Synamedia
**CONTENT**ARMOR

**Forensic Watermarking for Video Streaming Services & Content Owners**

# Detect Video Piracy and Protect Your Content & Revenue

To combat video piracy, forensic watermarking is a must-have in your arsenal alongside piracy monitoring tools and other forms of security such as DRM and Conditional Access. With forensic watermarking, every video that is distributed carries a unique watermark, enabling content owners and video streaming services to detect the origin of leaks and take action to disrupt piracy at the source. Synamedia ContentArmor is a comprehensive watermarking solution that protects content from Studio screeners to direct-to-consumer premium Live and VOD content.

## Combining fidelity, robustness, throughput and security

Detecting and reducing video piracy using a forensic watermark presents a range of conflicting requirements and challenges that video services and content owners need to consider. These include:

**Fidelity** - The watermark embedded in a video cannot impair the entertainment experience of the end user. The strength and shape of the watermark must be adjusted to remain invisible to the human eye.

**Robustness** - Video piracy might include common video manipulations such as camcording, screen grabbing or transcoding. Forensic watermarks must remain recoverable after manipulation.
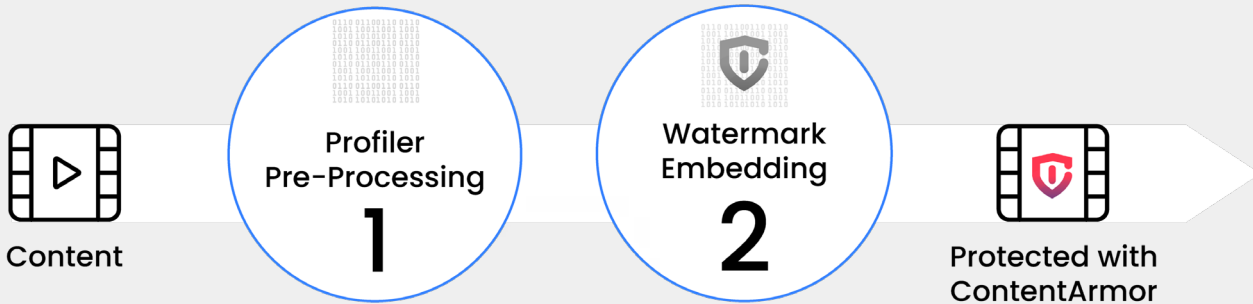
**Throughput** - Forensic watermarks encode binary information into the video stream/file (e.g. an identifier). The watermark system needs to fully embed the watermark in the smallest possible duration of video content in order to reduce the length of pirated content required to perform detection.

**Security** - Pirates analyse technical protection measures to devise efficient countermeasures. Watermarking systems need to withstand targeted attacks and offer some kind of renewability mechanism in case the watermarking algorithm is defeated at some point in time.

### Highlights

- Detect and disrupt leakage of linear channels, live events, and VOD
- Reduce operational costs with unique bitstream watermarking of compressed content
- Identify distribution and pre-release partners that are the source of leaks
- Integrate with any existing video compression and video streaming infrastructure

Content — Profiler Pre-Processing **1** — Watermark Embedding **2** — Protected with ContentArmor

The watermarking process is divided into two steps: First, a pre-processing step inspects the encoded video content to locate where and how it could be modified. Secondly, the result of this analysis is forwarded to an embedding step that applies the modifications to the encoded video content.

With this approach, computationally intensive operations can be offloaded in a preparation step that is only performed once. The embedding step is simpler and can be integrated virtually anywhere in the distribution pipeline – for example, in edge servers, integrated receivers/decoders (IRDs), conditional access modules (CAMs), or in consumer electronics devices.

## Features and Benefits

### Watermark compressed video

The ContentArmor watermarking solution has been designed to embed a watermark without having to decompress the video content, dramatically reducing operational costs compared to watermarking uncompressed content.

### Hollywood-approved

The fidelity and robustness of our technology has been thoroughly evaluated by Hollywood studios, independent auditors, and technology partners. In addition, ContentArmor has been formally approved by Cartesian and ChinaDRM.
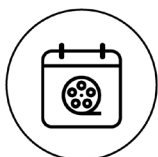
### Flexible integration

Our two-step system architecture offers several options for integration. Depending on the specifics of your environment, ContentArmor can be tailored to fit your needs and cut your operational costs.

### Detection as service

ContentArmor watermark detection is offered as a service and operated in the cloud. It can be accessed either through a web application or directly through a secure REST API.

### Discover our solutions

## About Synamedia Video Security Solutions

Synamedia provide video security solutions for the world's leading video services, enabling them to protect and monetize their content and services. Leveraging decades of video security and operational intelligence, our solutions provide multi-layer security to detect and combat piracy effectively. Synamedia ContentArmor enables streaming services and content owners to efficiently detect content leaks, using unique and robust watermarking technologies, and take action to reduce piracy and protect content and revenues.

## Next Steps

Learn more about **watermarking and Synamedia ContentArmor.**

For more information, **contact us**.



Pre-release — Premium Video — Live Sports — B2B Distribution — Music

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