

## From Preservation Guide

# Main: Preservation Guide - Overview of Preservation

**1. What is preservation?** Here is the proposed CCAA definition of audiovisual preservation:

*"Preservation is the totality of the steps necessary to ensure the permanent accessibility – forever - of an audiovisual document with the maximum integrity". [1]*

This is a better definition than most, because it says what preservation is for, rather than getting bogged down in preservation methodology. **Preservation is for “permanent accessibility – forever”**. Also, preservation is everything that makes that permanent access possible: **preservation is “the totality of the steps necessary”**.

So why use the word *maintenance* in the **Introduction**: “If you have audiovisual media, it needs to be maintained”?

Institutions are used to accepting the need for maintenance in other areas, like buildings and computer systems. There is a need for institutions (and everyone else) responsible for audiovisual media to accept that preservation actions are a form of essential maintenance, and therefore just as deserving of a regular budget and associated activities – as for any other sort of maintenance.

## 1.1 Maintenance

**Overview:** We assume that computer systems or automobiles or buildings need maintenance. They need regular servicing or they develop faults. This guide will tend to use maintenance and preservation interchangeably, to promote the view that **for audiovisual materials, preservation is maintenance**. The reason for using the word maintenance is rhetorical: to promote the idea that preservation activity must be performed, and funded – and included in the standing maintenance functions of any organisation responsible for audiovisual material. Organisations that don't maintain their assets – that don't preserve their audiovisual content – are simply not being responsible.

## top 1.2 Digitisation : Full Information

**Overview:** Many activities contribute to “**permanent accessibility – forever**”. Just now, in the early years of the 21st century, we are at a stage where much audiovisual material from the 20th century is in analogue form – and most of the options for trying to obtain “**permanent accessibility – forever**” are digital options. So **digitisation** is of huge significance just now, as one of “*the steps necessary to ensure ... permanent accessibility*”.

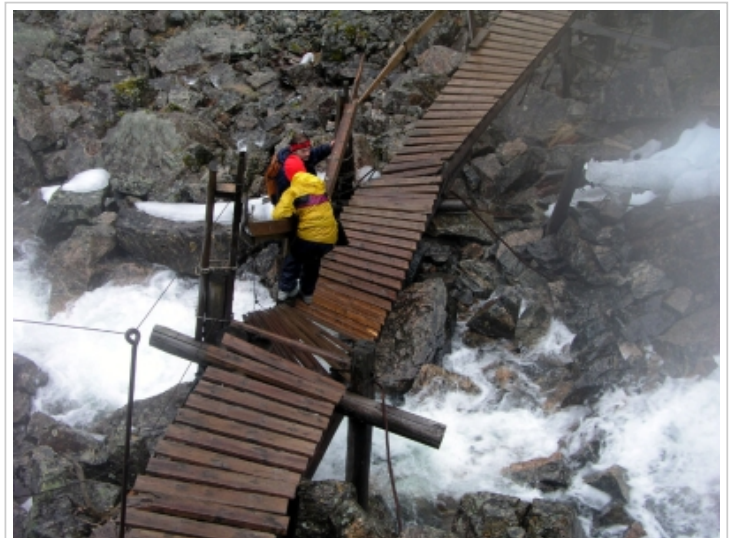
There are many standards and guidelines concerning the technical details of digitisation [refs] and the reasons for digitising [refs; SAM Why Digitise]. There is also some controversy about whether digitisation is or is not preservation. For the purposes of this guide, the answer is clear. Digitisation is conversion of an analogue signal to digital – but digitisation may or may not be “*necessary to ensure ... permanent accessibility*”.

The **Rosetta Stone** is more than 2000 years old, and steps to ensure its permanent accessibility do not require digitisation – though digitisation and encoding of photographs for web access create a very useful improvement in access. Digitisation almost always supports measures to increase access (like encoding materials for web access) – but digitisation itself is not identical to preservation, as it is only a step that may or may not contribute to permanent access.

Having said all that, every category of audiovisual material except film in film archives (as opposed to film in broadcast archives) will probably have to digitise for preservation – because all non-digital options are disappearing. Wax cylinders dry and crumble [2], or become infested with mold.

### Overview of Preservation

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**Fig 1 - Lack of maintenance can leave you hanging**  
photo: Petter Bjorstad



**Fig 2 - Wax cylinders dry and crumble**  
UNESCO guide photo: Jean-Marc Fontaine



**Fig 3 - Analogue audio technology is no longer being manufactured**

UNESCO guide photo: Jean-Marc Fontaine

All analogue audio formats are obsolete -- and all analogue videotape formats are obsolescent, going the way of 6mm audiotape. Only two professional analogue video formats are still in production (BetaSP, and the closely-related BetacamSX), and no professional equipment is in production – it's only available used.

So digitisation is far and away the primary method used to rescue content (at the sacrifice of the original carrier).



**Fig 4 - Shellac and vinyl discs sustain damage every time they are played**  
UNESCO guide photo: Jean-Marc Fontaine

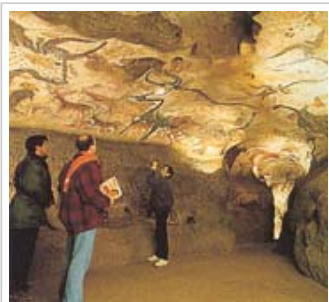
It is only “film for film’s sake” that is making significant use of conservation as a method of preservation [3].



**Fig 5 - Cold Storage for colour and black-and-white film at Gatineau Preservation Centre (Canada)**

### top 1.3 Conservation : Full Information

**Overview:** Conservation is about hanging on to what you have, rather than transferring to something new. The fibreglass model of the Lescaux caves [4] are a copy that does not preserve essential features of the original, and so the model does not preserve the original. But the copy allows the originals to be sealed off, a conservation measure to prolong the life of the 20,000 year old originals. So the fibreglass copy does support preservation, by allowing conservation to proceed (by taking away the pressure for access).



**Fig 6 - Protecting Originals**

Film archives do exactly the same thing: they make access copies that in some cases (videotape, DVD) are in no way a replacement for the original – but they take pressure off the original, allowing it to be kept untouched in cold dry conditions. Generally film conservation is based on very cold storage at the appropriate humidity, and very limited use of masters.

Film archives also make high quality copies that are as close as technically possible to the originals. These copies can still be made by an analogue process, though the direction of technical change over the next decade may force film archives to change from analogue to digital methods for production of these ‘new masters’.

Finally, film archives may use digitisation to produce a ‘digital intermediate’ [5] before finally producing a new analogue master. They do this in order to use digital technology for restoration – because there are many defects that can be removed digitally in ways that could not be attempted by analogue processing.

### top 1.4 Restoration : Full Information

**Overview:** Conservation is about maintaining originals, and preservation is about ways to “ensure ... permanent accessibility ... with the maximum integrity”. So what is restoration? Surely if it changes a document, that affects integrity. This is an area where we could get lost in the metaphysics – and it would be far more productive and interesting to talk about what restoration can do, technically. Restoration can make old ‘documents’ look like new. However nobody may actually know what precisely a film did look like in its original projection – and improvements in projection and other technology means that some restorations literally are better than their originals.



One example is the **Technicolor** process, which used three separate films and three projectors built into one. There were always synchronisation and registration problems with this process – whereas the digitised films can be registered (aligned) with far higher precision than was originally possible. An example is the British Film Institute's restoration of *Summer Madness* [6]. Digital technology also provide mechanisms for recovering from colour fade that are far more flexible and accurate than for analogue methods.

Figure 7 - Digital Film



Fig 8 - Restoring 'Opernball'

Figure 8 shows an example from restoration of the Austrian film 'Opernball' with digital technology from PrestoSpace partner Joanneum Research." [7]

Leaving aside metaphysics about what is or is not preservation, modern restoration allows old media to be appreciated as though it were new media – and that was the original viewing and listening experience when these documents were created.

**top 1.5 What this document covers, and doesn't cover** This guide is an introduction to the preservation of recorded sound and moving images. Throughout, it provides guides to further information.

The guide is not everything you need to know. Training in library science, practical experience using audiovisual equipment (backed up by some general engineering training) and a huge interest in and dedication to audiovisual media would be a good foundation for audiovisual preservation work – and knowledge of chemistry, physics, copyright law and building maintenance would also help. Finally the really important knowledge is around what audiovisual collections are for: who uses them, how they could be used more widely, their public and commercial value, their funding and business models.

A list of sources of training, advice and funding is in the **Supplement on Audiovisual Culture**.

## References

1. Edmondson, Ray. Audiovisual Archiving: Philosophy and Principles;  
<http://unesdoc.unesco.org/images/0013/001364/136477e.pdf>
2. <http://cylinders.library.ucsb.edu/>
3. [http://www.collectionscanada.ca/preservation/13020206\\_e.html](http://www.collectionscanada.ca/preservation/13020206_e.html) Ante-chamber of cold storage vault for colour and black-and-white film records where environment is maintained at -18 degrees Celsius (+/- 2oC) and 25% relative humidity (+/- 5%)
4. <http://www.culture.gouv.fr/culture/arcnat/lascaux/en/>
5. [http://features.cgsociety.org/story.php?story\\_id=2919](http://features.cgsociety.org/story.php?story_id=2919)
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