

# Fostex PD-6

One of the most eagerly awaited machines of recent times, Fostex's next generation portable offers integration with its studio based DV40 relative and a familiarity of operation that will immediately appeal to recordists. **NEIL HILLMAN** shouts 'Organon!'

**A**RISTOTLE, MODERN POPULAR culture tells us, had a propensity for the bottle. Perhaps it was during these enhanced states of consciousness that his thinking took on the heights of clarity that he is remembered for today. Not surprisingly, as he knew a thing or two, in the same way that a stand-up comic today might invent a gag after suggestions from the audience, Aristotle would dream-up definitions. Imagine then a historic heckler overdosed on Ouzo and stuffed vine leaves, shouting 'PD-6!' and hearing Aristotle's rib-tickling riposte: 'Organon!'

For the non-classical Greek scholars among *Resolution's* readership, let me explain that 'Organon' literally means 'the tool', and from it we derive the word 'organisation'. Interesting, huh? (*I'm hoping so. Ed*) And that's where this pre-amble leads: because I believe 'the tool' sums up perfectly the organisational capabilities and logical possibilities found within this impressive new device from Fostex – the PD-6 location recorder. I also believe that it heralds a new order in the hierarchy of location/postproduction formats.

Fostex claims to have spent considerable time and effort in partnership with location sound mixers to develop this product, and well thought-through it is too. The PD-6 is the smaller brother of the Fostex DV40 Master Recorder, and is a portable 6-track recorder offering up to 24-bit/96kHz quality, using an ATAPI 8-centimetre DVD-RAM disk as its recording medium; time-code locked, and mounted inside a vibration-proof drive.



The DVD-RAM drive of the PD-6 is brand new, and specifically developed to deliver reliability and stability, given the rough way that it will inevitably be treated during normal operational life on location. The removable DVD-RAM cartridge provides two 1.46Gb sides, each one offering varying recording durations depending on the track, sampling and bit-rate settings chosen. These range between 118 minutes for 2-track, 16-bit, 44.1kHz and 36 minutes for 2-track, 24-bit, 96kHz or, perhaps more typically for film and television production, 36 minutes per side of 6-track, 16-bit, 48kHz. The DVD-RAM disk is formatted to conform to the Universal Disk Format 'UDF Rev 1.5'.

In essence the PD-6 covers three bases: it can act as

a standalone or time-code locked master/slave recorder, a comprehensive 6-input mixer or as a transfer-station for directly downloading to an external workstation. Its flexibility allows these functions to be fulfilled near-simultaneously.

The top face of the PD-6 houses the mixer dynamics controls on the right hand side, while on the left, a tinted plastic outer door protects entry to the drive unit and covers the seven recording and synchronising selection switches, mounted one above the other directly to the right of the DVD-RAM drive. The top rotary selector-switch – Rec TR – selects the track-recording mode between 2TR (stereo); 4TR, 5TR, 6TR (4, 5 and 6 tracks respectively); 2+4TR (simultaneous 2 and 4-track recording), and 1+5TR (mono-track and a 5-track).

Below the track selection is the FS/24 selector for choosing the sampling frequency and quantising bit-depth. In all track recording modes, 16-bit or 24-bit recording is possible at 44.1kHz and 48kHz Fs, while 88.2kHz/24-bit and 96kHz/24-bit may only be recorded as 2-track stereo files.

In the middle of the column is the Clock switch. The device master clock may be selected between internal clock or external Word or video as the master. Appropriate symbols light in the front-panel display accordingly and the PD-6 automatically detects the difference between the external Word and video signals and also illuminates Word or Video symbols in the display. When it is unlocked from the selected input, these symbols flash in the display and the device defaults to run from the internal clock. The Fostex can also lock to an external digital clock signal and this status is also displayed and flashes should the reference be lost.

A Frame switch selects the time-code frame rate for recording, playback and generation by the internal TC generator. The rates available are: 23.976, 24, 25, 29.97 Drop Frame, 29.97, 30 Drop Frame and 30 fps. The last of the rotary selector switches in this group is the TC Gen switch, which selects the generator mode for time-code recording between external run, free run, record run and internal real-time clock.

Three toggle switches complete this section. The



Audio File switch selects the file format between BWF (broadcast wave file) and OPT (although this 'option' is not yet in use, this is where the AIFF option will be selected in promised later software versions). The TC Out switch selects how the time-code signal is sent to its output socket, either in the Repro position from disc or in the Gen position, from the generator directly. Pull Up/Down allows the sampling clock to be raised or lowered by +/-0.1%.

The cartridge-mounted disk itself is well protected from the outside world within its spring-loaded tray, behind an outer door released by a sliding catch, which seals snugly against a neoprene dust and water gasket.

The right hand side of the top panel houses the 6-channel mixer presets, with the first two inputs designated for M+S input; a decoding matrix is provided in the monitoring chain. Inputs are selectable between 12V Tonader, line, dynamic and Phantom 48V, and inputs 2, 4 and 6 carry a phase-reversal switch. The input gain preset is adjustable on each channel between -30 and +4dBu for the line input and -60 and -26dBu for the three microphone settings.

Below the input gain rotary pot the HPF controls the high-pass filter cut-off frequency of each channel between 50Hz and 300Hz, while a three-position toggle selects the response between -12dB/octave, -6dB/octave and Off.

Each channel has a limiter that may be switched in or out and the ballistics of which may be easily changed in the set-up menu between the default ratio/threshold setting of 1:3/-12dB and 1:5/-6dB. Also within this simple set-up procedure, the limiter may be grouped for each channel independently, for channels 1+2, or across all 6 inputs. The disk transport controls sit at the bottom of the top panel – the usual configuration of Rewind, Fast Forward, Play and Stop – with a Panel Lock switch allowing the transport keys to be disabled.

The right hand side-panel houses the PD-6 inputs on 6 balanced XLR-3 female sockets, with input-1 furthest from the operator; the input impedance is greater than 10kohms. DC is delivered through a conventional Cannon 4-pin socket from the optional 12V power-pack, although the machine is also designed to use an internal NP-1 type battery offering an operational life of somewhere between 1½-2 hours depending on the cell version used. A switch below the 4-pin socket selects between internal or external powering and 12V DC-out is also available on two Hirose 4-pin female sockets, up to a maximum of 0.5A.

Time code comes in and out of the machine on XLR-3 connectors. Two BNC connectors are used to receive the Word/Video clock and transmit the Word clock signals, the Word in signal being 75ohm terminated, or unterminated, by a slider switch alongside its BNC. A digital I-O 25-pin D-sub connector also receives and feeds AES-EBU or SPDIF signals, chosen from within the set-up menu. The pin assignment is compatible with the connectors provided on other Fostex, and Yamaha, equipment.

There are six analogue balanced outputs on the left side of the machine, available on XLR-3 connectors. A familiar Betacam-umbilical 10-way Hirose connector carries Aux I-O Left + Right signals, selectable



between -60, -10 or +4dBu, sits next to the grille for the in-built 720mW speaker, disabled by the headphone jack.

Behind a small, fiddly screw-cover lies a USB port for an external keyboard, a mini-DIN 8-pin remote controller that overrides the front panel commands, and the DVcam-style IEEE 1394 mini FireWire connector for file exchange directly with a PC. However, a puzzling disappointment is that the PD-6 will not yet talk to Windows XP. Fostex's suggestion to new owners is that they purchase a third-party software suite. Rather more helpfully, SCV London – the UK Fostex distributor – suggested a free download from Panasonic that enabled the PD-6's RAM-drive to be recognised ([www.panasonic.jp/dvdram/lim/eoem/downxp.html](http://www.panasonic.jp/dvdram/lim/eoem/downxp.html)). It works.

The NP-1 battery is inserted into its compartment across the bottom of the machine from this left-hand side, and is ejected by means of a spring-loaded release catch.

The engine room of the PD-6 is the front panel. It's a busy layout, but functional, and its logical arrangement is quickly understood. There are three main areas dealt with here: access to the software set-up modes and the comprehensive monitoring is on the left of the panel. The monitoring is switchable between mono and stereo across inputs 1+2, MS decoder, Stereo Bus, Aux In, 1/3 + 2/4 (4TR), 3/5 + 2/4/6 (1+5TR), 1/3/5 + 2/4/6 (5/6 TR) and 3/5 + 4/6 (2+4 TR). The Left and Right buses, and the M+S or all six inputs may also be soloed.

A PFL for each channel sits above the channel faders, these analogue level controls and track-routing switches being along the bottom half of the right hand side. The top half carries the alphanumeric keys for data entry, the slate mic and tone switch, the time-code jam and preset time-code start toggle switches, and the suitably large and positive Standby and Record buttons.

The individual tracks may be routed to the disk by 3-way toggle switches mounted above each channel fader: Pre (where the channel prefade signal is sent);

L Bus/R Bus (where the individual channels are sent to the stereo bus, with the odd tracks being assigned to the left, even tracks to the right); and Post (where the channel is sent postfade to disk). A smaller preset pot alongside fader 1 adjusts the stereo bus master level. Below each channel fader, another 3-way toggle-switch pans the channel between left, centre and right.

Each channel has a peak LED above the level control pot, which shows green when the input signal is between -5dB and -1dB of the clipping level and red when the signal reaches between -1dB and 0dB. A tone may be selected in the set-up menu to appear in the headphone feed when the LED shows red.

The set-up menu is where all the software-variable parameters are accessed and adjusted for operations such as editing file names, deleting audio files, formatting and optimising the disc, or setting the FireWire connection on or off. This ability to easily manipulate the data, and the disk, is extremely comprehensive and the on-screen prompts are straightforward to follow.

In use, the 'newness' of the PD-6 is quickly lost and operationally the very basic function of getting the information to the media is as pleasingly transparent as it could be. The signal comes in, it's routed and monitored and it sticks to the disk. There are lots of housekeeping and file handling niceties that will have recordists pawing over the manual's every word and configuring each and every option, but at its simplest, the PD-6 is eminently usable straight out of the box with just a formatted disk and a quick look-over the controls.

I think that it is a prerequisite for any location recorder to offer cheap, removable media. As a recordist, there is relief and closure at the end of a day's shooting in handing over the sound rushes and sheets. This simplicity is so much more appealing than at the end of a long day, miles from home, having to download a drive's contents, exchange expensive drive units or send a back-up device's media. Which is why I firmly believe that the PD-6 will become the location tool of choice. It's not quite the complete item yet – the meter display is niggly and small, for instance – but it is very close. The tooling-up, I suspect, is about to begin. ■

**PROS**

Easy to use; uses cheap and robust media-exchange; the PD-6 is priced below UK£7,000 giving a performance-to-price ratio that is reassuringly high – as is the design and build quality.

**CONS**

The use of only Broadcast Wave Files (BWF) and the lack of support for SD-II (supported by the DV40) and AIFF files (not supported by the PD-6 or DV40) is disappointing.

**Contact**

**FOSTEX, JAPAN:**  
**Website:** [www.fostex.co.jp](http://www.fostex.co.jp)  
**UK, SCV London:** +44 208 418 0778