

5.1 BROADCASTING

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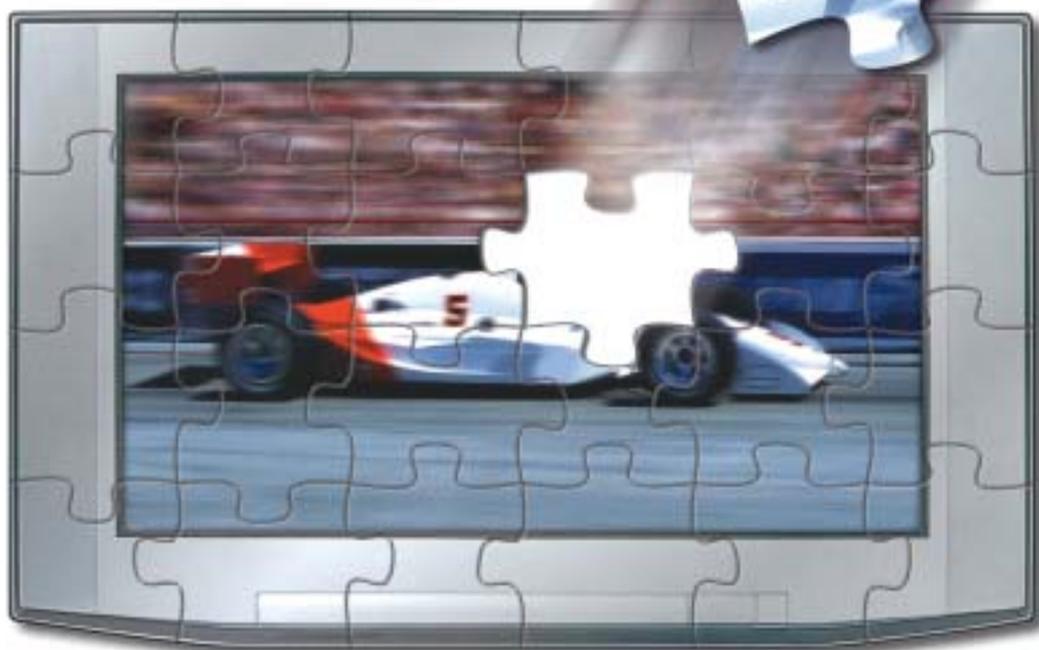
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ARE YOUR TV PROGRAMMES MISSING SOMETHING?



European Public Broadcaster ORF Innovates with Dolby Digital 5.1

The Austrian Broadcasting Corporation (ORF) is preparing to launch an innovative and extensive range of programming with Dolby® Digital 5.1 surround sound. As a public broadcaster, ORF produces and transmits a total of 13 radio and two main television channels, ORF 1 and ORF 2, which are complemented by nine regional TV channels. All broadcasts are available as terrestrial transmissions and via satellite. Technical director Andreas Gall recently announced that the ORF has decided to use Dolby technologies for the transmission of multichannel audio via satellite. Both ORF 1 and ORF 2 will benefit from Dolby Digital

sound starting early next year. The enhanced services will initially be available to viewers of ORF's digital satellite services on Astra.



Dolby's Paul Davies, Broadcast Systems Manager (left), and Karl M. Slavik, Project Engineer, ORF

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European Public Broadcaster ORF Innovates with Dolby Digital 5.1, continued from page 1

ORF will be the first European public broadcaster to launch a television service with Dolby Digital 5.1 sound, joining commercial broadcasters including BSkyB, Premiere, and ProSieben. In addition to feature films, ORF is planning 5.1 surround sound for broadcasts of live events and concerts, TV documentaries, and dramas. The broadcaster has been producing material in 5.1 for the last two years, mainly for DVD releases and in preparation for multichannel broadcasts. Programmes like *Arktis Nordost*, mixed in 5.1 by ORF's Florian Camerer, have already gathered international recognition.

Technical director Andreas Gall launched the project and assigned Karl M. Slavik from ORF's engineering department to implement Dolby Digital. As audio engineer and project manager, Mr Slavik comments on using Dolby technologies, "We will use Dolby E to carry multichannel audio from production and playout through to the transmission area, using our existing equipment infrastructure with only minor modifications. Dolby E enables us to have eight channels of audio plus metadata carried in the space normally used by two-channel PCM audio. This will also allow us to take delivery of outsourced material with both the 5.1 and stereo mixes on just one DigiBeta or Sony IMX tape."

Broadcasting Around the World

Other broadcasters in Europe already broadcasting in Dolby Digital continue with their success. Sky is now broadcasting 70 movies per month in 5.1 to satellite subscribers in the UK.



Above: ORF TV station, Vienna
Left: Andreas Gall, Technical Director, ORF



Teleclub in Switzerland is broadcasting Dolby Digital sound on its cable system, and extensive terrestrial trials have been conducted in several countries, including France.

From a worldwide perspective, the content being produced in Dolby Digital is still broadening. 50 leading TV networks around the world are already on air with Dolby Digital 5.1.

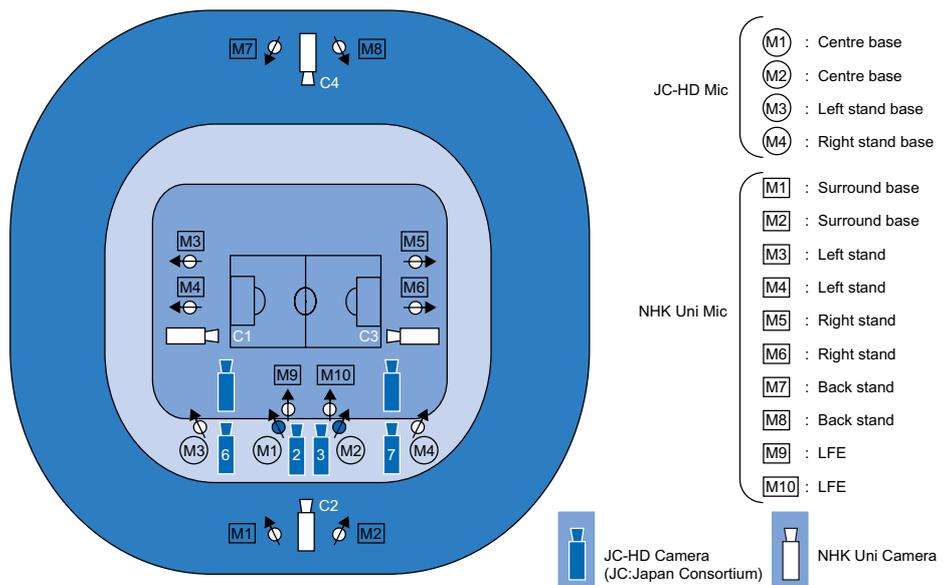
Showtime has now enabled all 32 of its high- and standard-definition channels with Dolby Digital 5.1 sound, and the Winter Olympics in Salt Lake City and Super Bowl XXXVI were both broadcast in 5.1.

NHK Broadcasts Football World Cup in 5.1

The Japan Broadcasting Corporation (NHK) took its pioneering high-definition sports coverage a step further in June this year by broadcasting 2002 FIFA World Cup games from Japan live with 5.1-channel audio. Dolby® E was used to carry high-quality multichannel audio from the football stadium to NHK Tokyo via standard telecoms links.

With the goal of recreating the atmosphere and drama of the best seats in the stadium right in the viewer's home, microphones were positioned pointing at the field, towards the ball, and into the crowd. Additional microphones positioned alongside the high-definition cameras were used to capture audience reaction.

During the broadcast, the complete HD-SDI signal left Yokohama stadium in Japan and travelled over the Japan Telecom Network to NHK Tokyo. The Dolby E



Microphone Layout – World Cup Final, Brazil vs. Germany

signal was then disembedded and decoded, fed to a surround mixer, and transmitted using MPEG-2 AAC.

Following the positive reaction to the surround sound broadcasts, NHK plans to increase its 5.1 programming in the future.

TV Sound Doesn't Have to Be Like This



Programme makers, broadcasters, and regulators have welcomed the launch of Dolby's new LM100 Broadcast Loudness Meter. They see the unit as a potential solution to an age-old problem – that of normalising the loudness of different TV channels and programmes.

The launch of the tool has already been noted by bodies such as the Australian Broadcast Authority (ABA), who recently published an investigation into the loudness of advertisements on commercial television. The report noted the emergence of the Dolby® LM100 as a potential solution for broadcasters to monitor and measure loudness.

The LM100 Broadcast Loudness Meter provides an easy-to-understand measurement of loudness that can be used to adjust different content or channels to similar levels. It is the first meter developed specifically for broadcasters that allows them to measure the loudness of a programme as it would be assessed by a human listener. Typical applications include programme-ingest facilities, cable head-ends, and satellite operations for both analogue and digital broadcast services.



LM100 Broadcast Loudness Meter

DOLBY E PARTNER PROGRAM

Broadcast Manufacturers Offer Integral Dolby E Decoding

With Dolby® E now firmly established as the most convenient way for broadcasters to distribute multichannel audio, several more broadcast equipment manufacturers have announced developments as part of the Dolby E Partner Program. At IBC2002, Dolby is also welcoming Crystal Vision and Jünger Audio as the latest members of the Program.

Earlier this year, Axon announced that they would be the world's first third-party supplier to integrate full decoding of Dolby E. The new Dolby E decoding card, the DBD08, is available as part of Axon's

modular system, Synapse. "Since becoming a Dolby E Partner last year, our aim has been to provide compatible and dedicated solutions that will simplify the use of Dolby E," said Peter Schut, product manager for Axon Digital Design. "The introduction of the DBD08 will enable multiple Dolby E decoders to be available in a smaller form factor than was previously

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DP564 Feedback

London DVD house, Stream Digital Media, has recently worked on DVD releases of *Ali*, *Spy Game*, and *Vanilla Sky*. We showed the new Dolby® DP564 Multichannel Audio Decoder to technical supervisor Steven Samwell.



How important is audio in your DVD projects?

Audio has always come second best to video in this industry, but now we are seeing a huge increase in the number of music DVDs being produced, and audio is becoming just as important. We therefore want to stay ahead of the game, with tools such as the DP564.

How would the DP564 help you with your projects?

The DP564 is not just a decoder, but an analysis tool which can provide a wealth of information to aid the quality of an encode. With the user-friendly interface, graphic display, and wide array of connectivity, the DP564 has unlimited potential.

How will you make use of the unit's multiple inputs?

One good feature is the domestic TosLink® optical input on the back. When we encode a new version of an existing DVD title, this works as an excellent tool for providing a comparison. We can monitor the audio on the existing disc and match or improve on the encode. The Ethernet connection is also a good idea – the streaming feature will be very useful in the future.

What do you think is the most useful new feature of the DP564?

It's the user-friendly interface and the large screen. An image can speak a thousand words! The GUI is very intuitive, enabling accurate metadata monitoring. The visual metering is also very good; it's logical to navigate and a lot of the functions are only one button away. I look forward to installing a DP564 in the racks at Stream!



possible. This gives our customers much more flexibility in choosing how they integrate Dolby E."

Utah Scientific, Videotek, and Wohler have all announced products incorporating monitoring of Dolby E and Dolby Digital audio. "As the broadcast industry continues to broadcast more multichannel audio content, the need to monitor Dolby E and Dolby Digital bitstreams at various stages increases as DTV audio makes its way from mixing desk to



transmitter," said Mark J. Everett, vice president of Advanced Technologies, Videotek.

These manufacturers are the first to use Dolby's new OEM decoder cards for Dolby E and Dolby Digital. The size of a standard computer memory card, they have been designed specifically for building into broadcast products such as VTRs, servers, routers, SDI products, confidence monitors, and level displays.

NEWS

Dolby Sound Bytes 2002



One billion milestone - Over one billion licensed products with Dolby technologies have been sold worldwide. Over 1/4 billion of these incorporate Dolby® Digital.

Eight Emmy® nominations - Sound category nominations for the 2002 Emmy Awards in September include eight TV programmes mixed and broadcast in Dolby Digital 5.1.

Surround in Motion™ - The new Volvo XC90 SUV is the latest car to benefit from Dolby in-car technologies including Dolby Pro Logic® II.

70 Dolby Digital movies monthly from BSkyB - Sky have upped the number of Dolby Digital 5.1 movies they broadcast each month from 28 to 70.

D-Cinema successes - Dolby's DMA™8 Digital Media Adapter™ was installed in China, Europe, and the US for digital cinema screenings of *Star Wars: Episode II—Attack of the Clones*.

Next-generation media - Dolby offers MPEG-4 AAC licences worldwide, geared towards Internet streaming, electronic distribution (EMD), multimedia playback, and wireless applications.

Games - *Spider-Man: The Movie* and new release *Turok 4: Evolution* feature Dolby surround sound on all three next-generation consoles: Sony PlayStation® 2, Microsoft Xbox™, and Nintendo GameCube™.

Dolby Digital for Swiss cable TV - Pay-TV broadcaster Teleclub began programming films in Dolby Digital 5.1 in May this year.

Dolby Digital encoder sales - Over 1,000 DP569 Dolby Digital multichannel encoders have been sold to DVD authoring, digital TV, cable, and satellite facilities worldwide.

More Dolby Digital channels from DIRECTV - The leading satellite TV service provider in the US has increased the number of channels available in Dolby Digital 5.1 to 20.



BREAKING SOUND BARRIERS™