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Spotify Tracks Every Stream. The Music Itself Has No Computable Identity.

by [Nick Clark](#) | Published March 27, 2026 | [PDF](#)

Spotify built the most sophisticated music streaming platform with per-stream royalty accounting, algorithmic discovery, and a catalog exceeding 100 million tracks. Every stream is counted, attributed, and compensated. But Spotify tracks music through ISRCs, database identifiers, and platform metadata. The audio content itself has no computable structural identity. A remix, a sample, or a re-upload cannot be structurally linked to its source from the audio alone. The gap is between platform-level tracking and content-intrinsic identity.

Spotify's royalty accounting, creator tools, and discovery algorithms serve millions of artists and billions of listeners. The gap described here is not about the platform's tracking capabilities within its own ecosystem. It is about what the content itself can prove about its own identity.

ISRCs are database identifiers, not content identity

Every track on Spotify has an International Standard Recording Code. The ISRC identifies a specific recording in databases. But the ISRC is a registry entry, not a property of the audio. The same recording uploaded with a different ISRC is treated as a different track. A different recording uploaded with the same ISRC is treated as the same track. The identifier is disconnected from the content.

This creates well-known problems. The same recording may appear under multiple ISRCs due to re-releases, remastering, or distribution errors. Different recordings may share an ISRC due to metadata mistakes. The registry does not verify that the content matches the identifier.

Audio fingerprinting is detection, not identity

Spotify and the broader music industry use audio fingerprinting to identify recordings. These systems create condensed representations of audio that can be matched against a database. They are effective for identifying exact or near-exact copies.

But audio fingerprinting is a search mechanism, not an identity system. It requires a database of known fingerprints to match against. A recording not in the database cannot be identified. A derivative work that differs sufficiently from the source will not match. The fingerprint does not travel with the content. It exists only in the matching database.

What content anchoring provides

Content anchoring derives identity from the content's own structural properties. For audio, this means entropy distribution across frequency bands, temporal structure signatures, and spectral patterns. The identity is computable from the audio itself, without reference to a database.

With content anchoring, a remix would carry structural lineage linking it to its source recordings through shared structural properties. A sample used in a new composition would be structurally identifiable within the composite work. Re-uploads and re-encodes would retain identity because the structural properties survive standard audio transformations.

Rights attribution would shift from database lookups to structural computation. The content itself would prove its lineage, enabling rights resolution that works across platforms rather than within a single platform's database.

The remaining gap

Spotify tracks every stream within its platform. The remaining gap is in content identity: whether music can prove what it is from its own structural properties, enabling rights resolution that works across platforms, survives transformations, and does not depend on database identifiers.

[Content Anchoring All 21 steps →](#)

Computable identity for media. Provenance from structural entropy.

Patent

US 63/808,372 · provisional

Primary Technical Disclosure

[◦ Content Anchoring: Computable Identity for Media That Changes](#)

Secondary Technical

[◦ Multi-Axis Entropy Vector Extraction: Nine Dimensions of Structural Content Identity](#)[◦ Quadrant Decomposition: Spatial Sub-Region Fingerprinting for Partial Similarity Detection](#)[◦ 320-Bit UID Construction: Multi-Segment Hashing for Negligible Collision Probability](#)[◦ Structure Signature: Background-Invariant Matching Through Gradient-Only Descriptors](#)[◦ Constellation Signature: Geometry-Invariant Matching Across Crop, Scale, and Occlusion](#)[◦ Five-Band Entropy Classification: Content Routing by Structural Complexity](#)[◦ Entropy Saturation-Governed Cache Eviction: UID Density Replacing Static TTL](#)[◦ Multi-Root Composite Lineage Graphs: Provenance Through Entropy Vector Similarity](#)[◦ Multi-Modal Content Identity: Unified Pipeline Across Image, Audio, Text, and Video](#)[◦ Rights-Grade Pre-Release Admissibility: Policy Evaluation Before Content Commitment](#)[◦ Training Corpus Governance: Verifiable Lineage From Training Data to Model](#)[◦ Consultation Event Logging: Deterministic Records of Every Generation Reference](#)[◦ Model Output Provenance Fingerprint: Structural Proximity Without Model Access](#)[◦ Creator Attribution and Compensation Routing: Payment From Consultation Lineage](#)[◦ Adversarial Robustness and Deepfake Detection: Content Identity as Detection Substrate](#)[◦ Client-Side Execution Architecture: Privacy-Preserving Entropy Computation on Device](#)[◦ UID Resolution Query Protocol: Distributed Lookup Across Anchor Node Networks](#)[◦ Orientation Canonicalization: Rotation-Invariant Processing Through Gradient Normalization](#)[◦ Cross-Band Resolution Pathfinding: Traversal Between Entropy Bands Under Mutation](#)

Applications (General)

[◦ Rights-Grade Generative AI: How to Pay Creators, Exclude Forbidden Content, and Prevent Infringement Before Release](#)[◦ Deepfake Detection Through Structural Provenance](#)[◦ Creator Economy Attribution Without Platform Intermediaries](#)[◦ Content Anchoring for Journalism Verification](#)[◦ Content Anchoring for Academic Research Integrity](#)[◦ Content Anchoring for Legal Evidence Chains](#)[◦ Content Anchoring for Insurance Claims Evidence](#)[◦ Content Anchoring for Real Estate Documentation](#)[◦ Content Anchoring for Art Authentication](#)

Applications (Specific)

[◦ C2PA Attaches Provenance to Content. The Content Itself Has No Identity.](#)[◦ Google SynthID Watermarks AI Output. Watermarks Are Not Identity.](#)[◦ Shutterstock Tracks Licensed Media. The Media Itself Cannot Prove Its Own Identity.](#)[• Spotify Tracks Every Stream. The Music Itself Has No Computable Identity.](#)[◦ Getty Images Built the World's Largest Licensed Image Library. Image Identity Still Depends on Metadata.](#)[◦ Adobe Stock Integrates Licensed Content Into Creative Workflows. Content Identity Is Still External.](#)[◦ YouTube Content ID Matches Audio and Video. The Content Has No Intrinsic Identity.](#)[◦ Audible Magic Identifies Audio Content. The Audio Has No Self-Identifying Properties.](#)[◦ Digimarc Embeds Invisible Watermarks. The Watermark Is Added, Not Intrinsic.](#)[◦ Irdeto Protects Digital Content Through DRM. The Protection Is Applied, Not Intrinsic.](#)[◦ Content Anchoring overview →](#)

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Last updated: 2026-03-03



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