



Netherlands Forensic Institute
Ministry of Security and Justice

Discovering hidden treasure

Retrieving deleted or damaged video files with the **Defraser H.264 plugin**
from the Netherlands Forensic Institute



Retrieving deleted or damaged video files with the Defraser H.264 plugin

Digital media often play a central role in providing evidence for prosecutions. However, potentially critical data can be lost or destroyed almost as easily as it is created. Luckily, digital investigators can use Defraser, a free, open-source software tool, to find and repair partly erased or damaged multimedia files. And now, the H.264 plugin adds support for handling H.264-encoded video files, such as those produced by most modern mobile phones, consumer cameras and security camera systems.

Typical example 1

The victim of a sexual offence claims the act was filmed with a mobile phone camera by one of the perpetrator's friends present at the scene. Basic forensic investigation of the mobile phone memory does not reveal any relevant video files. Thanks to Defraser and the Defraser H.264 plugin, parts of a deleted video file depicting the crime are recovered and made playable.

Typical example 2

The robbery of a nightclub is recorded by the venue's security camera system. However, when the police arrive at the scene of the crime, the recorder doesn't show any records. It is unclear whether the recorder was damaged, or the recordings were purposely erased. Regardless, a forensic copy of the recorder's hard drive is investigated using Defraser – and all recordings are recovered.

What is Defraser?

Defraser is a forensic analysis tool that can be used to recover full or partial multimedia files in data streams and, if necessary, repair them, making them accessible to investigators. This freely available software is typically used on forensic copies of data carriers or unallocated disk space.

The unique strength of Defraser

What sets Defraser apart is its ability to find not just complete multimedia files, but also partial files, such as deleted video files that have been partly overwritten. Other forensic file recovery software doesn't typically detect deleted files if the initial part of the file data is overwritten – nor does it allow playback of any damaged video files that are found. Defraser, however, incorporates extensive video file format knowledge, enabling it to recognise incomplete files using any of its supported video file formats. It also offers specialised tools allowing playback of recovered video frames.

Benefits at a glance

- ✓ Recovers both complete and partial files
- ✓ Allows playback of recovered files
- ✓ Supports a wide range of formats
- ✓ Plugin allows file recovery from latest digital video and mobile phone cameras

Why the H.264 plugin?

The open-source version of Defraser, available at <http://defraser.sourceforge.net>, supports MPEG-1, MPEG-2, MPEG-4, AVI, ASF, and 3GP video formats. However, the encoding method of choice for the latest digital video cameras (including those incorporated in most mobile phones) is H.264 – and this is not supported by the standard Defraser software. The H.264 plugin is therefore essential for investigators working with material from these cameras.

To place an order

The Full Edition of Defraser, which includes the H.264 plugin, can be ordered by governmental organisations from the Netherlands Forensic Institute (NFI) for EUR 895 (excl. VAT). This covers an unlimited software licence and includes one year of support from the NFI. Orders can be placed by contacting the NFI Front Office (see back of leaflet). As soon as we have received your payment, you will be sent a link from which you can download the product.

The Netherlands Forensic Institute

The Netherlands Forensic Institute (NFI) is one of the world's leading forensic laboratories. Its mission is to strengthen the rule of law worldwide. As the role of forensic science in the fight against crime grows in importance, the NFI seeks to develop the most useful and advanced forensic products and services for a wide range of national and international clients.

Biometrics at the NFI

Biometrics research at the NFI covers the principal areas of biometric and identification expertise, including the detection and individualisation of fingermarks, the comparison of faces, writing and signatures, as well the analysis of speech, audio recordings, images and documents. NFI research also covers multimodal biometrics and the use of statistics to make the combination of expert opinion and automated analysis suitable for intelligence or evidential purposes.

For more information on Defraser, digital data recovery tools and/or other products and services of the Netherlands Forensic Institute, please contact:

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