International Standard Audiovisual Number

ISAN, the only ISO Identifier for audiovisual content

March 2017

WELCOME EVERYONE
Why ISAN?

Yves Saint Laurent

France
Jalil Lespert

ISAN 0000-0003-7FF4-0000-U-0000-0000-L

Saint Laurent

France / Belgium
Bertrand Bonello

ISAN 0000-0003-81D5-0000-E-0000-0000-W

2014
La Guerre Des Boutons

1961
Yves Robert
ISAN 0000-0001-70CF-0000-9-0000-0000-A

1994
John Roberts
ISAN 0000-0000-3F04-0000-A-0000-0000-7

2011
Yann Samuell
ISAN 0000-0003-1021-0000-I-0000-0000-K
Christophe Barratier
ISAN 0000-0002-F2D8-0000-H-0000-0000-N

La Guerre Des Boutons

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Why ISAN?

The Mirror has Two Faces 1996

La Leçon de Séduction (France)

Le miroir a deux visages (Canada)

L’Amore ha Due Facce (Italy)

Lo Specchio a Due Facce (Switzerland)

The Mirror has Two Faces 1958

Le Miroir a Deux Faces (France)

Lo Specchio a Due Facce (Italia)
The Man Who Knew Too Much

1934

Alfred Hitchcock

1956

ISAN 0000-0000-50E4-0000-9-0000-0000-A

ISAN 0000-0003-F50B-0000-A-0000-0000-7
Three main trends are transforming the audiovisual market:
Digitalization - Increase of Content - Multiplication of Stakeholders

New consumption modes
- Streaming & Replay
  - 6.4 screens per household in France*
  - 65% of web surfers use VOD*

Multiplication of distribution channels
- +49% of channels between 2009 & 2015 in European Union *

Operators fragmentation
- X2 #Production companies between 2000 & 2013 in France*

Audience fragmentation

Increasing number of digital native content

*Sources: Médiamétrie, 2016, European Observatory of Audiovisual
Why ISAN?

With the shift to digital, precise identification of audiovisual content is much needed:

✓ Collect and redistribute royalties to rights holders
✓ Help protecting content against piracy
✓ Measure fragmented audience: TV, catchup, VoD, OTT, cinema, video …
✓ Aggregate sales information, perform analytics & market analysis
✓ Help the content to meet its audience in digital distribution (discovery & suggestion)
✓ Automate digital audiovisual processes for content delivery, reporting, rights management…

ISAN helps to reduce errors and conflicts,
ISAN brings efficiency and helps to save time & money
What is ISAN?

International Standard Audiovisual Number

- Studios
- Content Owners
- Standardization bodies
- Film Archives
- Broadcasters

ISAN

ISO TC46/SC9
Identification & Description

CISAC
125 Countries
250 CMOs
3M Creators

FLAPEF
30 countries
80% of worldwide prod.

MAGICOA
The Rights People
38 Countries / 45 CMOs
15’000 rights holders

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ISAN applies to all audiovisual contents

Works

Versions of work

- Editing versions: director’s cut, censored, …
- Languages versions: dubbing, subtitling, audio description…
- Media versions: Digital files (VoD, OTT, EST), Digital Cinema (DCP), Blu-ray, DVD, Celluloid, Tape…

Related content & related items

- Trailer
- Behind The Scenes
- Making Of
- Sound Track
- Closed Captions
- etc…
### Core information

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<thead>
<tr>
<th>ISAN</th>
<th>0000-0000-1-68EC-0000-X-0000-0000-C</th>
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<tr>
<td>Type</td>
<td>Feature Film</td>
<td>Feature Film</td>
</tr>
<tr>
<td>Year of reference</td>
<td>2006</td>
<td>1966</td>
</tr>
<tr>
<td>Duration</td>
<td>90 MIN</td>
<td>130 MIN</td>
</tr>
<tr>
<td>Colour</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Composite</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Production information

| Coproduction       | No                                 | Yes                              |
| Production companies|                                    | Fam Artists Sa                   |
| Countries of reference |                                | Famous Artists Prod              |
| Original languages | English                           | English                          |

### Title information

<table>
<thead>
<tr>
<th>Original</th>
<th>Language</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>Yes</td>
<td>ENG</td>
<td>Casino Royale</td>
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### Participants information

<table>
<thead>
<tr>
<th>Type</th>
<th>Firstname / Lastname</th>
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</thead>
<tbody>
<tr>
<td>Producer</td>
<td>Barbara Broccoli</td>
</tr>
<tr>
<td>Producer</td>
<td>Michael G. Wilson</td>
</tr>
<tr>
<td>Director</td>
<td>Martin Campbell</td>
</tr>
<tr>
<td>Screenwriter</td>
<td>Neal Purvis</td>
</tr>
<tr>
<td>Screenwriter</td>
<td>Robert Wade</td>
</tr>
<tr>
<td>Actor</td>
<td>Daniel Craig</td>
</tr>
<tr>
<td>Actor</td>
<td>Judi Dench</td>
</tr>
<tr>
<td>Actor</td>
<td>Eva Green</td>
</tr>
<tr>
<td>Actor</td>
<td>Mads Mikkelsen</td>
</tr>
<tr>
<td>Actor</td>
<td>Jeffrey Wright</td>
</tr>
<tr>
<td>Scriptwriter</td>
<td>Paul Haggis</td>
</tr>
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<tbody>
<tr>
<td>Producer</td>
<td>Jerry Bresler</td>
</tr>
<tr>
<td>Producer</td>
<td>Charles K Feldman</td>
</tr>
<tr>
<td>Director</td>
<td>John Huston</td>
</tr>
<tr>
<td>Actor</td>
<td>Woody Allen</td>
</tr>
<tr>
<td>Actor</td>
<td>Ursula Andress</td>
</tr>
<tr>
<td>Actor</td>
<td>W Holden</td>
</tr>
<tr>
<td>Actor</td>
<td>Deborah Kerr</td>
</tr>
<tr>
<td>Actor</td>
<td>David Niven</td>
</tr>
<tr>
<td>Actor</td>
<td>P Sellars</td>
</tr>
<tr>
<td>Actor</td>
<td>Orson Welles</td>
</tr>
</tbody>
</table>
1 Work = 1 ISAN

Title: Casino Royale
Year: 2006
Dir: Martin Campbell

Title: Casino Royale
Year: 1966
Dir: John Huston

ISAN is linked to Metadata

Original Title + International Titles
Duration (MIN / SEC)
Original language(s)
Work Type (Feature Film, Documentary, etc…)
Year of reference (Copyright or production)
Country (ies) of reference
Color Kind
Year of first publication
Production companies
Full name of principal director(s)

Full name of Cast (actors scriptwriter, etc…)
External IDs (e.g. ISRC, UMID, EIDR, …)
Work Composites (list of ISAN)
Episode # (episodic works)
Season # (episodic works)

ISAN is Unique – Global - Permanent
What is ISAN?

ISAN is a Global Standard Identifier

ISAN is a registered Namespace Identifier (NID) with IETF and IANA. (IETF RFC 4246)
ISAN is operated by…

A worldwide network of Registration Agencies

Register
Audiovisual content

Search
ISAN Identities

Lookup
connected to the central ISAN registry
How does ISAN work?

The producer* creates the ISAN

* or a trusted third party

Title: Casino Royale
Year: 1966
Dir: John Huston

ISAN and meta-data are publicly available

www.isan.org

Broadcasters, Digital Platforms, etc..
Create Version ISAN

...then, everyone can use it.
ISAN is to be attached to the content / content package

SMPTE Metadata Dictionary
Broadcast Exchange Format (BXF)

Digital Video
Broadcasting

Preferred content identifier for ATSC transport stream

Content Protection & Copy Management

VOD Content Description
Advertising distribution

SMPTE

MPEG

ISO/IEC 13818-1 Generic coding of audio & video
ISO/IEC FDIS 21000 Multimedia Framework

EN 15744: Minimum set of metadata for cinematographic works
EN 15907: Enhancing interoperability of metadata

International Standard Audiovisual Number

ISO/IEC 13818-1
ISO/IEC FDIS 21000
Multimedia Framework

ISO 26428 – ISO 26433

EN 15907: Enhancing interoperability of metadata

EN 15907: Enhancing interoperability of metadata

Open EPG

www.tv-anytime.org

Material Exchange Format
Descriptive Metadata Scheme

ISO/IEC JTC1/SC28 WG11

Moving Picture Experts Group

ISO/IEC 13818-1 Generic coding of audio & video
ISO/IEC FDIS 21000 Multimedia Framework

International Standard Audiovisual Number

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International Standard Audiovisual Number

ISAN 0000-0002-6523-0000-Q-0000-0000-X

International Standard Audiovisual Number

ISAN 0000-0002-6523-0000-Q-0000-0000-X
Accessing the ISAN Registry

Rest API

Web interface

Files

Bulk registration
Bulk search / matching

registry snapshots

User Copy

Local search & lookup
ISAN in numbers: The ISAN Registry

+1’100’000 ISAN

ISAN identify productions from

- Europe (50%)
- Lat. America (4%)
- Asia (3%)
- N. America (43%)

21% produced after 2010
51% produced after 2000
90% produced after 1965

TV Series 45%
Docu. 18%
TV Ent. 15%
F. Films 8%
V-ISAN 6%
TV Films 2%
Short 2%
Other 2%
Perf. 1%
In-dev 1%

80’000 New ISAN / Year
ISAN Users Worldwide

10’000 ISAN Registrants from 80 Countries

+1000 new adopters every year

+11’000 ISAN Users

Producers

Collecting Societies

Distributors

Data Providers

Film archives / databases

Studios

Post Production

Broadcasters

Public Organisations

Digital Platform

Performers

Authors

Market Analytics

Media Funds

16 Appointed ISAN Registration Agencies (RA)

+ 2 Candidate agencies

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### ISAN Ecosystem of identified users or supporters

#### Collecting societies
- MAGICOA
- GWFF
- PROCREP
- ASCAP
- SIAE
- SMCU
- GEMA
- PRS
- KOPISTO
- SACA
- SACD
- VFF
- ISAN
- Scam
- SOCAN
- Directors
- 100+

#### Content production & Creation
- Gaumont
- TF1
- Fox
- Universal
- CBS
- DISNEY
- Capa
- Caracol
- VTV
- Arte
- RTVE
- Studio Canal
- 9000+

#### Content delivery
- Apple
- SRF
- Schweizer Radio und Fernsehen
- DailyMotion
- iTunes
- YouTube
- YouTube
- France Télévision
- DailyMotion
- RTE
- RTL
- M7
- Liberty Global

#### Data providers, market analytics, etc.
- Plurimedia
- GfK
- EurodataTV
- Transparency
- OfS
- Gkm
- CNC
- Ina
- Lumière
- Bbm
- Allocine
- Hadopi

#### Infrastructure & CPE
- Microsoft
- Northplains
- Safe Creative
- Blueprint
- MediaGeniX
- Scenarist BD
- etc.

#### Cultural Founds
- Screen Australia
- KOEIC
- CMPF
- FMC
- COGECO Fund
- Generalitat de Catalunya
- Film Institute
- OMDC
- etc.

#### Anti-piracy
- Civolution
- Hadopi
- Dailymotion
- Ina
- Filmtech
- EVP
- EVP
- European Parliament

#### Regulators, Public Orgs
- CNC
- KOEIC
- SCAPR
- DGG
- CSAC
- EUROCINEMA
- SCAM
- DGA
- etc.

#### Trade & Professional Organizations
- USPA
- Writers Guild of Canada
- Writers Guild of America
- SCAM
- EUROCOPIA
- etc.

#### Archives
- CINETECA NAZionale
- Arab CINEMADirectory
- etc.

* when required by CMOs
ISAN use cases
Public & private Film Funds use ISAN to identify and track the projects they finance (grants, tax credit, etc…)

- ISAN (or indev ISAN) is required for selected projects (creation, production, distribution…)
- Indev ISAN is activated (=> regular ISAN ) when the project is completed
- The funding org. collects usage statistics inc. ISAN on the distribution of the resulting works

ISAN helps AV funding organization to measure the results of their founding strategy!
Packaging Transactional VOD Content with YouTube

```xml
<?xml version="1.0" encoding="utf-8"?>
<package name="lionsgateuk-youtube-UPC12345-GBCA-insert-20111230T113857">
  <feature>
    <filename source="/assets/UPC12345/path-to-feature.mp4">UPC12345-GBCA-feature-CougarHunting-8.mp4</filename>
    <audiolanguage>fr</audiolanguage>
    <rating system="BBFC">18</rating>
  </feature>
  ...
  <metadata>
    <!-- ISAN 0000-0000-D07A-0090-Q-0000-0000-X -->
  </metadata>
  ...
</package>
```

more on code.google.com …
ISAN Use Case: Packaging Film Content for the iTunes Store

Sales and income reports with ISAN (easy consolidation with data from other platforms)
Usage reports to CMOs (DDEX) for automated rights management

iTunes Package Film Specification 5.0

```xml
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="film5.0">
  <provider>Paramount</provider>
  <language>en-US</language>
  <video>
    <type>film</type>
    <subtype>feature</subtype>
    <vendor_offer_code>408CH98720X103</vendor_offer_code>
    <vendor_id>09736156444</vendor_id>
    <isan>0000-0000-03B6-0000-0-0000-0000-2</isan>
    <upc>09736156444</upc>
    <country>US</country>
  ...
```

ISAN mandatory in Swiss Store as from Aug. 2017

more on www.apple.com ...
ISAN Use Case: Workflow for automated rights processing using ISAN

Electronic Data Transfer

Electronic usage report

Rights holders identification

International Rights Registries

Music rights (AVIndex)
Authors rights (IDA)
Producers rights (IRRIS)
Performers rights (VRDB)

iTunes VoD/ EST

content owners

100+

International rights

Music CMOs
Authors CMOs
Performers CMOs
Producers CMOs

Domestic rights

ISAN

iTunes Package

Matching
Processing
Royalty Distribution
Royalty Distributions
Use Case: ISAN simplifies music reporting of TV productions

- With the shift to digital the amount of data to process by CMOs has dramatically increased.
- ITV, major commercial broadcaster in UK, has registered +100’000 productions with ISAN.
- ITV use ISAN as a key identifier for their productions and is using ISAN in business message transactions such as music reporting to PRS for Music (as a start).
- ITV’s ISANs are being populated in CISAC’s AudioVisual Index (AVI), an important source of music cue sheets (music rights in AV content) for music rights societies.
- The first time a production is broadcast, the full metadata set (including music cue sheet) needs to be reported.
- Thereafter for repeats and catch-up services, the ISAN is reported without the need for music cue sheets (saving of 23 metadata fields replaced by one ISAN).
- This is particular useful for catch-up content on 3rd platforms in the UK (BT Vision, Virgin Media, iPlayer, ITV player, 4OD, YouView etc.).

The use of ISAN brings greater automation to the music reporting process by ITV in the UK and reduces the cost for processing rights by PRS for music.

>> Read the Press Release
ISAN Use Case: Automated workflow for music rights processing with ISAN

**Weekly bulk registrations**

**Electronic Data Transfer**

**PRS for Music**

**Matching**

**Processing**

**Royalty Distribution**

**PRS & MCPS members**

**Collecting societies**

**AudioVisual Index (AVI)**

**Music cue sheet exchange**

**ISAN 1234-5678-9101-0004-X-0000-00A1-Y**
ISAN Use Case: Embed ISAN in Windows Media files

Windows Expression Encoder

Windows Media SDK (encoder / decoder)

more on msdn.microsoft.com
ISAN Use Case: ISAN use in Media Asset Management

Asset Container Record

ISAN Schema Element (String Field)

Collateral Metadata Objects (Container Field)
ISAN Use Case: Content Recommandation

Cisco Videoscape Media Suite EPG

Better monetize content with ISAN

ISAN binds linear content with recommended non linear content such as other episodes of a serie, supplemental material or similar movies ... for purchase or rental.

more on www.cisco.com...
Imagine D-Series DSX™
Advanced Playout Automation

Linear & File based content delivery is empowered with open metadata exchange via BXF, MXF, AAF and ISAN.

Read more on imaginecommunications.com …
ISAN Use Case: Blu-ray Disk

ISAN is the recommended Content ID in AACS (Advanced Access Content System) used to protect Blu-ray disks.

AACS helps to ensure content is secure across devices and media while it maintains the highest standards and flexibility.

more on http://www.aacsla.com/home
ISAN Organisation Overview
ISO is the owner of the ISAN standard and related IP (ISAN Registry, etc...)
ISO is maintained and reviewed by ISO with the approval of its members
The management of ISAN and operational & implementation specification is delegated to ISAN-IA (via the Registration Authority Agreement) who reports to ISO.

Registration Authority Agreement (RAA): defines the Role, Responsibility and Obligations of ISAN-IA and ISAN RA

Manage & Operate the ISAN Standard in compliance with the ISO RAA, report to ISO
Operate the ISAN Registry and make sure it is accessible to all ISAN users.
Appoint & support ISAN Registration Agencies (ISAN RA)
Specifies with ISAN RA recommended practice.

Registration Agency Agreement: defines the Role, Responsibility and Obligations ISAN RA in accordance with ISO RAA

The Registration Agency (RA) is established to serve a specific country or region
Deliver the ISAN Registration Service to local audiovisual users
Facilitate the access to the ISAN Registry
Make sure that ISAN complies with local needs and practices
ISAN is regulated by ISO

- **RAND Principle**: "reasonable and non-discriminatory" terms and conditions shall apply.
- **Accessibility of the ISAN Registry**: ISAN data shall be accessible to all ISAN users.
- **ISAN Service Fees**: shall be reasonable and delivered on a strict Cost Recovery principle.
- **Compliance with competition laws**:
  - Local ISAN Service fees are defined by each RA: harmonization of fees = illegal price fixing.
  - ISAN users are **free to be serviced by the ISAN RA of their choice** (not necessary the one appointed in their country).
  - ISAN users are **free to change for another ISAN RA**, anytime.
- **Reporting**: ISAN-IA is obliged to report to ISO on a yearly basis (activity, obligations fulfillment,...)
- **Audit**: ISO has an audit right on ISAN-IA (agreements, books, records, documentation etc...).
- **RAA Reassignment**: ISO is entitled to reassign the ISAN Registration Authority mandate to another organization if justified by a good cause (obligation violation, bankruptcy, etc...).

**ISAN-IA and ISAN RA are not for profit association created (by not for profit organizations) for the sole purpose of Managing / Operating the ISAN Standard**
ISO is the exclusive owner of the ISAN standard (ISO 15706-1 & ISO15706-2).

All intellectual property related to the proper functioning of the ISAN standard, such as the ISAN Registry, trademarks, documents, etc., is owned by ISO and licensed to ISAN-IA.

Metadata submitted by registrants in the ISAN Registry are the property of the registrant who grants a non exclusive, perpetual worldwide license to ISAN-IA and ISO.

ISAN identifiers are public and can be stored, used, circulated for free and freely by anyone (irrespective of commercial and non commercial purpose).

ISAN-IA can sub-license ISAN metadata to third parties: a cost recovery based contribution can apply for preparing data and processing scheduled updates.
The ISAN-IA association is composed of 3 main bodies:

- **The General Assembly**: validates the accounts and nominates the auditors.
- **The Administration Committee**: composed today by representatives of the founding Members: CISAC, AGICOA, FIAPF, and representatives of the ISAN RA.
- **The Registration Agency Committee (RAC)**: composed of representatives of all ISAN RA, the RAC coordinate local efforts and reports local experience, specification or requirement and propose evolutions of the ISAN system to the AC.

- ISAN-IA’s bylaw enables to accept other industry representatives in its governance structure such as Archives, Broadcasters, Digital Platforms, Data providers, etc… willing to play an active role in the development of ISAN.
- ISAN RA are distinct legal entities, not for profit associations created for this specific purpose.
- ISAN RA are usually co-founded by several local constituents of the audiovisual industry:
  - ISO 15706 requires that local producers support or are represented in the RA
  - Artists, music societies, broadcasters, national archives, etc…
ISAN metadata model
Audiovisual Works & Versions

**Work / AV Work ⇔ ISAN**

- Distinct Intellectual Creation (Realization) with constant characteristics throughout all its versions
- A Work refers to all its derived versions; it is Abstract (no one can point a particular medium for the Work)
- A Work exist because it has been realized (1st manifestation). Unfinished projects (e.g. Clouzot’s “L’Enfer” 1964) are not considered as works (Indev ISAN)

**Variant of the AV Work (version) ⇔ V-ISAN**

- Changes to the AV Work that do not significantly alter the nature of the intellectual Creation (not a ≠ Intellectual Creation).
- A Variant refers to all its derived manifestations, It is an Abstract thing.
- Changes can be one or a combination of: minor editions, dubbing, subtitling, alterations of the soundtrack,…

**Manifestation of a work or a variant (version) ⇔ V-ISAN**

- Fixation of the AV Work or a Variant on a physical medium (film print, tape, optical disk, …) or a logical medium (i.e. without a fixed physical carrier) such as digital files or streams.
- A manifestation points a specific version of the Work, it refers to a Real thing.
- Defined with the technical properties of the media embodiment (Image Format, Encoding Details, Media of Fixation, …)
ISAN Work & Version Metadata Elements

**Minimal descriptive metadata required to unduplicate AV works**

**SINGLE AV WORK**

- **Title** of audiovisual work/content + alternate titles (when applicable)
- **Duration** (in minutes and/or seconds)
- **Original language(s)**
- **Work Type** (Feature Film, Documentary, TV entertainment, etc...)
- **Year of reference** (Copyright or production)
- **Country** (or countries) of reference
- **Color Kind**
- Year of first publication
- Main production company
- Full name of principal **director(s)**
- Full name of **participants** (actors, scriptwriter, etc...)
- External **IDs** (e.g. ISRC, UMID, EIDR,...)
- Work **Composites** (list of ISAN)

**EPISODIC WORK**

- **Title of the Serial**
- **Episode Title**
- **Episode Number**
- **Season**

**VERSION of an AV Work**

- **Version Type**
  - Language, Edition (Clips,...) (Expression)
  - Media (Manifestation)
  - Related Content (e.g. Bonus, Soundtrack,...)
  - Related Item (e.g. Boxed set, ...)
- **Parent Relationship**
- **Title & Descriptive Name**
- **Release Year / Date**
- **Version Running Time**
- **External Identifiers** (ISRC, UPC, EIDR,...)
- **Spoken & Written Languages**
- **Image Details** (Color, Definition, Ratio, 2D/3D)
- **Media embodiment** (DVD, BR, EST, VOD,...)
- **Audio & Video codec + encoding profiles**
- **Distribution** (counties + channel/platform)
- **Rating & Content Alert**
- **Version Composites** (list of Version ISAN)
- **Resolution**
- **Service Provider** (3rd party DB)
- Up to 3 customizable metadata fields
Using ISAN in distribution workflows
ISAN is compliant with many audiovisual standards:

- SMPTE Metadata Dictionary
- Broadcast Exchange Format (BXF)
- DVB
- Content Protection & Copy Management
- Preferred content identifier for ATSC transport stream
- CableLabs
- VOD Content Description
- Advertising distribution

Other standards and formats:

- DCI
- ISO 26428 – ISO 26433
- ISO/IEC JTC1/ISO/IEC WG11
- ISO/IEC 13818-1 Generic coding of audio & video
- ISO/IEC FDIS 21000 Multimedia Framework
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Standardized representations for ISAN

Printed Form

ISAN 1234-5678-9101-0004-X-0000-00A1-Y

URN Form

URN:ISAN:0000-0001-DB15-0000-X-0000-000C-N

ISAN is a registered Namespace Identifier (NID) with IETF and IANA. (IETF RFC 4246)

Hexadecimal & Binary Form (ISAN prefix and check digits can be omitted)

1234567891010004000000A1

000...011011010001010100000000000000000000000000000000000000000000000 (96-bit binary number)

XML Form

<ISAN root="0000-0001-DB15" episode="0000" check1="X" version="0000-000C" check2="N" />
Digital Cinema

- **Digital Cinema Package (DCP):** collection of digital files used to store and convey Digital DC audio, image, and data streams. DCP is an MXF standard implementation.
- **Composition Playlist File (CPL):** defines the playback order during the screening.
- The CPL is defined with a UUID, a same CPL can have different UUIDs (e.g. replacement of a DCP).
- The CPL contains a content version ID (version of the content described in the CPL).
- ISO 26429-7 recommends to use ISAN as in the example taken from the std:

```xml
<cpl:id>urn:uuid:6922e3fe-98de-4347-b832-92e400509d5b</cpl:id> => CPL ID is a UUID
<cpl:annotationtext>First D-Cinema Feature</cpl:annotationtext>
<cpl:issuedate>2001-12-17T09:30:47-05:00</cpl:issuedate>
<cpl:issuer>Major US domestic distributor</cpl:issuer>
<cpl:creator>Reliable Packaging Software v1.4</cpl:creator>
<cpl:contenttitletext>The Jazz Singer</cpl:contenttitletext>
<cpl:contentkind>Feature</cpl:contentkind>
<cpl:contentversion>
    <cpl:id>urn:isan:0123-1230-3210-2310-1-1234-1234-X</cpl:id> => ContentVersion ID is an ISAN
    <cpl:labelltext>English (Theatrical)</cpl:labelltext>
</cpl:contentversion>
```

In the DC standard, the ContentVersion ID is aimed to assist users and softwares in the programing and tracking of the content. (DC logs)
<ebucore:identifier typeLabel="ISAN"
  typeLink="http://www.ebu.ch/metadata/cs/ebu_IdentifierTypeCodeCS.xml#3.2">
  <dc:identifier>ISAN 0000-0001-DB15-0000-X-0000-000C-N</dc:identifier>
</ebucore:identifier>

FIMS enables to associate EBU Core metadata to content
ISAN URN representation:  

\[ \text{URN:ISAN: 0000-0001-DB15-0000-X-0000-000C-N} \]

- to link between essence and Metadata stored within MXF files,
- to link between the material stored in MXF files and external Metadata that could be stored in databases or Metadata files,
- to link between Metadata stored in MXF files and external Metadata that could be stored in databases or Metadata files.

When using SMPTE 377M: Descriptive Metadata Scheme

“identifier kind” = ISAN

“identifier locator”=

\[ \text{urn:smpte:ul:060e2b34.01010101.01011101.00000000} \]
AMWA AS-03 and AS-11 are subset of MXF for the delivery of finished programming from producers & distributors to broadcast stations

DMS-AS-03 shall include the following mandatory properties:
- AS-03 Identifier Kind – an enumerated string value indicating the kind of program identifier e.g. “ISAN”
- AS-03 Identifier – the identifier, as a text string e.g. “ISAN 0000-0001-8947-0000-8-0000-0000-D”

AMWA AS-11 is the format used by UK DPP for the delivery of content to UK broadcasters

<table>
<thead>
<tr>
<th>Other Identifier type</th>
<th>Description of other identifier, e.g. ISAN.</th>
<th>UKDPP_Other_Identifier_Type</th>
</tr>
</thead>
</table>

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Interoperable Master Format IMF

- File-based interchange of multi-version, finished audio-visual works.
- IMF supports multi-language, multi-reel, subtitles / closed captions, video inserts and after-the-fact delivery of content with “supplemental packages.”

Composition Playlist

URN:ISAN: 0000-0001-DB15-0000-X-0000-000C-N
Retrieving existing ISAN

- Metadata Matching Service
- ISAN Rest API
How to obtain existing ISAN for large catalogues?

1. ISAN retrieval (Matching)
   - AV Metadata (XML/Json)
     - File or API

2. Matching Results
   - Unique Match / No Match / Multiple Matches

3. Unique Match

4. Resolve ambiguities & confirm matches

5. Import ISAN for confirmed matches
9 Years Experience in Audiovisual Metadata Matching

Multilingual data Matching & Unduplication

Assistance and service in 80 countries
16 local Registration Agencies

Match confirmation tools

Metadata Matching

Minimize the Human Work
ISAN Dissemination Use Cases

✓ Matching Service
  ✓ IDA (International authors rights registry), BfS (Swiss statistic office), ICAA (Spanish ministry of culture), Lumière (EAO), CNC (FR)

✓ ISAN Registry API
  ✓ Plurimedia, Eurodata TV / Mediametrie, Agicoa (International producers rights registry), VRDB (International performers rights registry)

✓ ISAN Registry Snapshots
  ✓ GfK, Allocine (Film DB), Business Bureau (Lat Am.), BMAT (music monitoring), Transparency (=> Hadopi), AV Index (International Music rights registry)
REST API: read and write data in the ISAN Registry

- Data encoded in XML (Same schema as for file based data exchange) and JSON
- Double authentication:
  - API authentication: HTTP authorization header
  - ISAN registry authentication: custom X-ISAN authorization header

```plaintext
apiSignatureValue = Base64 (api_username:api_password)
isanSignatureValue = Base64 (isan_username : MD5 (isan_password))
```

- Swagger active documentation [http://web.isan.org/api/](http://web.isan.org/api/) (contact us for credentials)
- List of operations
  - Register a new work or version of a work
  - Search in the ISAN Registry (Query)
  - Update informations for existing works or versions
  - Resolve ISAN codes or external identifiers (Lookup)
  - List child versions from an ISAN (hierarchical Registry browsing)
ISAN Registry API: Search & Lookup functions

- Lookup Service (ISAN resolutions / external IDs resolutions)
  - Retrieve the metadata associated to an ISAN (all ISAN representations: classic, URI, ..)
  - Validate an ISAN (check digits, existence, active/inactive)
  - Translate ISAN ⇔ External IDs

- Search Service
  - Perform search in the ISAN registry (Oracle search: to be replaced soon by Solr)
  - Filtering, Sorting, Pagination:

```
GET /api/works?filter=string&sorting=string&limit=n&page=i
```

  - Search criteria (filter): « AND » combination between : Work Type, Serial Type, Title, Year, Duration, Participants (name / role), root ISAN (episodes of a serial)

  => supported operators: OR (|), exclusions (_), numeric intervals( [xx-yy])

  - Sorting: ascending (by default), descending (-) order, multiple fields are supported (sorting).

  - Pagination: define the number of results per pages (limit) and call results page by page (page),
THANK YOU

ISAN helps promote, provide and protect. Visit ISAN at www.isan.org

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