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*Digital watermarks enable rights management policy while enhancing consumer experiences, and have been proven in many applications supported by billions of watermarked objects*

## **Introduction**

One of the most promising technologies to help secure, manage and enhance content, including audio, video, documents and images, is digital watermarking. As new business models and technologies emerge, rights management information will need to be associated with virtually all content to enable proper usage and reliable economic models.

Digimarc is the leading provider of digital watermarking components and technologies used in a wide range of applications. Digital watermarks are data embedded in content, such as copyright information and content identification, which can survive the conversion between digital and analog formats. They are generally imperceptible to the human eye and ear, but can be readily detected by machines.

## **The Role of Digital Watermarks (DWMs)**

- DWMs can identify content and rights to enable rights management policy while maintaining the functionality of legacy devices and enabling innovative new content usage models for consumers.
- DWMs are broadly deployed with billions of watermarked objects and millions of detectors in the market, supporting various applications.

Complementary technologies, such as encryption and digital flags, are rendered completely ineffective when the copyrighted content is converted into analog form. Digital watermarks provide a crucial segue between the digital and analog domains, in that the digital watermarks are woven into the fabric of the content and survive multiple analog and digital conversions, thus plugging what is known as the analog hole.

In other words, digital watermarks provide synergistic and enhanced rights management applications for both analog and digital content by providing content identification. Digital watermarks also enable forensic tracking content that has left the authorized distribution path, monitoring of broadcasts and content on the Internet, copy protection, notification of copyrights to educate the consumer, and linking to metadata.

## **Next Steps & Conclusion**

Content owners can watermark audio and video now for forensic tracking, copyright notification and monitoring while the content, consumer electronics and computer industries work to agree on a watermark detector standard architecture for rights management. Consumer devices could control copying to physical media and PCs can educate consumers and enable e-commerce with copyright notification windows. If industry cannot come to a consensus, government may have to step in to establish rights management policy.

In conclusion, digital watermarks are available and widely deployed today, and can help speed deployment of online digital content by enabling rights management policy and enhancing consumer experiences.