J19 The Evolution of Documents and Their Security Submitted for Examination Using a Video Spectral Comparator (VSC®80)

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This goal of this presentation is to discuss how the type of documents encountered by questioned document examiners has changed over the last few decades. The increasing pace of developments in security features and the corresponding advances in Video Spectral Comparators (VSCs) for their examination will be examined, as will how these changes affect document examiners today and how they may be affected in the future.

This presentation will impact the forensic science community by alerting attendees to the evolution of documents and to the progress in the development of VSC instrumentation for the examination of falsified and/or altered documents.

After attending this presentation, attendees will understand how a new technology that allows Video Spectral Analysis (VSA), especially using the VSC®80, can enhance and facilitate the investigation and examination of altered security documents, such as identity documents, banknotes, travel documents, and security features, as well as the more routine questioned document problems submitted for forensic document examination to the laboratory, such as those involving alterations due to erasures and additions made to questioned documents.

Personal computers, such as desktops, laptops, and notebooks, have become a part of the VSC systems — initially, this was primarily a method to save images or connect to a printer, but increasingly by taking over control of the instrument by automating tasks, recording settings, monitoring lamps, running self-diagnostic tests, etc. With many instrument capabilities now controlled by software, they can constantly evolve. It is therefore more important than ever for forensic document examiners to keep up to date with technology and its capabilities.

At the same time, digital camera technology has progressed rapidly, as have the associated hardware- and software-driven capabilities, enabling the achievement of higher resolutions, faster operation speeds, and greater image quality. Document security features and devices have followed a similar path. As some types of optically variable features such as holograms lost their effectiveness against ease of compromise, security printers introduced new technologies, such as anti-Stokes inks, micro-taggants, and others. Documents have become more sophisticated. To appreciate this, one has only to compare the latest driver licenses with those issued ten years ago.

Threats have become more sophisticated also — counterfeit driver's licenses, easily available online, are able to match most security features. VSCs closely follow these trends. They are supplied to a great variety of end users, such as Departments of Motor Vehicles, banks, lotteries, universities, insurance companies, and security printers, as well as to the more traditional forensic document examiners. This presentation will conclude with the revealing of a new VSC and its capabilities for the examination of security features in documents — the VSC®80.

Documents, Security, Video Spectral Comparator

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