Introduction

Neural Surround™ Backgrounder

Neural Surround™, a breakthrough in audio technology, will bring the excitement of surround music to more of America's listening audience. It provides the rich envelopment and discrete image detail of surround sound in a format 100% compatible with stereo. With superior spectral resolution and channel separation, Neural Surround™ draws the brain's attention to sonic details in musical instruments, vocals, and ambience that are typically masked by other playback systems. This allows the listener to fully experience the richness and subtleties in recorded performance as never before.

Neural Surround's™ proprietary process simplifies distribution and consumer access to surround material. By encoding surround material in the stereo waveform; radios, CDs, and compressed stereo digital music downloads for iPods or regular CDs are all fully compatible with Neural Surround™ material.

Neural Surround™ is being adopted already by leading consumer electronic brands. Starting with new retail releases in the spring of 2006, more than 50% of all surround home receivers will offer Neural Surround™ technology.

As the chosen format for XM Satellite Radio's new XM HD surround programming, Neural Surround will help deliver more surround music to more listeners than any other broadcast format. XM Satellite Radio will be the first radio company to broadcast surround sound on the radio 24 hours a day and will offer three channels fully dedicated to Neural Surround™ music. This alone will amount to more than 25,000 hours of Neural Surround™ music each year.

In addition to XM, Neural Surround™ is widely used to solve stereo-to-surround audio compatibility issues by leading radio and television networks worldwide.

The innovative Neural Surround technology is based on 20 years of research in audio design on how the brain perceives sound. It is solely developed and owned by Neural Audio Corporation, a privately held company headquartered in Kirkland, WA.

For more information; www.neuralsurround.com

About Neural Audio Corp.

Neural Audio Corporation is an audio development company specializing in digital signal processing solutions for broadcast and consumer electronics. Neural Audio has developed a proprietary audio format that embeds the rich envelopment and discrete image detail of surround sound in a format 100% compatible with stereo. Chosen by XM Satellite Radio as the format for its 24-hour XM HD Surround programming, Neural Surround™ will introduce the excitement of surround music to more of America's listening audience. In addition, Neural Surround™ is supported by the major brands in the home theater and automotive electronics industries. Neural Audio expects its breakthrough technology to be available in more than 50% of surround receivers starting spring '06.

Neural Audio Corporation is a privately owned company headquartered in Kirkland, WA. The Neural Surround™ name and related logs are trademarks owned by Neural Audio Corporation.

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How does XM HD Surround broadcast work?

When broadcasting to XM listeners, the Neural Surround™ process encodes surround material by "watermarking" the surround spatial cues on a downmixed stereo signal described as "Lw/Rw". This simplifies the distribution of and consumer access to surround material. Neural and XM have jointly developed this streamlined process, and the Neural Lw/Rw signal can be efficiently managed within the XM network operation center and broadcast system.

On the consumer side, any listener who owns mono, stereo or matrix style receivers can enjoy the XM HD Surround broadcasts that use the Neural Lw/Rw watermarked signal. But when a Neural Surround™-equipped receiver is added, the watermarked spatial cues encoded in the Lw/Rw signal are recovered and a full Neural Surround™ experience is delivered.

Figure 1 XM HD Surround by Neural