# Online Resources / Ressources en ligne / Recursos en Internet

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1.0 General Audiovisual Resources / Ressources audiovisuelles générales / Recursos audiovisuales generales

EN – FIAF: Glossary of Filmographic Terms (1985-2014)
Glossary of mainly film terms, particularly relating to laboratory technology

EN – National Film and Sound Archive: Glossary of Audiovisual Terms

EN – Society of Motion Pictures & Television Engineers (SMPTE)
Website of the Society of Motion Picture and Television Engineers (Standards, Publications, Education). Contents available for members only.

ES - Fundación Patrimonio Fílmico Colombiano: Principios y técnicas en un archivo audiovisual (2010)
La dinamización y puesta en circulación de este Manual con el apoyo del MINISTERIO DE CULTURA Y EL CONSEJO NACIONAL DE LAS ARTES Y LA CULTURA EN CINEMATOGRAFÍA, donde se recopilan y exponen los conocimientos y experticia que el comportamiento natural de los soportes audiovisuales requiere en todos los procesos de inventario e identificación, verificación y clasificación, análisis documental y catalogación, restauración y duplicación, transferencia y preservación, requisitos de almacenamiento, valoración y ubicación histórica, así como los aspectos éticos y legales necesarios para la utilización y apropiación del patrimonio audiovisual, se ofrece al público en general y particularmente a quienes manejan y conservan obras audiovisuales en soportes que tienden a evolucionar y llegar a su descomposición y pérdida total.

SOIMA: Unlocking Sound and Image Heritage is a web-based and freely downloadable book that offers tips and advice from dedicated professionals from all corners of the world, for the preservation and creative use of sound and image heritage.

2.0 Film / Film / Film

2.1 Film Technology General / Technologie filmique / Tecnología filmica

EN – Brian Pritchard: Resources on formats, gauges, colour systems, film printing, laboratories etc.
A treasury of useful historical data.

EN – Tim Vitale: Vitale Art Conservation and Digital Imaging
Includes Brief History of Imaging Technology; Estimating the Resolution of Historic Film Images: Using the Resolving Power Equation (RPE) and Estimates of Lens Quality; Film Grain, Resolution and Fundamental Film Particles.

FR / EN / DE – Filmlabs.org: Informations techniques
Informations et ressources sur le tournage, le développement, le tirage de copies, le son, le montage et le télémétra, la projection, le matériel de laboratoire et les prestataires pour les films en Super-8, 16mm ou 35mm, compilées par le collectif de laboratoires cinématographiques d'artistes pour les personnes qui veulent développer et produire leurs films.

2.1.1 Gauges / Formats / Formatos

EN – The American Wide Screen Museum
Website dedicated to large format systems. Very complete information with drawings useful for identification.


EN – 3D Film Archive
Website of Bob Furmanek, founder of the 3D Film Archive, the world’s largest collection of vintage stereoscopic film materials (information from the website).

2.1.2 Colour / Couleur / Color

EN – Timeline of historical film colors
This database was created in 2012 and has been developed and curated by Barbara Flueckiger, professor at the Department of Film Studies, University of Zurich to provide comprehensive information about historical film colour processes invented since the end 19th century including specific still photography colour technologies that were their conceptual predecessors. (Presentation from the website).

EN – American Widescreen Museum: Early Colour Processes
Didactic presentation of early and natural colour processes, curated by Martin Hart.

EN – EnvironmentalChemistry.com: Chemical Database
Useful alternative to Dye Indices listing alternate dye names and database of chemical compounds.

EN – Cineteca del Friuli: The Davide Turconi Collection
Online visual database of 23,491 nitrate film clipping, many of them evidencing applied colour (tinting, toning, hand- or stencil-colouring)

EN – George Eastman Museum: Technicolor Online Research Archive
Funded by a grant from the National Endowment for the Humanities, with matching funds from Technicolor and the Cecil B. DeMille Foundation, the Technicolor Online Research Archive is a digital-asset database containing high-resolution scans and catalogue records. Each scanned document is presented along with its unique information, such as subject, date of creation, author, and type of object. Selected records are displayed alongside a transcription to facilitate discoverability and reading. The Technicolor Online Research Archive gives students, researchers, and film fans alike unprecedented access to the inner workings of one of the most important companies in the history of cinema. (Presentation from George Eastman Museum)

EN – Brian Pritchard: Tinting and Toning
Includes full texts of Kodak tinting and toning publications

EN / DE – Österreichisches Filmmuseum: The Schlemmer Collection
Online visual database of 2254 nitrate film clipping, many of them evidencing applied colour from the Schlemmer Frame Collection, property of Edith Schlemmer, the former chief archivist of the Austrian Film Museum. Mrs. Schlemmer had received in the 1960s as a donation from an anonymous collector and decided to make it available to the Film Museum for purposes of research and publication. (Presentation from the Austrian Film Museum)

EN – SMPTE: Elements of Color in Professional Motion Pictures (1957)
(Internet Archive)

This publication is intended more as a connected discourse than as a reference work containing practical "how-to-do-it" information. It is a brief discussion of the tremendously complex subject of colour from a single point of view, that of the photographer or cinematographer.

EN – Kodak: Motion Picture Color Theory (2007)
Photographic techniques for both picture-taking and photofinishing center around light and its controlled use. The basis of all colour theory is light. This self-study workbook was prepared by Kodak and includes general information about colour.

EN – Dufay-Chromex Ltd: The Dufaycolor Book [1938]
Manual on the Dufaycolor process by the manufacturer.

2.1.3 Sound / Son / Sonido
EN – Audio Engineering Society: Historical Committee
Includes resources on audio engineering history, audio preservation, and motion picture sound.

EN – E. W. Kellogg: History of Sound Motion Pictures (1955)
from SMPTE Journal

Christian-Albrechts-Universität zu Kiel – Medienwissenschaft. Bibliography

2.1.4 Film Identification / Identification de supports cinématographiques / Identificación de soportes cinematográficos

EN – Brian Pritchard: Tool for identifying motion picture film
Interactive form which guides the user through a series of steps towards an identification. This site also has Date Code charts under its ‘Technical Section’.

EN – National Film and Sound Archive: Film identification
Chapter of the preservation handbook on film identification.

ES – Filmoteca Española: Inspección técnica de materiales en el archivo de una filmoteca (1996)
Libro de Alfonso del Amo (Antiguo jefe del departamento de investigación de la Filmoteca Española y de la Comisión técnica) sobre la inspección técnica, identificación y control de materiales fílmicos.

Libro de Alfonso del Amo (Antiguo jefe del departamento de investigación de la Filmoteca Española y de la Comisión técnica) sobre los soportes fílmicos y su conservación.

Codes and symbols to date 8mm, 16mm, 35mm and 65mm Kodak film stock from 1916 to 2013.

EN – Kodak: Keykode Specifications for 16mm
Kodak KeyKode for 16mm films.

EN – Kodak: Keykode Specifications for 35mm
Kodak KeyKode for 35mm negative and intermediate films. Published in 2002.

EN – Kodak: Keykode Specifications for 65mm
Kodak Keykode for 65mm negative and intermediate films.

EN – Kodak: Keykode ID Table and Manufacturing Year Codes
Kodak Keykodes for films manufactured between 1989 and 2016, identifying the year of production and the emulsion type.

EN – Kodak: Chronology of Motion Pictures products by Kodak.
1889-1939
1940-1959
1960-1979
1980-Today
Comprehensive chronology of Kodak motion picture films.

2.2 Film Handling, Storage and Preservation / Conservation cinématographique / Preservación cinematográfica

EN – AMIA: Resources
Film preservation resources: Open Sources, Film Shrinkage, Video, Disaster Recovery, Home Film Preservation, Television, Magnetic Tapes. (Access to some documents requires AMIA membership.)

EN – National Film and Sound Archive: Technical Preservation Guide
Includes “Preservation at home (How to care for your audio, film, video and photographs)”, “Technical Preservation Handbook (Including film construction, identification and storage)” and “Preservation research (Profiling technical archival research projects at the NFSA)”.

The basics for archives, libraries and museums: Film Decay, Film Handling and Inspection, Curatorship, Duplication, Storage, Cataloguing, Legal Aspects, Access. (Includes a Glossary, an Edge Code Chart, A Print Condition Report and a Bibliography).

EN – Library of Congress: Care, Handling, and Storage of Motion Picture Film
Procedure and resources for Caring, Handling and Storage of the Motion Picture Film.

EN – AMIA: Storage Standards and Guidelines for Film and Videotapes

The IPI Storage Guide for Acetate Film provides an overview of environmental specifications for film storage. It explains the relationship between temperature, relative humidity (RH), and “vinegar syndrome,” the slow chemical decomposition of acetate plastics leading to loss of their value in a
The main purpose of the Guide is to help collection managers evaluate the quality of the storage environment they provide for their film. The Guide is not meant to predict the life of any individual film; it merely uses predicted life span as a yardstick to measure the quality of the storage environment.

EN – Image Permanence Institute: Filmcare.org
FilmCare.org is a central resource for best practices in film preservation that provides guidelines for dealing with the preservation of all types and formats of film materials. It addresses the requirements for preserving black-and-white and color film and nitrate, acetate, and polyester-based film. It also addresses specific issues for motion-picture film, sheet film, still roll film, microfilm, and aerial film, as well as the management of collections containing a variety of media types (certainly the most common real-life situations encountered in the field). This approach focuses primarily on storage, condition surveys, and the development and implementation of best-fit environment-based strategies. (Presentation from Filmcare.org)

EN – Kodak: Vinegar Syndrome
"Vinegar Syndrome" is a term used to describe the chemical reaction that goes on during the deterioration of cellulose triacetate film support. When cellulose triacetate begins to decompose, "deacetylation" occurs, and the acetate ion reacts with moisture to form acetic acid producing a vinegar odour when a can is opened. Once the reaction is started, it cannot be stopped. - Information extracted from a paper that was presented at the 1992 AMIA Conference on December 10, 1992, by Dr. Tulsi Ram. (Presentation from Kodak)

EN – Kodak: Storage Information and Storage Room
Descriptions of storage conditions, their variations, and general considerations and comparisons; storage of raw stock, the effect of ambient background radiation on raw stock, radiation from airport x-ray equipment, and more. (Description from Kodak)
Explanations of appropriate storage facility characteristics, including relative humidity, temperature, tropical conditions, air conditioning, dehumidification, dessication, chemical contamination, water damage, extended storage considerations, and more. (Presentation from Kodak)

EN – Kodak: Handling of Processed Film
Detailed information about room cleanliness, inspection methods, film damage, emulsion deterioration, common repairs, damage evaluation, film cleaning, lubrication, and more. (Presentation from Kodak)

EN – Kodak: Storage and Handling of Processed Film
Discusses effects of humidity on processed film, Newton's rings and ferrotyping, effects of contaminants, extended storage (10 years or more), and
airport x-ray fog. Technical Information Bulletin #TIB5203. (Presentation from Kodak)

EN – Kodak: **Storage and Handling of Processed Nitrate**
Nitrate base, the pioneer of motion picture film bases, retired from our cameras and laboratories about 1951-52. Still, its very long shadow of distinguished commercial motion pictures and film records haunts many film vaults. Nitrate base films must be handled with informed care. (Presentation from Kodak)

EN – Kodak: **Storage and Handling of Unprocessed Film**
Information on maintaining film quality with refrigeration, frozen film, Newton's rings and ferrotyping, effects of humidity and contaminants, and airport x-ray fog. Technical Information Bulletin #TIB5202. (Presentation from Kodak)

EN – John R. Hill: **Stability of motion-picture films as determined by accelerated aging** (1936)

EN – Charles Selwitz: **Cellulose Nitrate in Conservation** (1988)

EN – AIC Center for Creative Photography: **Plastics Associated with Photographic Materials**
Conference of the American Institute for Conservation of Historic and Artistic Works, 2016 + Presentation videos

Manual prepared for Washington State libraries, museums, historical societies, and other institutions with film in their collections.

### 2.3 Equipment / Appareils / Aparatos

EN – Science and Media Museum: **Collections**
Collection is devoted to the science and culture of image and sound. It includes three pivotal firsts: the world’s earliest known surviving negative, the earliest television footage, and the camera that made the earliest moving pictures in Britain. (Presentation from Science and Media Museum)

FR – La Cinémathèque française: **Catalogue des appareils cinématographiques de la Cinémathèque française et du CNC**
Bonne source d’informations sur l’importante collection d’appareils cinématographiques.
FR – Eric Lange: Cinématographies
Bonne source d’informations sur les premiers appareils cinématographiques. Références solides.

FR – Fondation Jérôme Seydoux-Pathé: Collections

ES – Filmoteca de la UNAM: Museo Virtual de aparatos cinematográficos
Exposición virtual de la importante colección de aparatos cinematográficos de la Filmoteca de la UNAM.

2.4 Film Projection and Presentation / Projection / Proyección

FR – Projectionniste.net
Site animé par des projectionnistes. Ressources intéressantes sur la projection numérique et photochimique. Inclut un forum et une liste de liens utiles.

2.5 Film equipment manufacturers / Fabricants d’équipement filmique / Fabricantes de aparatos fílmicos

EN – Photomec: http://www.photomec.co.uk/

3.0 Video and Digital / Vidéo et Numérique / Video y Digital

3.1 Digital Technology / Technologie numérique / Tecnología digital

Film is in a state of rapid change, with the transition from analog to digital profoundly affecting not just filmmaking and distribution, but also the theoretical conceptualization of the medium film and the practice of film archiving. New forms of digital archives are being developed that make use of participatory media to provide a more open form of access than any traditional archive has offered before. Film archives are thus faced with new questions and challenges. From Grain to Pixel attempts to bridge the fields of film archiving and academic research, by addressing the discourse on film ontology and analysing how it affects the role of film archives. Fossati proposes a new theoretization of film archival practice as the starting point for a renewed dialogue between film scholars and film archivists. (Presentation from the editor)
The author is Chief Curator at EYE and Professor of Film Heritage and Digital Film Culture - University of Amsterdam.
3.1.1 Digitisation (general) / Numérisation (général) / Digitalización (general)

EN – Federal Agencies: Digitization Guidelines Initiative
Guidelines, methods and practices for digitising historical content.

3.1.2 Film Digitisation / Numérisation filmique / Digitalización fílmica

EN / FR / ES – FIAF E-publications: Film digitisation
The Digital Statement (Part I). Choosing a film scanner, Setting up a digitisation workflow, Complications in a digitisation workflow.

EN – AFRESA Project
Digitization of Archival Film links compiled by Prof. Dr. Barbara Flueckiger and Dr. Franziska Heller (Institute of Cinema Studies, University of Zurich).

Cultural Heritage, Digital Camera and Scanner Performance.

EN – Thor Olsen: Technical Papers and Publications
Including Digital Film: Hiding the Raster and Digital Film 2: Good Grays and Continuous Colors, as well as Color Film Exposure in CRT Image Recorders.

EN – Quantel: Digital Film Supplement (2006)
Edited by Bob Pank (Internet Archive capture).

EN – Tim Vitale: Vitale Art Conservation and Digital Imaging

3.1.3 Scanner manufacturers / Fabricants de scanners / Fabricantes de escáneres

EN – Arriscan from Arri
EN – Flashtransfer Vario and Flashscan made by MWA-Nova
EN – Golden Eye from Digital Vision
EN – Northlight from Filmlight
EN – Scanity from DFT.
EN – SteadyFrame from P+S Technik

3.1.4 Video and Audio digitisation / Numérisation image et son / Digitalización imagen y sonido

EN – PrestoCentre
Presto Centre is a foundation that brings together a global community of stakeholders in audiovisual digitisation and digital preservation to share, work and learn. Some resources require membership.

EN / CA / FR / ES – IASA: Audio Digitisation

3.2 Digital Preservation / Préservation numérique / Preservación digital

Principles of Digital Preservation by the Technical Commission of FIAF.

EN – OAIS Reference Model
The full text of the Reference Model for an Open Archival Information System (OAIS)

EN – Digital Preservation Coalition: Knowledge Base
Resources and tools prepared by an UK based coalition of organisations working in the digital preservation field.

EN – Open Planets Foundation
A community hub for digital preservation, with various projects, resources, blogs etc.

EN – Library of Congress: Digital Preservation
Digital preservation efforts are distributed throughout many units at the Library of Congress and includes programs related to digital content packaging and ingest, monitoring and reporting of digital storage, sustainable digital file formats, metadata and more. (Presentation from the Library of Congress)

Issue of the publication of Bundesarchiv on Digital Archiving with the contribution of archivists from several German institutions (in German).

3.3 Digital Cinema Projection and Presentation / Projection et présentation cinématographique numérique / Proyección y presentación cinematográfica digital

EN – FIAF E-publications: DCPs and digital projection
Digital cinema technology and Digital projections FAQs
EN – Digital Cinema Initiatives: **DCI System Requirements and Specifications for Digital Cinema**

Digital Cinema Initiatives, LLC (DCI) was created in March, 2002, and is a joint venture of Disney, Fox, Paramount, Sony Pictures Entertainment, Universal and Warner Bros. Studios. DCI's primary purpose is to establish and document voluntary specifications for an open architecture for digital cinema that ensures a uniform and high level of technical performance, reliability and quality control (Presentation from DCI).

FR – Commission supérieure technique de l’image et du son: **Recommandations techniques**


4.0 **Software / Programme / Programa**

EN – Fraunhofer: **EasyDCP**
Applications for creating, playing and encrypting DCPs.

EN – U.S. National Archives: **NARA open source applications**
File analyzer, AVI-MetaEdit, MedialInfo, Video-Frame-Analyzer by the U.S. National Archives.

EN – **AudioVisual Preservation Solutions: DV Analyzer**
Free application which analyses DV files for defects.

5.0 **Other Resources / Autres ressources / Otros recursos**

5.1 **Archival and Professional Organisations Resources / Ressources archivistiques et d’organisations professionnelles / Recursos archivísticos y de organizaciones profesionales**

EN / FR / ES – FIAF: **Journal of Film Preservation**
Accessible for FIAF members. Issues in pdf format.

EN – **BKSTS Journal Archive**
Accessible for BKSTS members. Includes access to database and, in many cases, pdf articles of numerous other film related publications

EN – Getty Conservation Institute: **AATA**
Abstracts of International Conservation Literature
5.2 Filmographies / Filmographies / Filmografías

EN – Library of Congress: Edison Motion Pictures
Edison motion pictures and sound recordings.

EN – American Film Institute: Catalog of Feature Films

FR – Fondation Jérôme Seydoux Pathé: Filmographie
Version en ligne des catalogues d’Henri Bousquet, enrichis de nouvelles entrées.

5.3 Disaster Recovery / Gestion de sinistres / Gestión de sinistros

EN – AMIA: Disaster Recovery
Includes: Disaster Recovery - First Actions for Film, Tape and Discs; Mick Newnham: Disaster Recovery for Films in Flooded Areas; Peter Brothers: Disaster Recovery for Tapes in Flooded Areas; Mick Newnham: FAQ on Film Water Damage; What to do about Home Movie Damage.
5.4 Historical Publications / Publications historiques / Publicaciones históricas (Internet Archive)

EN – James R. Cameron: Servicing Motion Picture Sound Equipment (1930s)
EN – C. L. Gregory: Motion Picture Photography (1927, 2nd edition)
EN – C. Francis (Charles Francis) Jenkins: Handbook for motion picture and stereopticon operators (1908)
EN – Herbert C. McKay: Handbook of Motion Picture Photography (1927)
EN – William H. Offenhauser, Jr.: 16-mm sound motion pictures, a manual for the professional and the amateur (1949)
EN – William H. Offenhauser, Jr.: 16-mm sound motion pictures, a manual for the professional and the amateur (1953)

EN – Media History Digital Library: Technical Journals Collection (1924-1965)
Includes:
American Cinematographer (1924-1942)
International Photographer (1929-1941)
International Projectionist (1933-1965)
Journal of the Society of Motion Picture Engineers (1930-1949 – cf. above)
Journal of the Society of Motion Picture and Television Engineers (1950-1954 – cf. above)
The Motion Picture Projectionist (1927-1933)
Projection Engineering (1930-1933)

5.5 Miscellany / Divers / Varios

EN – Who’s Who of Victorian Cinema edited by Stephen Herbert
Online version of a guide to over 300 leading figures in Victorian cinema, defined as filmmaking in its broadest sense from the first glimmerings in the 1870s to the death of Queen Victoria in January 1901. The site has a range of resources designed to assist and stimulate further research in the field. Very practical and reliable publication about early films.

EN – Kodak: Film Calculator
Useful Film Calculator which calculates running time from length (or the other way round) for different gauges, plus a Film and Video Glossary.

EN – Kodak: The Essential Reference Guide for Filmmakers
This is intended as an on-line resource for up-and-coming filmmakers who would like to learn more about the theory and practice of shooting film.
(Presentation from Kodak)

FR – La Cinémathèque française: La Bibliothèque numérique du cinéma

DE – Memento Movie: Materialien zum audiovisuellen Kulturerbe
Materials on audiovisual heritage (in German).