FACTSHEET FOR ANSI/ASTM STANDARD PRACTICE E3017-19

Examining Magnetic Card Readers

WHAT IS AN AAFS STANDARD FACTSHEET?

The AAFS produces clear, concise, and easy-to-understand factsheets to summarize the contents of technical and professional forensic science standards on the OSAC Registry. They are not intended to provide an interpretation for any portion of a published standard.

WHAT IS THE PURPOSE OF THIS STANDARD?

When used for an illegal purpose, magnetic card readers are commonly referred to as *skimmers*.

This standard provides information on seizing, acquiring, and analyzing these devices. Magnetic card readers can be used to capture and store personally identifiable information (PII) in an unauthorized manner. Examination of these devices is sometimes necessary during a forensic investigation.

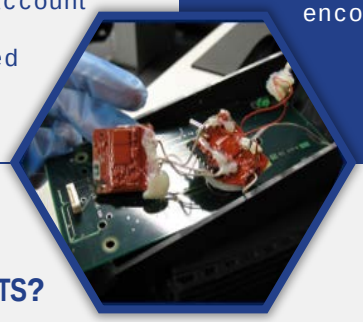
A skimming device is not deemed contraband in and of itself. Therefore, it is necessary to determine if the device in question contains unauthorized account information. This can be accomplished by following the examination practice provided in this standard.

WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

The document establishes examination expectations for skimmers and the related devices (peripherals) that are used to extract account data in an unauthorized manner.

Adherence to these requirements supports performance of examinations in a standardized way and improves the reliability of the data.

Forensic science service providers (FSSPs) that examine magnetic card readers are encouraged to meet this standard.



HOW IS THIS STANDARD USED, AND WHAT ARE THE KEY ELEMENTS?

The standard provides requirements on the examination of skimming devices to ensure accurate and reliable collection and analysis of the data.

Foundational element requirements related to the tracking and storage of data using a magnetic card reader assist *skimmer* identification and proper seizure.

The processes used to extract data from skimmers, in particular the extraction process differences between "digital" and "analog" skimmers, are described.

Due to the various analog and digital storage methods used by skimmers, procedures for *demodulating* (i.e., extracting the original information from the analog audio signal), *decoding*, and *deciphering* extracted data is presented. The standard describes requirements for the manual interpretation of the data which in turn, provides a basis for automated scripting processes (i.e., automation of the process using software).

Finally, the standard presents information regarding Bluetooth® modules used to capture account data. In furtherance of attributing a device to a subject, Bluetooth® module data extraction and analysis techniques are provided to determine identifiers (i.e., media access control addresses) of devices used by subjects to download stolen personally identifiable information.

American Academy of Forensic Sciences
aafs.org

This factsheet is made possible through the following financial assistance award 70NANB21H097 awarded to AAFS from U.S. Department of Commerce, National Institute of Standards and Technology