SONY CDP-D500

CD players are at the heart of the debate about dissimilar 'identical' CDs. Yet they form a basis for broadcast, as **Rob James** reports

THE CDP-D500 is Sony's latest addition to its range of professional CD players. It is, in essence, the replacement for the late, lamented CDP-2700. As such it is is a completely new design with styling and ergonomics in keeping with its stalemates—the PCM-R500 and PCM-R700 DAT recorders.

The CDP-500 is supplied as a stand-alone unit with a remote outputs are balanced analogue on XLRs. unbalanced analogue on phonos, AES-EBU on XLR and (SPDIF) on phono. There is a headphone jack and volume control on the front panel and sockets on the rear accommodate a parallel remote for fader start and similar systems, RS232 for connection to computers and a BNC for wordclock input.

The front panel has all the usual CD player controls with a bright dot-matrix display. The familiar Program Play and Repeat modes are available while notable extras include concentric jog-shuttle wheels, a VARISPEED ENABLE button and associated setting knob, a switch to select serial, parallel or no remote, a switch to

select an external timer and a MODE switch for the Auto Cue-Auto Pause function. Less familiar buttons are the AUTO CUE-AUTO PAUSE, and REHEARSAL, and selectors for remote and timer operation.

The CD tray is a chunky, metal device that inspires confidence. The jog wheel can be used to quickly select tracks. Cueing can be from the start of track or from the start of audio. The detection threshold for start of audio can be varied in 6dB steps from -48dB to -72dB. Starting is instantaneous. There is a looping function to aid finding an exact cue point within a track. Pressing REHEARSAL initiates the loop. The start point can be adjusted using the jog wheel or nudge buttons down to frame accuracy. Pressing ENTER ends the rehearsal and pauses the player at the cue point. Once a cue point has been established the player will re-cue when the CUE/STBY button is pressed.

Varispeed operation allows variations of ±12.5% in 0.1% increments. This is accessed by pressing the VARISPEED button and turning the knob until the desired pitch shift is heard or displayed. The shift can be cancelled by pressing the knob. The Varispeed function is not available when using external word clock. The Fade function enables tracks to be faded in or out over 1s–9s. If the player is in Pause, pressing FADE starts the machine and fades in over the selected dura-

tion, pressing FADE again will fade out over the same duration. The fader functions are not available when using digital outputs.

The CDP-D500 locks the players internal clock to an external reference. This approach has been known to result in unacceptable jitter on the digital output. In this case Sony has employed some innovative circuitry that re-syncs the data from the disc using a high-precision clock with a claimed jitter performance of typically 2.5ns which is comfortably within the 10ns limit recommended in the AES3 protocol (Sony's figures). This does mean you are limited to a 44.1kHz output unless you want to varispeed the machine. On occasions this could be useful though it is not a published feature. Thus. if you connect, say, a 48kHz clock the player will run fast.

Practically, and in the absence of specialised measuring equipment, the CDP-D500 appeared perfectly happy when synchronised to the wordclock output of a Yamaha 03D. The A–D convertors are quoted as (note the quotes), 'high-precision BiCMOS advanced sign-magnitude 20-bit with 8x oversampling'. The use of 20-bit convertors with an inherently 16-bit source has several advantages—the top 16 bits of a 20-bit convertor are likely to exhibit better linearity than the full range of a 16-bit device which results in lower distortion. In addition the noise floor of a 20-bit device is lower minimising the addition of convertor noise to the output. The menu functions are accessed by pressing ENTER while in Stop mode. The shuttle wheel cycles through the options to change and the jog wheel changes parameters, pressing ENTER accepts the change.

Menu options are: Key Protect, this allows all controls except Eject. Stop. Enter and Clear to be disabled; Remote Protect allows the infrared remote to be disabled (useful in installations where several machines are in use); Auto Cue threshold level; Cueing Select, track or index; RS232 for which there are four setup parameters.

The CDP-D500 supports the CD-text format allowing text data to be transmitted down the RS232 connection. This allows track names. artist and so on, to be displayed on a computer. In addition, the existing PQ codes can also be checked enabling the CDP-D500 to be used in a CD quality control environment.

The CDP-D500 is a robust, serious piece of kit. From my observations on test it should be well able to withstand the impatience of operators in pressured situations. It is simple and quick to use with a good number of interfacing options. If you need a synchronisable CD for a 44.1kHz environment this machine provides an economic solution. By the way, it also sounds good. ∎

NEW TECHNOLOGIES

MCS3800 offers 64 moving fader channels each with four programmable switches and 40 virtual encoder knobs.

With 100 locate points and built-in SMPTE reader and MTC reader, command stations have MIDI ports and two expansion slots allow optional interface cards to be added.
JL Cooper, US. Tel: +1 310 3064131.
Sound Technology, UK.
Tel: +44 1462 480000.

Audio rack
Targeted at location recording, the Audio Rk2 minirack accepts two Audio DX2020 or DX2000 wireless mic receivers in a rigid casing that protects them. Only two aerials are required to feed the signal to the diversity receivers via custom filtered RF distribution amps. Reliability is aided by reverse power and over-voltage protection up to 30V while connectors include 6-pin Lemo or 4-pin Hi-rose. Phase reverse is included in a unit that weighs 545g and measures 168mm x 151mm x 30mm.
Audio Ltd, UK. Tel: +44 1494 511711.

Oscillator calibration
Wavetek has introduced a family of oscillator calibration workstations based around its Model 9500 Calibrator and available in

400MHz, 600MHz and 1.1GHz bandwidth versions. They come with PC calibration software including a library of tested procedures for commonly used oscilloscopes.
Wavetek, UK. Tel: +44 1603 404824.

Audix DAW mixer
Audix Broadcast's ADD5000 digital desktop workstation mixer is designed for use in news, small production and editing suites and is designed to allows the monitor to be mounted directly above the control surface and the keyboard directly in front of the user.

The ADC7000 mixer augments the company's range of live radio on-air desk systems and can be supplied in in-line or split formats with up to 16 channels. The desk stores EQ, dynamics and routing configurations which can be saved to and recalled from a smart card.
Audix Broadcast, UK.
Tel: +44 1799 542220.

Digital analyser
The Alphaton DA1000 digital audio signal analyser is a small testing unit for digital audio signals and transmission