ELECTROMECHANICAL DEVICE FOR DESTROYING INFORMATION ON HARD MAGNETIC DISKS

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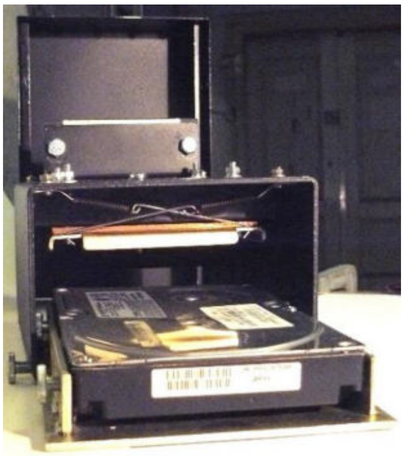
Digital storage devices are subject to requirements for information protection, especially in case of unauthorized access. Hard magnetic disks, USB-Flash drives, SSD drives, etc. are used as digital storage devices. The most effective way to preserve information in case of unauthorized access by third parties or when its guaranteed destruction is necessary is considered to be methods in which the digital storage device is destroyed or irreversibly damaged [1]. Mechanical destruction is one of the most common ways to destroy information on digital storage devices, making it completely unsuitable for information recovery. This method is not only effective, but also cost-effective, because it does not require special devices or software.

Fig. 1a shows a device for destroying information on a hard disk drive located in the computer system unit [2]. The electrically conductive armature can have either a round shape, which corresponds to the shape of the inductor winding, or a rectangular shape, which is more convenient in the design of the device. It was found that the breakdown of a standard hard disk drive with a striker occurs after a single blow. In the case of breaking a hard disk drive with a particularly strong body, the device excites a series of pulses to penetrate the striker to a given depth. Hard disk drives can be made of aluminum alloy or glass (models from Hitachi, Fujitsu). Disks made of glass were crushed into fragments during tests (Fig. 1b).



a

b

Fig. 1. General view of the device for destroying information on a hard disk drive with a rectangular anchor (a) and a destroyed hard disk drive with glass disks (b)

Literature:

1. Guaranteed destruction of information. URL: https://forensictools.com.ua/garantovane-znisshennya-informaciyi/ (дата звернення: 02.04.2025).

2. Bolyukh V.F., Shchukin I.S. Highly efficient pulse electromechanical and electromagnetic devices for destroying information on digital storage devices. *Electrical Engineering & Electromechanics*, 2015, no. pp. 36-46. https://doi.org/10.20998/2074-272X.2015.5.05.