

KNOW YOUR OPTIONS – LOST DATA CAN BE RECOVERED (FOR A PRICE)

DRIVE FAILURE

Computer hard drives fail. The machine may be running a mechanical hard drive with spinning plates if you have a desktop computer, an external backup drive, or an older laptop. Newer laptops, smartphones, and tablets have “solid-state” hard drives where data is written to and read from computer chips. Solid-state hard drives have no moving parts, hence the name.

While solid state-based devices are less prone to catastrophic damage from a physical event, such as a dropped phone, both types of drives fail. And, while a mechanical drive usually makes noise for hours or days before complete failure, solid-state drives offer little to no warning of impending failure.

A failed hard drive is a frustrating and potentially catastrophic event. Consequences range from inconvenience and data loss to significant financial and operational setbacks for a firm, depending on the extent of the failure and the criticality of the stored information.

TYPES OF FAILURE

MECHANICAL, SPINNING DRIVES

The first type is a mechanical failure, where the physical components of the hard drive malfunction. This can include issues with the spindle motor, read/write heads, or other mechanical parts. Symptoms of a mechanical failure may include strange clicking or grinding noises emanating from the hard drive, the drive not spinning up, or the computer failing to recognize the drive altogether.

MECHANICAL OR SOLID-STATE DRIVES

A logical failure, on the other hand, relates to the hard drive’s file system or software components. This can occur due to corruption, accidental formatting, or software conflicts. Symptoms of a logical failure include files becoming inaccessible, error messages indicating file system issues, or an inability to boot into the operating system.

Another type of failure is electronic failure, which occurs when the electronic components of the hard drive malfunction. Power surges, faulty power supplies, or manufacturing defects primarily cause this failure. Symptoms of an electronic failure may include the drive not being detected by the computer or showing signs of power issues. Electrical failures are usually the easiest to recover from if you can access the computer’s physical drive and “transplant” it into a new host computer or external storage with a known-good power supply.

RECOVERING FROM FAILURE

When a hard drive fails, data recovery takes priority. Recovery involves specialized techniques and tools to salvage as much data as possible from the failed drive. However, the success of data recovery is not guaranteed and may depend on the type and extent of the failure.

Proactive measures prevent drive failure. Firms should:

- Make regular backups of important data and perform test restores to ensure the backup system functions properly.
- Use surge protectors to shield against power fluctuations.
- Avoid physical damage or mishandling of the hard drive.

- Monitor hard drive health using diagnostic tools work log.

Some companies specialize in recovering data from crashed hard drives, regardless of the cause. They are expensive, but not getting your data back may be even more costly.

- [ADR Data Recovery](#);
- [DateRecovery.com](#);
- [DriveSavers](#); and
- [Ontrack Data Recovery](#).