DOLBY NEWS

DOLBY. ESSENTIAL TO EVOLVING ENTERTAINMENT.

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DOLBY'S NEW SOLUTIONS FOR EVOLVING ENTERTAINMENT

BROADCAST DELIVERY REQUIREMENTS ARE IN A STATE OF TRANSITION, AND TELEVISION TRANSMISSION ITSELF IS NO LONGER LIMITED TO SIGNALS SENT TO TV SETS AND HOME THEATER SYSTEMS. CONSUMERS NOW WATCH THEIR FAVORITE PROGRAMS AND MOVIES ON MULTIPLE DEVICES: ON PCS VIA THE INTERNET, OR BY USING CELL PHONES, PORTABLE MEDIA PLAYERS, AND MORE.

For years, Dolby Laboratories has defined the surround sound experience and set the bar for audio excellence in broadcast with Dolby® Digital. Recently we have extended the efficiency and capabilities of Dolby Digital technology with the introduction of Dolby Digital Plus, and are now extending our solutions for sound excellence to the Internet and mobile transmission paths, as well. Today, no matter what device the viewer chooses or which transmission path is used to receive the content, Dolby provides a clear solution.

To that end, we recently acquired Sweden-based Coding Technologies, who have long produced world-class audio compression technologies, and we've already begun to integrate the products of its expertise with our own. As a provider of products and technologies to enable an end-to-end solution, our goal for the broadcaster has always been to provide a seamless transmission path throughout the broadcast delivery chain, from content creation to final delivery of the programming to viewers. With the new integrated solutions made possible through the acquisition of Coding Technologies, the possibilities for broadcasting will become much broader.

The audio format aacPlus by Dolby, with its Spectral Band Replication (SBR) and Parametric Stereo (PS) technologies, provides high-quality sound in an extremely efficient manner. Spectral Band Replication can be used to either enhance audio quality at a given bit rate or to decrease the bit rate required for a given application. Parametric Stereo is an enhancement technology for low bit-rate stereo signals; it re-creates the stereo imaging of content within a mono bitstream, using metadata within the stream. The combination of aacPlus, SBR, and PS is fully specified within the MPEG-4 standard. The aacPlus format is also specified in international standards such as 3GPP, DVB, DAB+, and Digital Radio Mondiale.

Low bit-rate audio coding is an enabling technology for a number of applications such as IPTV, digital radio, Internet streaming, and mobile multimedia applications. The limited overall bandwidth available for a digital radio system (terrestrial or satellite based) makes it desirable to use a low bit rate per channel to create an attractive portfolio of programs for the listener. The aacPlus format enables high-quality stereo at 48 kbps and multichannel (5.1) surround at 128 kbps.

Nearly all existing mobile music services, such as those from KDDI, O2, Orange, Rogers, SK Telecom, Sprint, T-Mobile,

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DOLBY DP600 PROGRAM OPTIMIZER: NEW FEATURES AND FUNCTIONALITY

Our DP600 Program Optimizer arrives at NAB with many new features for 2008. These include a software upgrade that adds intelligent file-based upmixing functionality, as well as Dolby® Pro Logic® II encoding for providing two-channel matrix-encoded content derived from multichannel source files.

Upmixing

The unique upmixing feature allows users to take two-channel material and output a 5.1-channel surround program; this process can be integrated into a DP600 workflow profile along with loudness correction, encoding, transcoding, or decoding. Our upmixing feature isn't just a Dolby Pro Logic II decoder in a new package; it's based on a new proprietary algorithm developed by Dolby after years of research.

Powerhouse Duo for Post

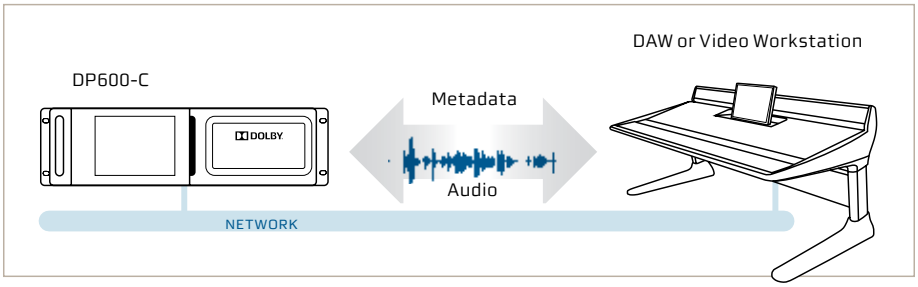
Finally, the DP600 is perfect for post-production use within Pro Tools, other audio DAWs, and video workstations, using the Neyrinck SoundCode for Broadcast plug-in. The combination provides an ideal solution that speeds postproduction of file-based content destined for television broadcast and packaged media.

Neyrinck SoundCode for Broadcast interfaces any workstation with the DP600-C, giving DAW users complete access to its unique set of audio tools.

You can create and manipulate metadata directly within the audio file's metadata chunk, as well as automate the normalization of program loudness levels. Or you can encode, decode, and transcode files into all Dolby and other broadcast audio formats, in faster than real time, to meet any program delivery specification.

We'll be providing a demonstration of profile editing at our NAB booth.

Neyrinck SoundCode for Broadcast Software



DOLBY + NEYRINCK

DOLBY'S NEW SOLUTIONS FOR EVOLVING ENTERTAINMENT

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Telenor, Vodafone, and many others, have selected aacPlus as their audio codec.

The acquisition will also allow us to expand into new countries and emerging markets, where the adoption of aacPlus has been compelling due to its data efficiency. Countries such as Brazil and Norway have standardized their broadcast transmission streams on aacPlus.

The fact is, any application where bandwidth constrictions require aggressive coding solutions will benefit from aacPlus. No matter where these new solutions are employed, though, they remain part of the beginning-to-end solution that is our core goal.

In the coming months, Dolby will be introducing new encoding and decoding platforms offering integrated solutions that include Dolby Digital, Dolby Digital Plus, and aacPlus, providing all the benefits of the Dolby brand in any broadcast ecosystem. From traditional over-the-air broadcasting to the latest Internet or mobile applications, flexible data rates, seamless metadata support, advanced features such as 7.1 channels and stream mixing, and, of course, Dolby's well-known testing and certification program, all work together to ensure the optimal solution for any application.

DOLBY MEDIA PRODUCER PRODUCTS AND UPGRADES

Several new features are available in the latest version of the Dolby® Media Producer software suite. Dolby Media Tools now supports both Dolby Digital Plus and Dolby TrueHD, in addition to Dolby Digital. Users can now repair and update previously recorded files in all three formats without having to reencode them.

The update also adds new features for file splitting and verification. While file trimming was previously available, file splitting allows users to split a single encoded file into multiple small files. This is especially useful when preparing clips for branching on a Blu-ray Disc™. The verifier tool analyzes encoded Dolby Digital, Dolby Digital Plus, and Dolby TrueHD files and creates a detailed log of file attributes and any error conditions.

Dolby Media Meter

We are introducing Dolby Media Meter, a software loudness meter that can be used on both Mac® and PC platforms. (When purchased, users can install either Mac or PC stand-alone versions as well as Digidesign® Pro Tools® and Minnetonka AudioTools™ AWE plug-ins.) Dolby Media Meter uses measurement techniques adopted from our Emmy® Award–winning LM100 Broadcast Loudness Meter with Dialogue Intelligence™ technology. Dolby Media Meter supports measurement of Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby E, and PCM audio formats.

When using Dolby Media Meter as a stand-alone product, you can measure source files as well as encoded files. The software will display the dialogue normalization value of encoded files or source files (containing a metadata chunk). It then analyzes and displays the proper dialogue normalization value to use when encoding. This is useful for postproduction facilities for DVD preparation, as well as for broadcast facilities, video on demand, movie download services, and video games.

When using Dolby Media Meter within Pro Tools, there are two versions of the plug-in: AudioSuite and Real-Time AudioSuite (RTAS). As its name implies, the RTAS version measures loudness in real time, and in a Pro Tools session is useful for tracking levels during the mixing process to help users meet network delivery requirements. The meter provides short- and long-term average loudness levels, based on the level of dialogue in the mix.

The AudioSuite version of the meter performs file-based measurement. This is perfect for measuring dialogue normalization values while preparing audio for package media formats.

Dolby Media Meter can analyze both with and without using the Dialogue Intelligence feature, and it can produce and save log files.

EXPANDING INVOLVEMENT IN DIGITAL RADIO WORLDWIDE

With the acquisition of Coding Technologies and the integration of aacPlus into the Dolby family of products, our capacity to provide services for digital radio has expanded in much the same way it has for television broadcast. We're now in digital radio worldwide, in several new radio markets, such as satellite radio, terrestrial radio (including HD Radio™ and DRM), and Internet radio.

Bandwidth constraints compete against the desire for quality audio reproduction in radio, necessitating the extremely efficient and high-quality codec provided by aacPlus. For satellite broadcasters, aacPlus allows operators such as XM Radio to offer more channels at a higher quality than the competing systems using alternative proprietary codecs. For Internet broadcasting, aacPlus cuts down on distribution costs, aggregate server bandwidth, and eliminates last-mile bandwidth constraints. For mobile broadcasters, aacPlus enables real-time transmission even over 2.5 G networks with transmission rates of well below 40 kbps.

Customers for these new technology solutions already include XM Radio, iBiquity® (HD Radio), Pandora®, Slacker, and Sprint-based mobile radio (mSpot); device manufacturers such as Roku SoundBridge; and handset makers such as Nokia, LG, Motorola, Sony Ericsson, and Samsung. In addition, Orban has more than 2,000,000 registered downloads of the aacPlus plug-in for Microsoft® Windows Media® Player. And XM Radio currently has approximately 8,000,000 subscribers listening to satellite radio with the aacPlus audio codec. Pandora added 600,000 aacPlus subscribers each month in 2007, and HD Radio has more than 1,200 stations broadcasting in the format. For surround sound over HD Radio, Dolby® Pro Logic® II provides an easy way for broadcasters to provide compelling programs that are compatible with current radio infrastructures and with the over 80 million Pro Logic II decoders already in use.

Outside the US, both Digital Radio Mondiale and DAB+ use aacPlus, and there is more potential than ever for Dolby to provide services and technology for emerging markets worldwide.

DOLBY E DECODING LICENSING NOW AVAILABLE

We're pleased to announce that we now provide Dolby® E decoding as a licensed solution. Dolby E technology has proven to be valuable for transporting up to eight channels of high-quality compressed audio (plus consumer and professional metadata) within existing digital two-channel postproduction and broadcasting contribution/distribution infrastructures. Because the frame rate of Dolby E matches that of the video it accompanies, programs can be effortlessly switched and edited, and successfully encoded and decoded many times throughout the various stages of the broadcast chain.

Third-party manufacturers were formerly required to purchase an OEM Dolby E decoder card to achieve this functionality; now, they may license Dolby E directly. Dolby E licensing is available for both real-time streaming applications and non-real-time nonstreaming file-based applications. Real-time streaming solutions will be provided in the form of object code for Texas Instruments™ TMS320C67x™ and C64xx DSPs; it is also available as C source code.

File-based decoding will be enabled via software libraries for Windows®, Linux®, and Macintosh® operating systems.

Additional information about Dolby E can be found on our website at www.dolby.com.

DOLBY® E

SOUND BYTES

This year, the fifth annual **NAB Surround Broadcast Conference** will take place on Wednesday, April 16. Come join us, as this marks our fifth year as the event's premiere sponsor. The conference is a coproduction between Dolby, Pro Sound News/NewBay Media, and the NAB. The all-day Surround Broadcast Conference is now also one of the official NAB conferences (another first in its five-year history). You'll get the latest advice and learn the best techniques for capturing, mixing, and transmitting 5.1-channel audio destined for transmission alongside high-def video.

The French HD Forum, which is a pan-industry organization of French broadcasters, consumer electronics manufacturers, and related companies, has specified Dolby® Digital Plus and aacPlus for the transmission of multichannel audio with next-generation HD broadcasts. Dolby Digital Plus was specifically identified as being preferred by broadcasters for 5.1-channel content due to compatibility with existing surround sound production and distribution infrastructures.

Members of the HD Forum include major broadcasters such as France Télévision, M6, TF1, and TPS, as well as the manufacturers Philips, Sony, and Thomson.

Dolby Digital Plus offers the benefits of Dolby Digital, the existing standard for HD broadcasts, with even greater data efficiency, plus advanced new features for future use. The ideal partner for H.264 video in HDTV and IPTV applications, Dolby Digital Plus is now being integrated into next-generation broadcast encoders, set-top box receivers, and digital televisions.

The aacPlus format is another next-generation audio format that provides even greater efficiency for applications where every bit counts. In order to increase the format's usability in the broadcast space, Dolby will soon be offering a completely integrated aacPlus decoding platform that includes transcoding to the well-established Dolby Digital format and adds many of its features and benefits.

As specified by the French spec, during the course of 2008, both Dolby Digital Plus and aacPlus will become mandatory audio requirements for every next-generation broadcast device sold in France. Dolby's new integrated decoding platform will combine all the benefits of both audio formats by maximizing compatibility with existing home theaters while extending the feature set to fully comply with this new French HD Forum specification. These new features will include full metadata translation and dual-decode modes to support services for visually impaired audiences.

Dolby® 3D Digital Cinema provides a spectacular and mesmerizing experience for moviegoers. Postproduction facilities can now take advantage of Dolby 3D Digital Cinema in their normal work flow for viewing content, using the Cine-tal™ Dolby® 3D Color Processor. Dolby 3D technology doesn't requires a silver screen or active shutter glasses, making it ideal for 3D image quality and control. Postproduction operators can also view conventional monitoring screens using our passive 3D glasses.

Dolby® Digital Plus is gaining significant momentum in broadcast products around the world. The following TV sets and set-top boxes all include Dolby Digital Plus technology:

- Sony® X3500 model range (available throughout Europe)
- Philips PFL model range (Europe) and HFL model range (US)
- Pace HD-DVR boxes (for European operators Viasat and Digiturk)
- LG 42LG5500-ZB DVB television set
- Samsung DSB-H670N set-top box for DVB satellite (also for Viasat in Scandinavia)

On January 1, 2008, the National Telecommunications and Information Administration (NTIA) launched its **Coupon Eligible Converter Box program**. These boxes will allow consumers to receive basic ATSC digital television over the air after February 17, 2009, the scheduled switch-off date for analog television. Because the ATSC specification uses Dolby® Digital to encode and transmit the audio on these over-the-air services, every converter box will feature a basic Dolby Digital decoder. Dolby has been working with the NTIA and the manufacturers of these converter boxes to ensure satisfactory audio performance on these products.

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