

For Immediate Release

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### JVC Develops “Near Speaker Surround” Technology

Enjoy Impressive Personal Surround Sound Without Spreading Loud Noise

Via New Simple and Easy Single Speaker Enclosure Listening System

Victor Company of Japan, Limited (JVC) developed a “Near Speaker Surround” technology with 3 related patents currently pending for use in a simple 2-channel front surround sound system. The new technology applies JVC’s unique digital signal processing to sound reproduced with low volume from a single speaker enclosure placed close in front of a listener. The listener enjoys impressive surround sound on par with a multi-channel speaker system without heavy noise leakage into the surrounding environment.

JVC will exhibit this technology at the JVC booth at the A&V Festa 2006 being held at Pacifico Yokohama from September 21-24 (Thursday to Sunday).



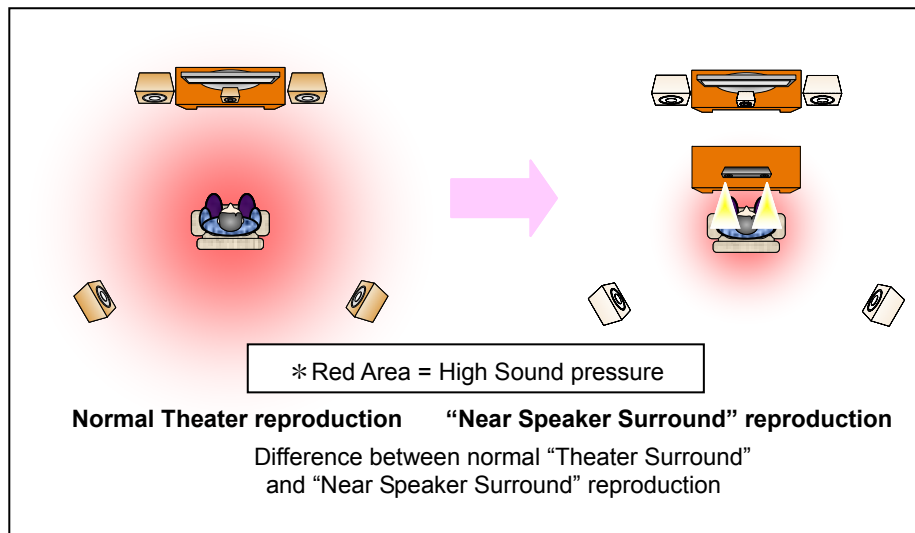
Prototype Near Speaker Surround



#### Installation Example

##### Benefits of Near Surround Speaker Technology

- **Reduce sound leakage up to 56% through low volume sound reproduction** - Users enjoy surround sound reproduction from the speaker without worrying about sound leakage to the surrounding environment, even in the middle of night.
- **Spatial sound field creation** – Reproduces sound with unexpected power, realism, and sense of immersion from small speakers.



### Development and Overview of Near Speaker Surround Technology

With the spread of DVD software and digital broadcasting, it becomes possible to create a powerful multi-channel surround sound environment in the home. However, it can be difficult to find a place for rear speakers and wiring. Listening at loud volumes can bother neighbors as well. This generated the need for an easy-to-set-up system by which users can enjoy surround sound without worrying about noise leakage into the immediate environment.

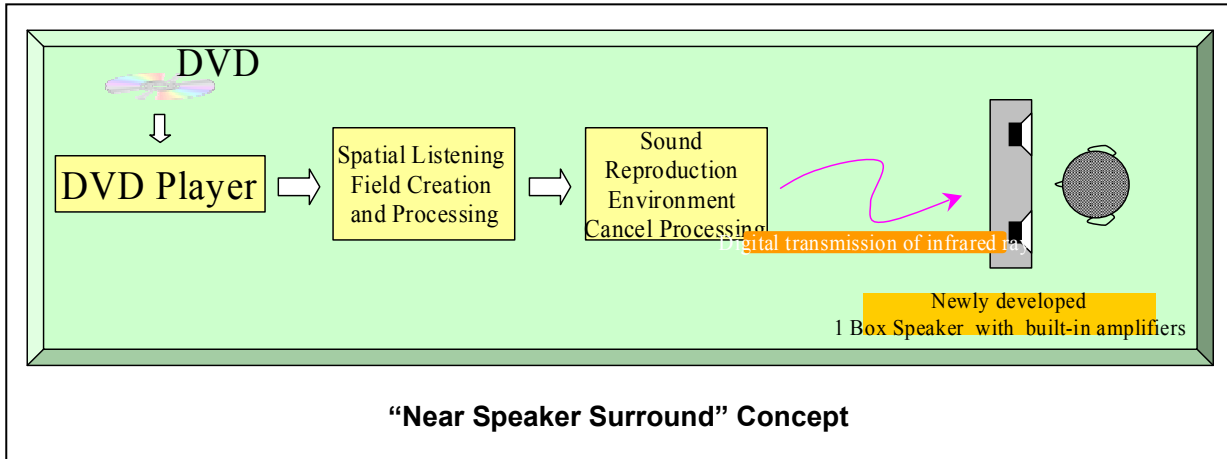
JVC developed products featuring 3D-Phonic and Root 4 front surround sound technologies that enable users to enjoy surround sound easily. The new provisionally named Near Speaker Surround technology uses a 2-channel front surround sound system adds the new idea of considering how sound volume affects the surrounding environment.

This new technology provides a new listening style by placing a single enclosure-type dual speaker with built-in amplifier near the listener for listening to multi-channel content such as DVD software and digital broadcasting. When any speaker is placed near a listener, sound volume can be turned down to reduce ambient noise leakage. With typical technology, this results in losing the spatial broadness and impressiveness multi-channel surround sound can deliver. But JVC's unique signal processing technology reproduces impressive surround sound with a sense of realism and broad spatial field that would not seem possible from such a speaker located close in front of the listener.

## Features of Near Speaker Surround Technology

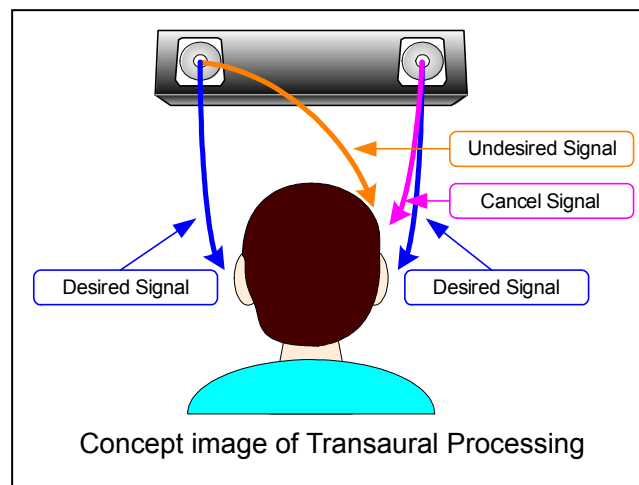
### 1. Spatial Listening Field Creation and Processing Technology

Each channel of the multi-channel signal is processed uniquely to create a binaural signal equivalent to what a listener would hear in a multi-channel surround sound field. This sound field is similar to what would be heard in a spacious theater, even though the speaker unit is placed near the listener.



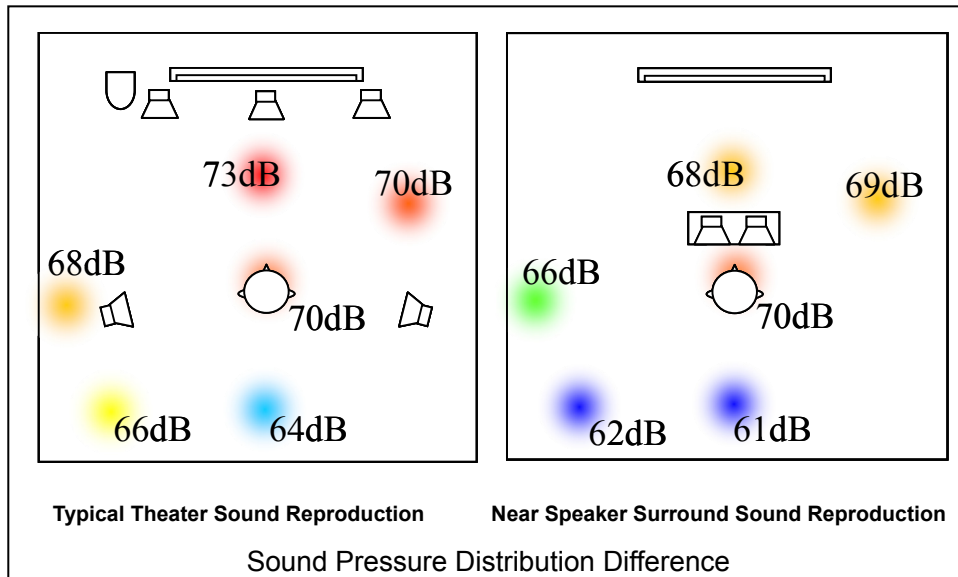
### 2. Transaural Processing: Sound Reproduction Environment Cancellation Processing Technology

Listeners get a surround sound effect by listening to sound with normal headphones when the signal generated by spatial acoustic field creation and processing technology is binaural. In reproducing this effect with two speakers, "transaural processing" cancels undesired sound other than the binaural signal intended for each ear. In addition to this, JVC's Near Speaker Surround technology adds unique signal processing to achieve sound image localization with minimal acoustic phase reversal and individual variation.



**Difference in Sound Pressure Distribution between Typical Theater Sound Reproduction and Near Speaker Surround Sound Reproduction**

Given the same sound pressure level of 70 dB at the listener's ears, the following figure illustrates the difference in sound pressure distribution between typical multi-channel sound reproduction and Near Speaker Surround sound. These decibel level reductions mean that ambient sound pressure can be reduced by up to approximately 56%.



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