

COMMON SURROUND SOUND FORMATS

The range of decoding formats used to deliver the theatre surround sound experience include:



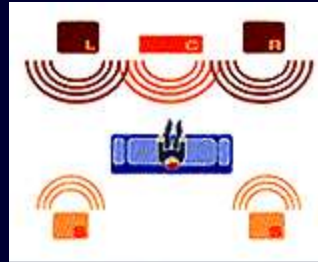
Dolby Pro Logic:

The Long-standing stereo matrix encoded format. Extracting four channels of surround sound (left, centre, right, and surround.) Although utilising two speakers the surround channel is mono and has limited bandwidth. This format is present on many VHS movies and television.

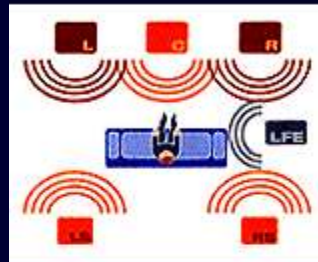


Dolby Pro Logic II:

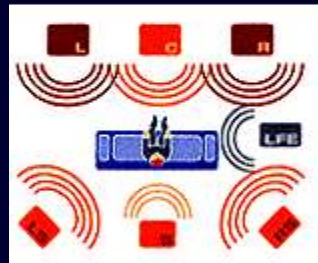
An advance on Dolby Pro Logic. This format can take a Dolby Surround signal and derive five full range channels of surround sound including stereo surround channels, while the subwoofer output is generated using bass management circuitry. The result is superior channel separation and more dynamic surround effects that come close to the impact of Dolby Digital. Dolby Pro Logic II also features a music mode that derives five channels from a source, to create an involving surround environment when



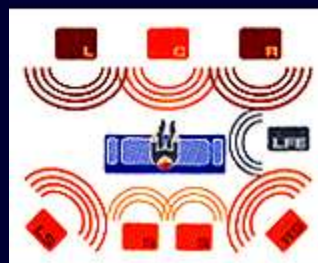
Dolby Pro Logic



Dolby Digital / DTS /
DTS 96/24



Dolby Digital EX /
DTS ES Matrix 6.1 /
DTS ES Discrete 6.1/
Dolby Pro Logic II



7.1 Channel Sound

listening to stereo.



Dolby Digital 5.1

A fully digital format that has five channels of discrete full bandwidth audio (left, centre, right, **Dolby Digital is the most popular surround sound format on DVD** and offers excellent dynamic range and channel separation compared to surround sound derived from analogue formats. The result is a more realistic and involving surround sound experience.



Dolby Digital Surround EX

EX
Adds to Dolby Digital 5.1 movie soundtracks a third surround channel, reproduced by speakers positioned directly behind the listener. This extra rear surround channel is "Matrixed" into the usual left and right surround channels to produce an intensified realism that draws you even further into the action. Dolby Digital EX sound tracks are compatible with standard Dolby Digital 5.1 channel decoders. "Star Wars: Episode 1 The Phantom Menace" is the very first movie to feature the new Dolby Digital Surround EX format (though Dolby Digital Surround EX

playback is offered only in the finest state-of-the-art movie theaters).



DTS:
An alternative

5.1 surround system, often included alongside Dolby Digital on DVDs. The main difference between DTS and Dolby Digital is the compression rates; DTS has higher Data rates that yield more audio information and sound detail. While most movies have a 5.1 soundtrack DTS is becoming more prominent. Fast and the Furious, Blade 2 and Shrek feature DTS Tracks.



**DTS ES
Matrix 6.1:**
This format

has a centre rear channel that is embedded into the signal of the left and right rear channels for improved surround sound panning effects. On playback, the DTS Matrix 6.1 decoder extracts this centre rear channel from the left and right rear channel signals. DTS Matrix 6.1 soundtracks are backwardly compatible with DTS 5.1 decoders.



**DTS ES
Discrete
6.1**

Represents an advance on DTS Matrix 6.1 in that the rear channel is fully independent

(discrete). DTS-ES discs are backwardly compatible with both DTS Matrix 6.1 and DTS 5.1 decoders. The first DVD with DTS-ES 6.1 Discrete is "The Haunting".



DTS Neo 6:

This format can provide up to six full-band channels of matrix decoding from stereo matrix material. Users with 5.1 and 6.1 channel systems will derive either five or six separate channels respectively, while the subwoofer channel is created by bass management in the receiver. DTS Neo 6 also offers a Music Mode for expanding a standard stereo signal into either five or six discrete channels to further enhance the listening experience.



DTS 96/24

A 5.1 Channel

surround format that offers sound quality superior to CD and close to that of original 96/24 master tapes. This improvement in sound quality is achieved during recording by using a 24 bit sample at a sampling rate of 96khz. The extra audio information from the DTS 96/24 process is encoded in to an extension stream of the DTS signal. Receivers featuring DTS 96/24

decoding can access this extension stream and playback the full DTS 96/24 sound quality, while standard DTS decoders can access the core DTS signal to ensure backwards compatibility.

7.1 Channel Sound

A decoding system within the receiver that enables the reproduction of 7.1 channels (left, centre, right, surround back left, surround back, surround back right, plus subwoofer) replicating the same physical configuration of a theatre from either 5.1 or 6.1 encoded sources.



THX

Contrary to popular

belief, it is important to realize that THX is a quantitative measure of quality that works in conjunction with the different surround sound formats (e.g., Dolby Digital and DTS) to bring the quality of the sound presentation to the highest standards. To ensure the highest possible quality in home cinema, THX defines stringent picture and sound track criteria for film-to-DVD (and film-to-VHS) transfers. Such DVD titles are labeled as "THX Digitally Mastered for superior sound and picture quality" or simply "THX

Certified". THX also defines stringent performance standards for audio/video source and processing components. These include strict performance standards for DVD players, receivers, preamplifiers, power amplifiers, speakers, interconnect cables, speaker cables, and even the room's acoustic characteristics (for dedicated home theater environments). The Star Wars Saga and many older films processed to DVD receive the THX Treatment.