TIFF screen capture from a label I previously created in Epson's CD/DVD print utility. This file had a total resolution of 861x783, which is pretty skimpy for a disc that's 120mm across and printed at 4800dpi.

In both cases, however, print quality was the best that I've ever seen from an autoprinter, equal to or better than my trusty Epson Stylus Photo R380. The detail was crisp and very clear, even with the low-resolution source, which included lots of lines and text. The color was stunningly clear and matched the source frame exceptionally well.

Overall Operation

I used the unit over a 3-week period to produce about 140 discs in runs as long as 20. Overall, the unit proved very stable; though there were some coasters, they were handled effectively and the recording process pressed on. I did crash once or twice, but in fairness to Microboards I was poking around the software at the time. Any pro will tell you that bad things can happen when you touch a machine during the recording process.

Plus, when I did crash, I got a good chuckle from the message on the Windows XP crash screen, which told me "The definitive tool for CD and DVD Mastering has encountered a problem and needs to close." I'm all for marketing, but this probably wasn't the best place for a catch phrase.

This admittedly cheap shot aside, if you buy the CX-1, you'll probably wish that Microboards charged less for their consumables and figured out an easier way to insert blanks into the feeder, but you'll be more than happy with print quality and ecstatic with performance. Microboards has been shipping this software combination with its automated print and burn units forever, so it's mature and proven. The only real negatives are the lack of Macintosh compatibility and shared network usage.

Jan Ozer is a contributing editor to EventDV and Streaming Media.