

# Dolby DP563/DP564

It's a technology that gives you a little bit more at the back than was previously offered. Fresh from a weekend working with some 1960s reunion bands, and showing all the signs of resurgent psychedelia, **NEIL 'NEO' HILLMAN** revisits *The Matrix* and investigates Dolby Pro-Logic II.



**THIS IS HOW IT BEGAN:** I simply couldn't tell what was my dream and what was reality. *Resolution* articles always take time, a long time, and they always end up being written in the darkest hours, while the rest of the world sleeps; as if I were being allowed to hack and harness the power from a greater, resting consciousness. Thinking about the implications for us all in the audio-post collective, I must have fallen asleep in front of the PC and come-to with a start. The computer screen simply said 'Wake up, Neil'. My dream had shown me a form of Artificial Intelligence that could imprison me in a world that was little more than a software simulation, designed to enslave me and the whole of hearing-kind in an illusionary perception called Pro-Logic II. Ultimately, it was *The Dolby Matrix*. (*Morpheus: What is The Matrix? Control. The Matrix is a computer generated dream world...*)

*Neo: No! I don't believe it!*

Fifteen years on from the introduction of Pro-Logic Surround Sound, Pro-Logic II is Dolby's latest offering of its matrix surround technology and is specifically designed to emulate the multichannel audio environment for listeners of two-channel delivery systems. The Dolby Surround encoding process 'folds' Left, Centre, Right, and Surround channels onto stereo soundtracks; the Pro-Logic decoder 'unfolds' the four channels on playback. Without a Pro-Logic decoder, the encoded programme plays in conventional stereo.

The main differences between Pro-Logic and Pro-Logic II are the independently steerable surround speakers and the full bandwidth of those feeds. Previously, the surround signal was band-limited on decoding from 100Hz to 7kHz, and the surround information was mono. Although Pro-Logic II is still a matrix technology, and therefore does not sound precisely like the discrete 5.1 channel audio from Dolby Digital, it certainly does go a very long way to effectively simulating that experience. And here's a bonus, it can provide a high degree of efficiency in the production-transmission-postproduction workflow.

The creation of Surround soundtracks can be created easily from a single 5.1 mix, by folding down or downmixing into a Pro-Logic II encoded-mix for conventional twin-channel delivery and transmission, by means of the Dolby DP563 encoder. Its inherent backward-compatibility may be checked across the subsequent Surround, Stereo and Mono mixes by the new Dolby DP564 decoder. Indeed, for audio facilities also offering a DVD authoring service, it could well become a standard practice to provide content for television and AC3 clients starting from a 5.1 mix, and then set Dolby Pro-Logic II as the default TV delivery standard.

(*Agent Smith: Did you know that the First Matrix was designed to be a perfect human world, where none suffered, where everyone would be happy? It was a disaster.*)



The units required for Dolby Pro-Logic II operation are the DP563 encoder, and the DP564 decoder. Both of these units are now shipping; a chargeable software upgrade to Pro-Logic II encoding is available for existing DP563 owners.

The DP563 Pro-Logic II encoder combines 5 input signals into the matrix-encoded, two-channel format, described as the Left total, Right total (Lt/Rt) signal.

The DP563 can also premix discrete 5.1 material to the four or five channels required for Dolby Surround or Dolby Pro-Logic II encoding. Individual input level trims are provided for the Centre, Surround and LFE channels. Processing on the LFE includes a switchable limiter and a low pass filter and, for studios using Dolby E technology, the DP563 provides a metadata input for automatic control of the downmixes to Pro-Logic II and Surround from the original multichannel feeds.

The DP564 is the all-new reference decoder from Dolby, allowing the accurate monitoring of all downmixes from a 5.1 stream. By switching between listening modes via the controls on the front panel, it is possible to replicate how any multichannel programme will sound when played on a fully configured multichannel Surround system, a Surround system with no centre speaker (Phantom), or systems with no Surround speakers (3-stereo). Compression modes can also be selected from the front panel to monitor Dolby Digital's dynamic range control and dialogue normalisation modes, which, in effect, allow the operator to replicate the various ways that the programme may be heard: on DVD, on a home-theatre system or through a set-top box.

Like its predecessor, the DP562, the Dolby DP564 decoder offers a range of front-panel functions designed to ensure correct and easy calibration or adjustment in the listening chain. These include a master volume set, channel mutes, individual channel level trims, centre and surround channel delays and bass management; and for room calibration purposes, a full and a band-limited pink-noise generator. There is also a headphone output with its own volume control and Dolby Headphone processing.

(*Cypher: I don't want to remember nothing. Nothing! You understand? And I want to be rich. Someone important. Like an actor. You can do that, right?*)

(*Agent Smith: Whatever you want, Mr. Reagan.*)

Those familiar with mixing in Dolby Surround should have no problem in adapting to Dolby Pro-Logic II as the same considerations still hold good. In a nutshell, the Surround channels are used to create a more diffused image than the direct signals typical in 5.1 discrete mixes. Also, care is required in the siting of the rear speakers; they should not be at ear level and pointing directly at the listener as is suggested for 5.1 working, instead, they should be pointed some two feet above the listener's head. So, without a quick and accurate speaker repositioning device, or doubling-up on surround monitors for either state of operation, some compromise is inevitable in control rooms offering 5.1 and Pro-Logic II mixing to their clients.

With Dolby Pro-Logic II already featured in home receiving equipment, including most of the home cinema receiver systems currently on sale, over 8 million decoders featuring the technology have been sold to date. In addition to broadcast, it also has a strong presence in computer gaming, with real-time creation of Pro-Logic II soundtracks now on offer with games on the PS 2 and Gamecube platforms.

Games, dreams. Imagination, reality. Dolby's Pro-Logic II system is successfully blurring the difference between the Discrete and the Matrix. It's all part of a much bigger plan. ■

## PROS

It's a system from Dolby, so it does what it says on the box, with no fuss; the units run characteristically hot, but they're rock-solidly reliable.

## CONS

While it's relatively small beer to upgrade the software on your existing DP563 Pro-Logic encoder to provide Pro-Logic II encoding, if you want to properly monitor Pro-Logic II mixes, present DP562 decoders need to be replaced by the newer, but equally expensive, DP564 decoder. Bugger.

## Contact

**DOLBY, UK:**  
Tel: +44 1793 842100  
Website: [www.dolby.com](http://www.dolby.com)