JVC Develops World’s First Single-sided, Dual Layer DVD-RW Disc Technology

Newly Developed High Sensitive Recording Film and a New Writing Method “N-Strategy” to Enhance Erasability Produce Dual Layer DVD-RW Disc
8.5GB Disc for Up to 11 Hours of Video Recording

Victor Company of Japan, Ltd. (JVC) is pleased to announce that it has developed the world’s first single-sided, dual layer DVD-RW disc technology with a maximum storage capacity of 8.5GB. The breakthrough was made possible by the development of a high sensitive recording film, a new recording method “N-Strategy”, which enhances erasability, and a proprietary precision thin film forming technology. The new disc technology delivers 1.8 times the storage capacity of conventional, single-sided, single layer DVD-RW disc with a 4.7GB capacity. Each single-sided, dual layer DVD-RW disc can record up to 11 hours of video without turning over the disc.

JVC has also developed a facing film bonding method that enables mass production of the new discs using conventional manufacturing equipment.

The company’s new disc technology adds rewritable features to single-sided, dual layer DVD discs, which until now have been limited to write-once capability. JVC predicts that the technology will enjoy widespread use in applications such as video recorders and optical drives for both mobile and desktop PCs. The company will continue to develop feature enhancements aimed at future commercialization of the technology. JVC will forward a proposal to the DVD Forum in an effort to promote the adoption and advancement of single-sided, dual layer DVD-RW disc technology.

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Features of Single-sided, Dual Layer DVD-RW Disc Technology

1. Single-sided, Dual Layer Structure Based on Newly Developed High Sensitive Recording Film, a New Recording Method “N-Strategy”, which Enhances Erasability, and Precision Thin Film Forming Technology

Dual layer DVD-RW disc technology utilizes a semi-transparent first recording layer (L0 layer) with excellent transmission performance from the signal read side. With conventional DVD-RW disc technology, the use of a thinner recording layer in order to achieve improved transmission performance results in less laser beam absorption. The resulting drop in laser absorption is insufficient to form and erase marks (recording signal patterns).

The new single-sided, dual layer DVD-RW disc technology makes use of a high sensitive recording film that enables excellent transmission performance and signal rewritability and a new recording method “N-Strategy”, which enhances erasability. The high sensitive recording film and “N-Strategy” are based on JVC’s proprietary phase-change design technology developed for high speed DVD-RW discs. Furthermore, JVC employs precision thin film forming technology based on nanotechnology to deliver the world’s first single-sided, dual layer DVD-RW disc technology with an
8.5GB storage capacity.

2. Facing Film Bonding Method for Improved Production Efficiency

JVC has developed a facing film bonding method in which the L1 and L0 recording layers are each formed on separate substrate, but using a different forming order. The recording sides formed on each recording layer are then bonded in an opposed fashion, separated by a space layer. The two recording layers are manufactured as separate processes prior to bonding resulting in improved production efficiency and mass production capability using conventional manufacturing equipment.