PRODUCT EVALUATION

Sony Throws D1 Into Flash Recorder Ring

by Frank Beacham

In the sea of Flash memory-based audio recorders now on the market, all come with some flaws. But now, like a shooting star, Sony has entered the fray with a compelling new pro field recorder that defies conventional expectations and seems destined to be a classic.

Once you get past the "wow factor," the portable Sony PCM-D1 is an awesome bit of audio engineering that demonstrates once again that Japan's sleeping giant — in recent years — still has the ability to produce products that break the rules of commodity thinking.

While some of today's portable Flash recorders are cheaply made, come with buggy software, omit essential features or are too complex for the layperson to easily operate, the Sony PCM-D1 hits a home run by combining high-end quality and a well-designed, compact package. This may be the easiest pro audio recorder I have used.

WAV files in seven flavors

At a list price of $2,000, this recording machine might scare away some radio users. For those who want a flexible, rugged tool for no-compromise field audio recording, the D1 will be seen as an investment in quality.

Housed in a 1 mm thick titanium case, a Macintosh or Windows personal computer. The D1 mounts as a hard drive, allowing drag and drop of the WAV files for editing or burning CDs. Special conversion software is not necessary.

Imagine 3-D sound

My evaluation unit arrived the day before fans from around the world gathered at Strawberry Fields in New York City's Central Park to remember the 25th anniversary of the death of John Lennon.

sation and reducing the background clatter. Not only did I appreciate the sound quality I was getting, but I began to appreciate the lack of cables, battery holders, preamps and other clutter that such restaurant interviews had previously involved.

Over the next few days, I recorded a range of material, from open room conversations to live acoustic music, both piano and guitar. In each case, the results were nice. A couple of friends, prominent professional musicians, were taken with the D1 and saw it as a powerful tool for recording their own performances at home.

Suggestion box

There's a lot to like about the PCM-D1, but it's not perfect. The device's I/Os use consumer-type 3.5 mm stereo mini

Product Capsule:
Sony PCM-D1
Portable Audio Recorder

Thumbs Up

- ✓ Extraordinary field recording quality
- ✓ User-friendly operating interface
- ✓ Excellent built-in stereo microphone
- ✓ Solid, intuitive software with no obvious bugs
- ✓ First-rate VU meters, LCD interface and user control knobs
- ✓ Built like a (titanium) tank

Thumbs Down

- ✓ Lack of pro audio connectors
- ✓ Clumsy rechargeable battery system
- ✓ Stereo microphone not detachable
- ✓ Needs more protective windscreen

PRICE: $1,999.95

CONTACT: *Sony at (800) 686-SONY (7669) or visit www.sony.com/professional.*

party could build a one-piece battery cartridge that would pop in and out of the D1 in lieu of the AA battery tray. Hopefully, the machine will become popular enough to create a market for such a battery.

The thin foam windscreen that snaps over the built-in microphones is not protective enough for a stiff outdoor breeze, much less real wind. One of those furry professional wind protectors from a company like Rycote is much needed.

Finally, I wish Sony had created a way to separate the microphone module from the recorder. Then the mic array could be used on stage to record a live musical performance while allowing an off-stage operator to have control of the

the D1 — weighing little more than one pound and operating on four rechargeable AA batteries — uses low-noise components. Its integrated stereo X-Y microphone configuration is nice, with Sony claiming the D1's condenser pair has a nearly 30 kHz frequency response and results in a sensitivity of nearly 6 dB superior to that of a standard outboard stereo microphone.

Unlike many Flash recorders that produce a garden variety of file formats, the D1 produces only uncompressed native WAV files in seven possible flavors. The most popular for radio will be 44.1 kHz/16-bit, while those wanting the highest quality will choose 96 kHz/24-bit.

The other main preset choices are for the built-in digital limiter, which is 20 dB lower than audio processed in the normal circuit and protects against clipping; and a 200 Hz high pass filter to knock out noise from sources such as air conditioning. Also included is Super Bit Mapping circuitry for enhanced 16-bit recording.

Once these initial choices are set, they remain in memory until you change them. There are no profiles or other combinations of options to remember. From this point on, just press Record/Pause, set your levels on twin analog VU meters with LED peak indicators and then hit Pause.

While recording, the meters and backlit LCD display offer status information. The fat, concentric control knobs allow easy adjustment of levels while recording. Live monitoring is available via a headphone jack.

Once a recording is made, it is stored in the 4 GB of internal Flash memory upon hitting Stop. To access the recording off the D1, plug its USB 2.0 port into

Beacham appreciates the PCM-D1's ability to discern between conversation and background noise when recording.

The marathon of live singing provided an ideal opportunity to test the D1's live recording capabilities.

I waded through a sea of humanity to get near the performers singing at the edge of the "Imagine" mosaic that commemorates Lennon's life. This was a moment where simplicity was key. Having engaged the limiter, as levels would be hard to monitor, I got a quick initial level, hit Record and held the D1 as close as I could get to the performers and the sing-along crowd.

Though I had no idea what I was getting while recording, the results were great. Because there are no moving parts, the recorder produces no self-noise. The stereo imaging offered almost a three-dimensional quality to the sound. The windscreen accessory worked well in the light breeze, though more substantial protection would clearly be needed on a windy day.

From Strawberry Fields I moved to a noisy diner to record an interview for possible use on a podcast. The D1 has a screw-mount at the bottom that allows attachment to a camera tripod. So I mounted it on a mini-pod to elevate it a few inches above the tabletop. Again, I set levels of the two of us and placed the D1 slightly off to the side. With all the background noise of plates and glasses, I had little expectation of success.

Again, when I returned home and dragged the files to the desktop of my Macintosh for listening, I was pleasantly surprised. The built-in mics had a way of picking up and highlighting the conversation and background noise when recording.

connectors. There are no XLR connectors for mic or line level in or out. Over time, I suspect some enterprising third party will offer a mod for this, but it was a big oversight by Sony not to include some kind of professional connectors with a recorder of this quality.

Sony also needs to create a more convenient rechargeable battery system for the D1. After the four included AA nickel metal hydride batteries are exhausted after about five hours of use, they must be removed from the unit's slide-in battery tray cell by cell and then inserted into an outboard AC charger. Once charged, they must again — cell by cell — be reinserted into the battery tray.

The good news is that Sony or a third

In its current configuration, the D1 is a bit boxy-looking when mounted on a microphone stand, and some musicians will not want it positioned in audience view. Also, if used on stage, the operator is forced to set it and forget it until the show ends.

None of these criticisms are deal-killers. The D1 can be powered through its AC adapter when needed and can accept outboard microphones and preamps in live performance applications. These are just issues of convenience involving a recorder that I think is suitable for audio journalists like myself.

For radio sound recordists who want the ultimate portable field recorder, the new Sony PCM-D1 deserves consideration. It doesn't come cheap, but genuine quality rarely does.

Frank Beacham is a frequent contributor to Radio World.

Gates

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The magic of the GE 6386 as a gain control device was undeniable. Original GE-produced devices featured gold-plated grids. The tubes had an almost unlimited life and never seemed to lose their near-perfect linearity. Many radio and TV stations copied the Uni-Level's circuitry in their scratch-built processors, adding variable input and output attenuators, full voltage regulation, threshold controls and compression metering.

By the early 1970s, the loudness wars on AM were heating up, and the Sta-level didn't offer any options to get a more robust signal. Many were replaced by the CBS 4440 Audimax, which featured more advanced solid-state circuitry and the added mystique of encapsulated "mystery modules."

A few major-market engineers replaced Sta-Levels with bleeding-edge technology, scratch-built multi-band AGC amplifiers. These provided their top-40 rockers with a real competitive edge and gave rise to the next generation of analog processors.

Tell us your memories of the Sta-Level and other gear of that vintage. Write to radioworld@imaspub.com.

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