## Location/Broadcast

### BY MARK ULANO

# Fostex PD-6 DVD-RAM Location Recorder

Location sound engineers are finally seeing a stream of new, nonlinear portable recording devices, and the Fostex PD-6 is the first of these new machines to arrive. In addition to Fostex: Aaton, HHB and Zaxcom, will all have new entries on the market within the year. We applaud all the manufacturers and look forward to examining this great spurt of engineering creativity.

### FEATURES/IN USE

The PD-6, priced at $9,995, is very much in the family of the respected PD-2/PD-4 line of Fostex field DAT machines. Essential choices for machine control, track format, digital/analog recording, sampling frequency, bit rate, master clock and time code settings are easily accessible with hardware switches along the top and front of the machine. Besides up to 24-bit/48 kHz across six tracks, it also records in stereo at 24-bit/96 kHz. (No stereo 192 kHz

mode, though, which is a great feature of the DV-40 - Ed.)

The more variable labeling, metadata, parameter and data intensive controls are in the software, mostly derived from the Fostex DV40 studio recorder. Besides Through a series of unshifted and shifted functions, you can bring up setup or utility screens on the LCD display. Use of a USB keyboard affords macros to get to certain screens even more quickly and you can store up to seven setup configurations.

The included manual is generally clear and comprehensive. You may also download it as a PDF file from the Fostex website, along with current and future system updates for the PD-6, which you can install yourself.

Utilizing a new, ATAPI 8cm drive, smaller double-sided 2.8 GB DVD-RAM discs are used for storage of the audio. This format has been primarily developed as a medium for the rough and tumble of camcorder video recording, and with the aid of data buffers, is geared toward handling vibration.

DVD-RAM disks are not as common as DVD-R or RW discs (you will not find these discs in Wal-Mart or Radio Shack), but they are coming, as the major camcorder manufacturers are supporting the medium.

In the higher storage consuming configurations, e.g., six tracks at 24-bit/48 kHz, you only have 24 minutes a side. This means that if you are doing a five-minute scene in six-track mode, you need to reload every four takes. It takes about 40 seconds to eject the full disc, insert a preformatted disc and have the



machine recognize the disc and be ready to record. You may be raising your on-set profile with more frequent reloads. Higher capacity discs are coming in the future, meanwhile, you will probably want to budget your disc storage by only going up to four or six tracks when needed. This is good practice anyway and will dramatically extend storage capacity (1 hour 12 minutes for two-track, 24-bit at 48 kHz). You also have the choice of going down to 16 bits to increase storage, but this is not my preference. By the way, 96 kHz sampling is currently limited to two-track mode only.

You also must be careful to not remove a disc during the write cycle (indicated by the red led showing drive status) after you stop recording. You could lose part or all of the new file if you do.

Extracting the discs from their carrier sleeve can be a clumsy affair. (The sleeve lock pins inevitably fall out. No harm done but disconcerting.) This is necessary to place it in any other DVD-RAM drive, a certain requirement once the disc is sent to

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## Fast Facts

■ **Applications:**
*Film, video, location recording*

■ **Features:**
*8 centimeter DVD-RAM format; UDF/BWF; 16/24-bit; 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz sampling rates; all SMPTE timecodes; 10-second preroll buffer; built-in six-channel analog mixer; 48V phantom power, 12V T power; FireWire, USB ports*

■ **Price:**
*$9,995*

■ **Contact:**
*Fostex at 562-498-4852. www.fostexdvd.net.*

transfer and/or the editing room.

These little discs can be fragile in the hands of the uninitiated. In fact, on my current movie project, *Empire Falls*, the first day of dailies was destroyed by an "unknown event" at the transfer stage. Luckily I had backed up on a Fostex DV40 and a LaCie hard drive.

You have six choices when selecting recording tracks via the REC TR select switch on top of the machine, i.e., two-track, four-track, five-track, six-track, 2+4 track and 1+5 track. These last two options (2+4 and 1+5) generate two files simultaneously, allowing for a rough mix down and isolated tracks.

The real value here is the 2+4 mode. Although Avid's pricey upgrade, called Adrenaline, can handle 24-bit audio and eight-track files, it is still in very limited distribution. Most of the Avid Media Composer user base is still on earlier versions and will be for the foreseeable future. These versions of Media Composer are limited to 16-bit (24-bit gets dithered down), four-track audio files.

With Fostex's 2+4 mode, you write two files with identical timecode stamps but different file names, i.e., the two-track is a BWF file and the four-track file has an "M" in the file name for multitrack. In this way, the picture editor can have all the files loaded and available if needed.

The PD-6's LCD panel has 124 x 64 dot resolution. You can select the size and choose between vertical and horizontal orientation for the level meters. Most of the switch settings are shown simultaneously, and you can also select the time information you want to see (LTC, input timecode, generator, etc.)

The backlit screen is compact and efficient. My only hesitation is that it is a bit cluttered and monochromatic. The PD-6 has both FireWire and USB busses and one would hope these, in future, could be utilized to enhance display and machine control access. The contrast on the display seems to be temperature sensitive and may occasionally need a quick adjustment.

For analog I/O, XLR connectors are in use for audio and timecode. Digital I/O is done through the 25-pin D-sub connector. I am pleased with this connection scheme since this protocol works well with the Yamaha 01V96, my new favorite mixer.

AES/EBU digital clock info travels over the D-sub cable. Video or word clock are accessible through a pair of BNC connectors. The PD-6 automatically recognizes the type of clock source coming in. There is also 12V DC output through Hirose connectors for accessories, such as RF receivers. Nice touch, Fostex, nice touch.

Less functional at this point in time, is the FireWire and USB implementation.

USB is limited to external keyboard functions only. This gives you access to most, but not all of the machines soft functions.

For me, recording without backup is unacceptable in a professional digital environment and Fostex's use of FireWire in the PD-6 demonstrates the company's commitment, up to a point, to the crucial backup process. In the PD-6's present configuration, a computer (Mac or Windows) recognizes the PD-6 as an external drive when directed to do so.

Unfortunately, this takes the PD-6 off line for recording. If you want to copy your files to another location, the result is a fully manual backup process, and this download takes approximately 10 minutes per side of a full disk.

The prerecord feature is a terrific feature. It's one of my favorite features on Zaxcom's Deva. The prerecord capability allows the user to select up to 10 seconds of dynamic buffer storage to be included at the beginning of a new file (limited to five seconds at 96 kHz). This can be eerie as you are recording material from before the time you rolled.

The simple six-channel analog mixer adds value to the PD-6, saving you money and space. There is a built-in slate mic and tone generator. Each input can be set to line, dynamic, 48V phantom power or 12V T power. Phase switches are provided on Channels 2, 4 and 6 and each input has an adjustable high-pass filter.

The limiter parameters can be controlled through soft functions and has individual settings for each input in Mono mode or group settings for either Channel 1-2 or for Channels 1-6. Both threshold and compression ratio setting options are available. By the use of DISC FEED switches, you can select recording sources from pre-fader signal, the left or right bus or post-fader.

You can also select input sources between digital and analog for each input channel pair (1/2, 3/4, and 5/6) so you can record digital and analog sources simultaneously.

Monitoring allows for quick switching from solo, stereo bus or a mono mix over a good sounding headphone amp or a small utility speaker.

In the default DATE mode, the files are named by time stamp from the internal real time clock. You also have the option of TAKE mode, which allows you to input the actual scene name or number and have the take automatically increment each time you record a new file.

Fostex offers a "False Start" command, which erases the offending file and its take number. However, the procedure takes a longish 18 seconds to complete. If you should be in a series of intense, speedy rolls and cuts and had to do an 18-second rerack for a false start, they'd be hanging you from the nearest yard arm. Hopefully Fostex will be able to get this time reduced, making the issue moot.

You also can assign track names here. In addition to all this info being resident in the files, the PD-6 will generate an ALE (AVID Log Exchange) file for exporting the same file data to the AVID editing system. You can fully edit these ALE information files, which is essentially a spreadsheet format that can also be read in Excel.

## SUMMARY

The Fostex PD-6 is a great-sounding digital recorder. It is reliable, and is a good value considering the onboard mixer, universal I/O, and versatile quality of the end result on the high capacity DVD-RAM disk. The machine is easy-to-learn, especially for Fostex DAT users, and has easily-accessed hard switching for the most important settings. Up to six tracks and 96 kHz/24-bit in stereo mode. Yamaha protocol for the 25-pin D-sub digital I/O, 12V power for external devices.

There a few negatives, such as the cumbersome scheme for file copying and the reliance on an unestablished medium using 8cm discs. Storage capacity of the 8cm disc may also be an issue. My other nit picks were the False Start command taking too long, limited usability of Scene/Take file naming, and the LCD display.

But overall, the PD-6 has become one of my primary location sound recording device for cinema and TV sound recording.

*Mark Ulano, an Academy Award winning location sound recording engineer, is currently working on HBO's Empire Falls, directed by Fred Schepisi.*

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