



Frequently Asked Questions and Answers

Benefits

What is the purpose of Cinavia™?

Film and video piracy is a billion dollar problem that undermines the growth and viability of exciting new ways of offering entertainment and harms participants in the global entertainment industry. Cinavia supports the growth of new formats and reduces the harmful effects of piracy by enabling Blu-ray Disc players to identify and limit the use of unauthorized copies of theatrical and home video releases.

Cinavia provides content creators with a way to incorporate identifying data in their works that can be easily read when the content is played or copied. Blu-ray Disc players integrated with Cinavia can automatically differentiate among different types of content and apply an appropriate use policy in accordance with an industry standard or business agreement.

What are the benefits of Cinavia for the content owners?

From Hollywood to independent film makers, Cinavia provides a powerful tool for addressing casual and professional piracy of premium entertainment. The technology provides cross-platform content protection by enabling the use of unauthorized copies of content taken from theatrical and home video distribution to be limited in consumer devices. The technology provides an effective solution to immediate problems, such as in-theater camcording and DVD ripping, and the ability to address other emerging forms of piracy throughout the life-cycle of content.

What are the benefits to consumer product and component manufacturers?

For products such as Blu-ray Disc players, content protection technologies exist to facilitate the growth of a strong marketplace around new digital media distribution platforms. Cinavia provides a powerful complement to encryption-based DRM systems by addressing important avenues of professional and consumer piracy that would otherwise be left unaddressed. By integrating Cinavia into their products, consumer product and component manufacturers can ensure their products' compliance with all platform and format requirements, as well as enhance their competitive position in the market.

What are the benefits of Cinavia for consumers?

The costs of movie and music piracy are borne by all participants in the entertainment marketplace, including honest consumers and have slowed the industry's transition to more convenient and compelling ways of delivering entertainment. By reducing the economic impact of movie and music piracy, Cinavia can reduce costs and increase choices, benefiting consumers everywhere.

How it Works

How is Cinavia used?

Cinavia embeds inaudible watermarks into the soundtrack of movies prior to distribution in theatrical releases, in packaged media including Blu-ray Discs, and in Internet entertainment and music content. The watermark is detected by consumer or professional electronic products that incorporate Cinavia detectors.

Similar to visible watermarks used on currency and stationery, audio watermarks verify the authenticity of content. The difference with the Cinavia audio watermark is that it is inaudible and invisible to the consumer and does not interfere with the intended uses of the content. The Cinavia audio watermark travels with the content throughout all subsequent uses of the content regardless of copying or modifications.

Blu-ray Disc players integrated with Cinavia technology will identify and protect against the use of pirated copies taken from theatrical release prints. These could include camcording and recording and redistribution of content in unauthorized formats, such as Blu-ray Disc titles that are re-authored and distributed on pirate DVDs.

Cinavia audio watermarking adds a valuable layer of content protection that complements encryption technology provided by AACs and the Blu-ray Disc format.

Consumer Experience

Will Cinavia restrict my access to content?

Cinavia is used in Blu-ray Disc players to identify and limit the use of copies of movies, television shows, and other professionally produced videos that have been made without the permission of the copyright owner. Cinavia does not limit the use of authorized copies of content.

Is the use of Cinavia required for content to be played or recorded?

Cinavia watermarks are not required to be present in content for the content to be played. Instead, it is the presence of an audio watermark that indicates whether the content is being used in accordance with its copyrights or in an unauthorized manner that may result in the use being limited or disallowed.

Will Cinavia affect my ability to make a copy of content I have purchased?

Cinavia does not limit the use of copies made with the permission of the content owner, such as downloads from authorized content distributors or "digital copies" and "managed copies" that are provided with some legitimate commercial DVDs and Blu-ray Discs. Cinavia may limit the use of copies of commercial movies and television shows that are made without authorization by the content owner, such as those created by unauthorized "ripping" software or those downloaded from unauthorized Internet distributors and peer-to-peer networks.

Will my old Blu-ray Discs still work in Blu-ray Disc players that include Cinavia?

The use of content that does not incorporate the Cinavia watermark and of authorized copies of commercial content are not limited by Blu-ray Disc players that incorporate Cinavia.

Will Cinavia be on content distributed over peer to peer networks?

Unauthorized copies of Cinavia watermarked content may appear on peer to peer networks and that content may not play back on devices that incorporate Cinavia.

What happens to the consumer who unknowingly gets an unauthorized copy of a Blu-ray Disc?

The player will either mute the movie's audio or stop playing the movie entirely. The player will also notify the consumer that the movie is pirated and display the URL of the Cinavia Consumer Information website (cinavia.com). The Motion Picture Association (mpaa.org) has a web page where consumers can report piracy.

What protections exist for consumers' exercise of the "fair use" of content?

The content protection policies enabled by Cinavia were carefully designed to balance the interests of consumers with those of copyright holders and consumer product manufacturers. These policies provide consumers with generous allowances for the ancillary use of portions of purchased movie soundtracks while protecting the rights of content creators to limit the reproduction of their works. The operation and use of Cinavia is open to review and publicly disclosed via consumer product labeling and a consumer information website (cinavia.com).

Does Cinavia contain or capture any private or personally identifiable information that is related to a consumer or consumer device?

Cinavia is not used by Blu-ray players to report any information about consumer behavior to any third party. The only party that is notified when pirated content is played back is the consumer, through an on-screen message.

How can I find out more about what Cinavia does and how it is used in Blu-ray Disc players?

AACS has published a detailed set of technical and policy guidelines regarding the use of Cinavia in Blu-ray Disc players on their website (aacsla.com) and a consumer information website is available at www.cinavia.com.

Deployment

Does Cinavia only work with content distributed in the Blu-ray Disc format?

Cinavia is a cross-platform content protection solution that works across all widely-used distribution formats during the motion-picture industry's theatrical and home video release windows.

What kinds of content can be embedded with Cinavia watermarks?

Theatrical and home video releases of filmed entertainment of any kind can be protected with Cinavia, including content distributed in film, digital cinema, DVD, Blu-ray Disc, and many digital download and streaming formats.

Are studios already marking their releases?

Cinavia has been adopted by 20th Century Fox Film Corporation, Sony Pictures Entertainment, Universal Pictures and Warner Bros. Entertainment. The use of Cinavia on any individual title is at the studios' discretion. Any questions regarding the use of Cinavia on specific titles should be directed to the individual studio.

Who can embed the Cinavia watermark into a title?

Content owners and their service providers can obtain licenses and tools necessary for embedding Cinavia into releases.

What equipment would movie studios, post production companies or embedded service providers use to embed the Cinavia audio watermark?

Verance provides a complete line of professional products for use in producing film and home video releases embedded with Cinavia watermark technology. These tools support a range of post-production workflows including film print mastering, DCDM mastering, DVD and Blu-ray authoring, and packaging of content for VOD/PPV release and Internet distribution.

When will Cinavia technology be made available to manufacturers of Blu-ray Disc players and components?

Cinavia watermark detection technology is currently available to manufacturers of components and Blu-ray Disc players and recorders.

When will Blu-ray players be available that contain Cinavia?

Products are currently on the market that incorporate the Cinavia detector. The number of Cinavia integrated products is expected to grow as Blu-ray Disc component and device manufacturers work to meet the requirements of the AACCS final license agreement.

Can Cinavia be adapted to protect other content distribution channels and consumer product formats?

Cinavia is a platform-independent standard and may be adapted to support new media distribution and product formats in the future.

What are the licensing terms for use of Cinavia watermark technology?

Verance has several licenses available to meet the needs of various types of businesses. Please submit a [Request for Information](#) to receive information on Cinavia licensing options.

Technology

How is this technology different from other DRM systems?

Existing DRM systems use encryption to control access to content between the distributor and the playback device, but don't provide any protection if the content is played back and re-recorded. Cinavia remains permanently present and detectable within embedded content even after it is played back and re-recorded or converted among various digital formats. This offers a powerful complement to encryption-based DRM protection.

What information is contained in the Cinavia watermark?

Cinavia watermarks contain a data payload that identifies the intended authorized use of the content (e.g. theatrical only, protected home video or digital video download).

Does Cinavia affect the audio quality of music or films?

Rigorous, independent subjective testing by industry experts has demonstrated conclusively that Cinavia meets the most demanding criteria for preservation of sonic realism and fidelity. Movies on which Cinavia has been employed have received Oscar awards in the "Best Sound Mixing" and "Best Sound Editing" categories.

Does Cinavia content protection work with PAL or other international film formats?

Cinavia is compatible with all audiovisual distribution formats in commercial use worldwide.

Can Cinavia be used by private individuals to embed their own communications or possibly engage in secret communications or sabotage media content?

None of Verance's products or services facilitates secret communications between individuals. Any such use would require technical modification of our products and would be in violation of Verance's license agreements. Cinavia technologies have been classified as EAR99 by the U.S. Department of Commerce and are approved for export to any country (other than those countries which are embargoed or designated as supporting terrorist activities by the U.S. Government).

Audio watermarking seems to defy the logic that something inaudible can survive compression technologies that remove everything that is inaudible from the content. Doesn't that make Cinavia easily removed?

Cinavia watermarks remain present and detectable even after the content in which they are embedded is compressed or converted between different digital formats. Modern digital compression technologies like MP3 and Dolby Digital don't "remove everything that is inaudible;" rather, they operate by adding noise to parts of the signal that are not easily heard. Cinavia employs modern communication techniques like those used by mobile phones to be able to reliably operate even when the noise from compression technologies is present.

Can the Cinavia watermark be hacked?

The cycle of attack and countermeasure is an intrinsic element of content protection technologies and there will be ongoing monitoring and response to efforts to reduce its efficacy.

What is the difference between the audio watermark technology in VCMS/A and Cinavia?

VCMS/A (also known as the "ARIS/Solana-4C" or "Verance/4C" technology) is an audio watermarking technology for copyright protection of commercial music (sound recordings) that was introduced by Verance in 1999 and adopted by the 4C Entity as part of the content security architecture for the DVD-Audio and SD-Audio formats and by the Secure Digital Music Initiative (SDMI) as a part of the SDMI Portable Device specification.

Cinavia is a new generation of audio watermarking technology for copyright protection of commercial film and video recordings that was introduced by Verance in 2004 and selected by AACIS as part of the content security architecture for the Blu-ray Disc format.

While they have some technology in common, VCMS/A and Cinavia are adapted for different uses and while they are non-interfering (i.e. both marks can be present in the same content and both detectors may be present in the same device), they are not interoperable (i.e. VCMS/A devices will not detect or respond to Cinavia watermarks, and vice versa). The two systems are based on different technical specifications, require independent implementations and are licensed separately.

For More Information

For more information about:

Verance Corporation, go to www.verance.com

Cinavia, go to www.cinavia.com

AACIS, go to www.aacsla.com

Blu-ray Disc, go to www.blu-raydisc.com

MPAA, go to www.mpa.org

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