



Digital Video Authenticator

The Johns Hopkins University Applied Physics Laboratory's DVA system can be used to prove that a digital video has not been modified since it was first recorded. The software is implemented on a commercial laptop or on a palmtop that works with any standards-compliant digital camcorder. While the camcorder is recording, the system simultaneously generates and records three digital signatures for each frame. The encrypted signatures make it possible to prove that the original video and the video offered as evidence in court are identical.



Engineering prototype of the Digital Video Authenticator with palmtop and standards-compliant camcorder.

Any organization involved with collecting evidence for use in civil or criminal legal cases could benefit from use of this technology. The system offers several benefits:

1. The DVA process preserves the digital video recording without alteration, unlike watermarking techniques, for example, which superimpose data over the evidence.
2. Because signatures are created for every frame, even a single frame can be authenticated.
3. The DVA is implemented on a commercial laptop computer or a palmtop that attaches to standard, commercial off-the-shelf camcorders.
4. Standards compliance, particularly the use of National Institute of Standards and Technology-certified digital signature software, offers the sound, recognized scientific principles that a judge can rely upon in ruling on the admissibility of digital video evidence.

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