

The Electronic Media Review

Electronic Media Group

Volume Three 2015

Papers presented at the Electronic Media Group session of the 41st AIC Annual Meeting, Indianapolis, Indiana, 2013, and the 42nd AIC Annual Meeting, San Francisco, California, 2014.

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Layout by Amber Hares
(Original design by Jon Rosenthal, JonRosenthalDesign.com)
Typeset in Trade Gothic LT and Myriad Pro

American Institute for Conservation of Historic and Artistic Works
Washington DC

The Electronic Media Review was published once every two years in print format by the Electronic Media Group (EMG), a specialty group of the American Institute for Conservation of Historic and Artistic Works (AIC), until 2013 and published online only thereafter. *The Electronic Media Review* is distributed as a benefit to members of EMG who held membership during the year of the issue. Additional copies or back issues are available from AIC. All correspondence concerning subscriptions, membership, back issues, and address changes should be addressed to:

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THE A/V ARTIFACT ATLAS: CREATING A COMMON LANGUAGE FOR AUDIOVISUAL ERRORS

HANNAH FROST AND KRISTIN MACDONOUGH

The Audiovisual Artifact Atlas (AVAA), available at <http://avaa.bavc.org>, is an on-line resource for the identification and diagnosis of errors and anomalies discovered during the reformatting of audiovisual media. For original archival audiovisual materials, the recorded signal must be reformatted in order for the content to remain accessible. Errors and anomalies become most apparent during the process of reformatting, and the origin of the artifact may not be evident. A number of factors may be the cause: equipment malfunction, media damage, an imperfect transfer, file corruption, or the error may be inherent to the original media. Conservators must be able to reliably identify such artifacts to ensure high quality in reformatting work. Once the error is identified, examination determines whether or not it can be remedied. In cases such as equipment malfunction, file corruption, or a flawed transfer, the error may be resolved through repair and retransferring; however, in the cases of media damage or when the error is intrinsic to the original recording, there is usually nothing to be done. Unfortunately many conservators often lack the formal training in audio and video engineering or equivalent experience that is necessary to correctly identify a problem, or they may not be familiar or comfortable with the terminology required in order to describe it. This gap can create hurdles in communicating with a reformatting service provider.

In addition, terms may originate from either the artifact's mechanical functions or from the content's visual and audible attributes. This can create confusion for conservators. For example, *video head clog* is exactly what it describes: when the video heads in a playback deck become dirty or clogged, they are unable to properly reproduce the video signal. This problem can generate different visual errors depending on the format. On the other hand, *ghost* or *echo* is so-called because its cause produces a translucent image in the received picture, offset either to the right or to the left of the primary image.

The purpose of the AVAA is to address these challenges through establishing a common language for use by media preservation professionals. Originally produced by the Stanford Media Preservation Lab (SMPL) and the Bay Area Video Coalition (BAVC), the AVAA is a community-oriented wiki focused on building a living glossary of video and audio reformatting errors and artifacts supported by detailed descriptions and, when possible, remedies to correct them. Since its inception, the AVAA has been recognized as a resource for educators and students, as well as audio and visual preservation practitioners in museums, libraries, and archives. While many professionals often discuss these concerns informally amongst one another, there are few widely available and easily accessible resources catering to the preservation, archiving, and library fields at large. Through outreach by BAVC and SMPL, the AVAA wiki has flourished with contributions from the greater audio and visual preservation community. As Geoff Willard, Media Production Coordinator at SMPL, wrote, "There was a learning opportunity here for all involved, but more importantly it was an opportunity to involve people other than us at SMPL in the creation of something that would be greater than what we could produce on our own" (2013). The team at SMPL contributed their time, expertise, and content to launch the resource in 2011. As described by Frost, to host the wiki, SMPL "...approached BAVC as an able partner because BAVC demonstrates an ongoing commitment to the media community and a genuine

interest in furthering progress in the media archiving field" (Murray 2014).

AVAA users have access to several sections of information on media digitization and preservation. The Table of Contents enables one to browse listings of terms organized into several categories. The Contributor's Guide is a starting point for users who are interested in contributing content or in supplying more information about existing content. The Resources page provides links to information about analog and digital preservation, storage and handling, and digitization.

The AVAA content has been cross-referenced with two authoritative resources on audiovisual error terminology: the *Compendium of Image Errors in Analogue Video* by Johannes Gfeller, Agathe Jarczyk, and Joanna Phillips, and BAVC's online Preservation Glossary. As a result, new entries were created and many existing entries were enhanced. As of October 2014, there are 75 identified artifacts, including: 40 analog video errors, 11 digital video errors, 19 digital video errors, and 5 digital audio errors.

In 2013 BAVC's Preservation department received a grant from the National Endowment for the Humanities (NEH) to develop Quality Control Tools for Video Preservation (QCTools), an open-source software tool that reports and graphs data to document video signal loss and identifies common reformatting errors. As part of this larger project, BAVC hosts the AVAA wiki and includes it as a dissemination point for QCTools. In a basic QC workflow, the software reveals an anomaly and then enables the user to access the online resource for assistance in diagnosing it.

As the NEH grant progressed, the AVAA and the QCTools software became increasingly integrated. Software users can directly link to the AVAA through the user guide, which helps them understand how their error might manifest, offers possible causes, and provides potential resolutions if applicable. From the AVAA side, the artifact is supplemented by cases from the QCTools graphs and

filters, which are examples of what one might observe when they come across the error in their QC workflow.

The AVAA illustrates how people can share their wisdom and expertise and work together in order to enhance the general knowledge base and empower others. To reiterate, the AVAA has relied on the audio and visual gurus of the archiving, engineering, and preservation fields in order to grow and become more robust. However, it also depends on the novice users; every time the AVAA is shared or referenced it becomes more relevant and more meaningful to the communities it serves. There is rarely a single word or phrase to describe an artifact: what looks like a “comet tail” to one person will look like a *luma trail* to another. Nor do all artifact origins produce the same error every time; a video head clog will visually manifest differently on a U-Matic playback deck compared to a Hi-8 mm deck, or a VHS deck, and so on. Yet, by calling attention to both of these artifacts and the discrepancies in vocabulary, we have begun to bridge the gaps and improve information exchange within our field. The AVAA, along with QCTools, serves as a model for future endeavors in building open resources that encourage community involvement and advocate education and awareness.

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