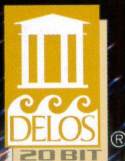


DD Dolby



DV 7001

DVD
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DVD

DVD SPECTACULAR

- I 1812 Overture (Pyotr Ilyich Tchaikovsky)** — 5-channel mode (16:22)
Andrew Litton conducting the Dallas Symphony Orchestra & Chorus
- II Dolby Trailers**
 - 2 Train** (:35)
 - 3 Egypt** (:36)
 - 4 City** (:34)
 - 5 Canyon** (:38)
- III Bonus Tracks**
 - 6 1812 Overture** — 48 kHz 16-bit PCM (16:15)
 - 7 Piano Barcarolle (Richard Rodney Bennett)** — 5-channel mode (3:17)
Carol Rosenberger, piano
- IV Audio Test Signals**
 - 8 Level Reference Tone** – 400 Hz @ -20 dBFS (:30)
 - 9 Mode and Channel Check** (1:00)
 - 10 Frequency Response Sweeps** — Left (1:00)
 - 11 Frequency Response Sweeps** — Center (1:00)
 - 12 Frequency Response Sweeps** — Right (1:00)
 - 13 Frequency Response Sweeps** — Left Surround (1:00)
 - 14 Frequency Response Sweeps** — Right Surround (1:00)
 - 15 Frequency Response Sweeps** — LFE (1:00)
 - 16 Noise Sequencing for Dolby Digital** (1:00)
 - 17 Noise Sequencing for Dolby Pro Logic** (1:00)
 - 18 Polarity Check** (1:00)
 - 19 5-channel/Pro Logic Auto-switching testing** (1:00)
- V Video Test Signals**
 - 20 Video test signal** — interference testing (1:00)
 - 21 Video test signal** — interference testing (1:00)
 - 22 Video test signal** — interference testing (1:00)
 - 23 Video test signal** — interference testing (1:00)
 - 24 Video test signal** — interference testing (1:00)
 - 25 Video test signal** — interference testing (1:00)
 - 26 Video test signal** — interference testing (1:00)
 - 27 Video test signal** — interference testing (1:00)
- VI Rolling Credits** (3:17)

The music program presented on this DVD consists of both two-channel stereo and 5.1 channel versions of Tchaikovsky's "1812 Overture" and Richard Rodney Bennett's "Barcarolle" for piano.

The "1812," performed by the Dallas Symphony Orchestra and Chorus, conducted by Andrew Litton, is surely one of the landmark surround sound music recordings of this day. It has had exposure at various audio trade and consumer shows, and it was the subject of NPR coverage. In addition, reviews in the music press of the stereo CD have been virtual raves.

Most people think of the DVD entirely in terms of motion pictures and surround sound effects associated with them. What we are demonstrating here is music *without* motion picture with direct, on-stage sound from the three front channels and hall ambience from the two rear channels.

The comparison between stereo and surround sound presentation is astounding. As good as stereo can be, it is only a "window" on the performance space, and we think that once you have acclimated yourself to the discrete surround versions, you will not want to go back to stereo. (You might, however, try playing the stereo version through your Dolby Pro Logic decoder just to see how finely that technology has been honed in recent years.)

In preparing McDermott Hall in Dallas' Meyerson Symphony Center for the Tchaikovsky recording, we removed the extensive stage risers used for concerts. In this way the orchestra was on one level and we had more flexibility in microphone placement. The large Dallas Symphony Chorus was placed in the choral terrace at the rear and sides of the stage, from which position they sang directly into the generous acoustics of the hall. Widely spaced microphones were placed high in the hall at a distance gauged to pick up crucial early reflections from the sides of the space, as well as reverberant ring-out. These signals form the basis of the surround channels; however, at the same time, some of this signal is present in the left and right front channels. The effect here is to firmly place direct sound at the front, early reflections from all around, and finally reverberant sound predominantly at the rear. This is the essence of Delos' Virtual Reality Recording.


The piano selection, played by Carol Rosenberger, amply demonstrates that surround sound is not just for big ensembles in big rooms. Scaling all of the acoustical time factors down appropriately, we can enhance even a single instrument.

Good listening!

John Eargle, Delos Director of Recording





Part One - "1812 Overture"

This section contains the complete 1812 overture at 448 kbps in 5 Channels.

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
1	3/2/0 	0:16:22	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	

Part Two - "Dolby Trailers"

This section may be used as material for general listening to Dolby Digital audio.



Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
2 Train	3/2/.1 	00:35	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	Program Mix LFE
3 Egypt	3/2/.1 	00:36	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	Program Mix LFE
4 City	3/2/.1 	00:34	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	Program Mix LFE
5 Canyon	3/2/.1 	00:38	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	Program Mix LFE

Part Three - “Bonus Tracks”

This section contains the stereo PCM version of the 1812 and a bonus track in Dolby Digital 5 channels.

6) 1812 Overture by Tchaikovsky, in Stereo PCM

7) Barcarolle for Solo Piano by R. R. Bennett; Carol Rosenberger, soloist in 5.0 Dolby Digital

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
6	PCM 	0:16:15	Program Mix Left Total	Program Mix Right Total				
7	3/2/0 	0:03:17	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	


Part Four - Audio Test Signals

This section is intended for calibrating system gain.

Reference level tone, 400 Hz at -20 dBFS.

This tone is the “0 VU” level in digital audio systems. It is present in the 5 main channels.

Reference Tone 400 Hz at -20 dBFS

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
8	3/2/.1 	00:30	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	Program Mix LFE

This section is intended to be used in checking modes and channels.

Channel identification sequence. This section steps through a series of 10-second audio segments encoded in each of the possible channel configurations of Dolby Digital. It starts on mono, then progresses all the way through 5-channel audio.

segment	Sound Mode	Voices come from
1	☐ mono	C
2	☐ stereo	L, R
3	☐☐ 3 stereo	L, C, R
4	☐☐☐ discrete surround	L, C, R, S
5	☐☐☐ quad surround	L, R, LS, RS
6	☐☐☐☐ 5-channel surround	L, C, R, LS, RS







Mode and Channel Check

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
9		01:00:00 (00:10) (00:10) (00:10) (00:10) (00:10) (00:10)	Left Voice	Right Voice	Left Surround Voice	Right Surround Voice	Center Voice	

This section is intended for use to verify frequency response.



Frequency sweeps. Each track sweeps from 20 Hz to 20 kHz, one channel at a time. The LFE channel is filtered at 120 Hz. These signals are appropriate for various electrical tests, but not recommended for acoustic measurements or speaker adjustments.

Frequency Response Sweeps

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
10	3/2/.1 	01:00	Sweep 20 Hz to 20 kHz -20 dBFS					
11	3/2/.1 	01:00					Sweep 20 Hz to 20 kHz -20 dBFS	
12	3/2/.1 	01:00		Sweep 20 Hz to 20 kHz -20 dBFS				
13	3/2/.1 	01:00			Sweep 20 Hz to 20 kHz -20 dBFS			
14	3/2/.1 	01:00				Sweep 20 Hz to 20 kHz -20 dBFS		
15	3/2/.1 	01:00						Sweep 20 Hz to 20 kHz -20 dBFS


This section contains noise sequencing titles for Dolby Digital and Dolby Pro Logic.

Noise sequencer signals. These signals are used for channel level calibration. All channels should have the same apparent loudness as judged by ear or by a sound level meter. If a level meter is used, best results are obtained using A weighting, slow averaging. The 5-channel sequence uses the discrete signals from the Dolby Digital decoder. The Dolby Surround encoded sequence is a 2-channel matrix-encoded signal intended to be decoded with Dolby Pro Logic. The channel balance settings should not require readjustment between the two sequences. It is possible that there will be an overall difference in loudness of a few decibels in some systems between the Dolby Digital and Pro Logic sections, depending on the specific design of the decoders. This is perfectly acceptable.

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
16	3/2/.1 	0:01:00	5 Ch Noise Sequencer Left	5 Ch Noise Sequencer Right	5 Ch Noise Sequencer LS	5 Ch Noise Sequencer RS	5 Ch Noise Sequencer Center	
17	2/0/0 	0:01:03	Dolby Surround Left Total	Dolby Surround Right Total				

This section is used to verify polarity and sound arrival times.







Pulse signal. A pulse signal is recorded in all 5 channels at the same time, and with the same polarity. It can be used to check the electrical polarity of the decoded output signals. It can also be used to check that the various delay times are set properly in the decoder. For example, adjust the center time delay until the center signal merges exactly with the left and right channels to form a clean, single click sound rather than a smeared or double click when heard at the normal seating position. This may be easier with the surround speakers muted. Once the center is adjusted, turn on the surrounds and adjust their delay time for the same single click result. This will give "coincident" time arrivals from all speakers in the system in Dolby Digital mode.

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
18	3/2/.1 	0:01:00	Polarity Pulse Left	Polarity Pulse Right	Polarity Pulse LS	Polarity Pulse RS	Polarity Pulse Center	Polarity Pulse LFE

This section is used for 5 channel / Pro Logic Auto-switching testing.

Surround mode auto-switching test. This signal is technically not valid for use on DVD programs, as it changes channel mode every 10 seconds during the program. It was created to test the behavior of decoders. A range of valid results may occur, depending on how the decoder is set up, and on certain design choices implemented in the product. Here are some of the possible reactions you might experience:









segment	description	possible result
Lt/Rt	matrix encoded audio	plays stereo or Pro Logic audio
Lt/Rt ⇒ 5-ch	transition to 5-ch	mutes for a certain time
5-ch	5-channel audio	plays stereo or 5-channel audio
5-ch ⇒ Lt/Rt	transition to matrix	mutes for a certain time

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
19	2/0/0 Lt/Rt 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS
	3/2/0 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS
	2/0/0 Lt/Rt 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS
	3/2/0 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS
	2/0/0 Lt/Rt 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS
	3/2/0 	:10:00	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS	Multitone -20 dBFS

Part Five - Video Test Signals


This section is used for Video interference testing.

Video test signals. These 8 test patterns were digitally generated, and are accompanied by a 5.1-channel program with no audio signal present. This sequence may be used to determine if there is any crosstalk from the video to the final audio output, or to determine the noise floor of the overall system.

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
20	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
21	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
22	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
23	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
24	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
25	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
26	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither
27	3/2:1 	01:00	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither	20th bit dither

Part Six - Credits

This section contains the rolling credits with the Piano Barcarolle audio track.

Title	Mode	Length	1 L	2 R	3 LS	4 RS	5 C	6 LFE
28	3/2/0 	0:03:17	Program Mix Left	Program Mix Right	Program Mix LS	Program Mix RS	Program Mix Center	

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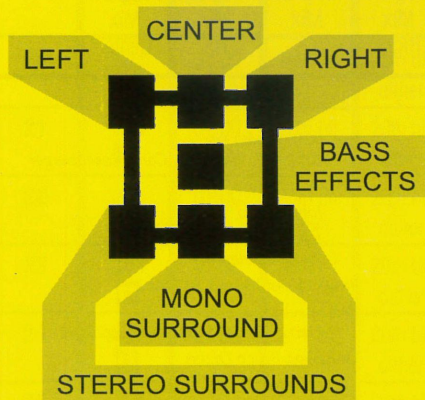
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Sound Mode Icons



Icon	Sound Mode
	mono
	stereo
	Dolby Surround
	discrete surround
	quad surround
	5.1 surround

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Engineer's Note: The audio on this DVD disc is optimally presented with full Dolby Digital 5-channel playback.

Bonus: Dolby Surround stereo PCM tracks have also been included — duplicating the original Grammy®-nominated CD release.

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DV 7001

DVD SPECTACULAR

- 1 1812 OVERTURE
(Pyotr Ilyich Tchaikovsky)
- 2 - 5 DOLBY TRAILERS
- 6 - 7 BONUS TRACKS
- 8 - 19 AUDIO TEST SIGNALS
- 20 - 27 VIDEO TEST SIGNALS
- 28 ROLLING CREDITS

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