

# Behind the Scenes: HDDs' Critical Role in Media and Entertainment

The media and entertainment industry is constantly evolving, with new technologies emerging that allow us to create, store, and distribute content in new and innovative ways. Hard disk drives (HDDs) are essential for this industry because they provide the large-capacity, high-performance storage that is needed to manage and process massive amounts of data.

Over 124 exabytes of entertainment data is generated per day.<sup>1</sup>

The process of making a major studio film involves capturing high-resolution video and audio recordings, creating visual effects, editing and post-production tasks, and storing various digital assets. Each stage of production generates a substantial amount of data, contributing to the overall storage requirements.

Reasons why HDDs are the preferred storage solution for the media and entertainment business:

- Capacity: HDDs offer the highest capacity of any storage technology, making them ideal for storing large video files, audio files, and other media assets.
- Performance: HDDs can deliver high performance for both sequential and random access workloads, making them ideal for a variety of media and entertainment applications, such as video editing, content streaming, and data archiving.
- Reliability: HDDs are highly reliable, with a mean time to failure (MTTF) of over 1 million hours. This makes them a safe and secure choice for storing valuable media assets.
- Cost-effectiveness: HDDs are relatively inexpensive, making them a cost-effective solution for the media and entertainment industry.

In 2022, almost 40,000 exabytes of Entertainment data was generated.<sup>1</sup>

In addition to these benefits, HDDs are also scalable and flexible, making them easy to adapt to the changing needs of the media and entertainment industry. As the industry

continues to grow and evolve, HDDs will continue to play an essential role in storing and managing media assets.

## It would take over 3.25 billion high-capacity 20TB MG-10 Nearline HDDs to store all the data generated in 2028.<sup>1</sup>

HDDs are the logical choice, in terms of capacity and performance, due to the type of data generated by media and entertainment business:

- **Raw Footage:** During principal photography, multiple cameras capture footage at high resolutions, such as 4K or even 8K. A single minute of 4K footage can range from several gigabytes to tens of gigabytes, depending on the codec and compression used. With several hours or even hundreds of hours of footage, the data quickly adds up. For a feature-length film, the raw footage can easily occupy tens or hundreds of terabytes.
- **Visual Effects (VFX):** Major studio films often incorporate extensive visual effects and computer-generated imagery (CGI). VFX teams create and manipulate complex digital assets, including 3D models, textures, animation sequences, and more. These assets, along with the rendered frames, can occupy a significant amount of storage space. VFX data can range from tens to hundreds of terabytes, depending on the complexity and duration of the visual effects.
- **Audio:** Films require high-quality audio recordings, including dialogue, sound effects, and music. Multichannel audio formats, such as Dolby Atmos, further contribute to the data size. Raw audio recordings and the associated post-production files can take up several terabytes, particularly when considering different audio tracks and versions.
- **Editing and Post-Production:** Throughout the editing and post-production process, various files are generated, including project files, edited sequences, color grading data, and special effects. These files, along with the associated backups, can occupy a considerable amount of storage space, often ranging from tens to hundreds of terabytes.

- Archival and Backup: Film studios typically maintain multiple backups and archival copies of their projects to ensure data integrity and long-term preservation. This includes redundant storage systems, offsite backups, and additional copies for distribution and future use. These archival requirements can further increase the overall data size.
- Content streaming: HDDs are used to store and deliver content to streaming services, such as Netflix, Hulu, and Amazon Prime Video. HDDs provide the high performance and reliability that is needed to stream content to millions of users around the world.

## Entertainment data generation is expected to top 65,000 exabytes in 2028.<sup>1</sup>

HDDs are an essential part of the media and entertainment business. They provide the large capacity, high performance, reliability, and cost-effectiveness that is needed to store and manage media assets in today's digital world.

<sup>1</sup> IDC Global DataSphere #US50554523 (April 2023)