



Digital & Multimedia Sciences Section – 2011

B16 Conversion of AVI “txts” Stream Data to Adobe® Premiere® Pro Title Files

Douglas S. Lacey, BS, DL Technology LLC., 4 Averil Court, Fredericksburg, VA 22406; and Bruce E. Koenig, MFS, BEK TEK LLC., 12115 Sangsters Court, Clifton, VA 20124-1947*

After attending this presentation, attendees will understand how to identify and extract text or caption data embedded in an Audio Video Interleave (AVI) multimedia container format file. Once extracted, this information can then be converted into Adobe® Premiere® Pro title files, which can then be used in conjunction with the imported video/audio information.

This presentation will impact the forensic science community by allowing video examiners to more comprehensively review a video/audio recording contained in an AVI file. The embedded text information, which may be overlooked, can prove to be vitally important in establishing an accurate timeline of events.

AVI files may contain video, audio, and/or text data, multiplexed and indexed as separate data streams (“vids,” “auds,” and “txts,” respectively) within a single container file. Multimedia software such as Windows Media Player allows for playback of both the recorded video and audio information and, through an optional setting, enables the user to display the embedded text or caption data, if present. Typically, this text data is displayed by the software outside of the video playback area, and not as an overlay of the recorded visual information.

With AVI files produced by digital video recorders (DVRs), embedded text information typically consists of corresponding date and time information for the captured images/audio, an assigned name for the particular camera view, and/or other identifying information. Date and time information may also be “burned” into the visual data, but the embedded information sometimes provides additional detail. For example, a video frame may have a “burned” time of “09:55:44,” and an embedded time of “09:55:44.197,” thereby providing timing information out to the millisecond. Unfortunately, when AVI files with embedded text data are imported into non-linear video editing software such as

Adobe® Premiere® Pro for more detailed review, the embedded text information is no longer accessible and is unable to be displayed.

Through detailed analysis of an AVI file’s structure and index, the locations of the embedded “txts” stream data entries can be determined, and accordingly, they can be extracted into a separate data file. By creation of a template Adobe® Premiere® Pro title file, separate title screens can then be produced for each extracted text entry. These title screens can then be imported into Adobe® Premiere® Pro and overlaid on their respective video frames, allowing for a more detailed analysis of the recording. Batch processes can be used to expedite the location, extraction, and conversion steps.

Two case examples in which they produced automated scripts for the location, extraction, and conversion of embedded “txts” stream data into Adobe® Premiere® Pro title files will be presented. These title files were then used to establish accurate timelines of the depicted events, to find discontinuities in the original recording processes, and to provide additional information which was not readily apparent from analysis of only the video and audio data.

While this presentation concentrates on the use of Adobe® Premiere® Pro, the methodology and steps which will be discussed may be applicable to other non-linear video editing programs, which feature title screens or a similar ability to overlay text information on a video file. **Digital Video, Embedded Text, Metadata**