TDK Announces 100GB Blue Laser Disc Technology

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TDK has developed a prototype recordable Blu-ray Disc with revolutionary 100GB capacity. By far the most advanced optical media ever developed, the prototype 100GB bare Blu-ray Disc doubles both the capacity and recording speed of the current Blu-ray Disc specification. Blu-rayâ€™s industry-leading capacity means a single disc can store a vast assortment of content without making quality compromises. A single, prototype 100GB Blu-ray Disc can store approximately 9 hours of high definition video.

Recently unveiled in Tokyo, Japan, TDKâ€™s new prototype Blu-ray Disc records data at 72 megabits per second, double the 36Mbps rate of the current Blu-ray Disc specification. The increased speed has been accomplished through recent advancements in disc recording layer formulations. The initial Blu-ray Disc standard allows for 25GB single layer Blu-ray Discs and 50GB dual layer Blu-ray Discs. To achieve 100GB capacity, the prototype Blu-ray Disc incorporates four 25GB layers. Like all Blu-ray Disc media, TDKâ€™s prototype 100GB Blu-ray Disc is single sided.

Hideki Hirata, TDK Engineering Manager, noted, â€œAnticipation surrounding the release of the bare Blu-ray Disc format continues to grow. Although thereâ€™s been considerable speculation regarding next-generation Blu-ray Disc capacities, TDK is the first to successfully achieve 100GB in a working, prototype disc. TDKâ€™s development of a prototype 100GB Blu-ray Disc with double the recording speed of the current specification validates the companyâ€™s position as a leader in extending the capabilities of optical media.â€?

TDK technologies are redefining state-of-the-art optical media specifications and performance. The companyâ€™s advanced sputtering technology played a key role in enabling the creation of the prototype100GB Blu-ray Disc. Additionally, TDKâ€™s new inorganic film formulation provides absolute stability with narrow track pitches and high recording densities, such as those employed by the Blu-ray Disc format. The formulationâ€™s optical qualities are so stable that TDK has already been able to achieve 6x (216Mbps) recording speed in the lab with blue laser media.

Because Blu-ray Disc mediaâ€™s data tracks are quite narrow even in comparison with DVD media, precise, stable interaction between the laser and the recording material is especially critical to ensuring error-free recording and playback. Thatâ€™s why TDK developed DURABIS, an innovative hard coating technology that makes bare Blu-ray Disc media a reality by protecting the disc surface against common contaminants such as scratches, fingerprints and dust adherence.

DURABIS increases the scratch resistance of Blu-ray Disc media by a factor of 100, as demonstrated in rigorous testing. Because the DURABIS coating technology rapidly discharges static electricity, the discs also resist the accumulation of dust.

TDKâ€™s creation of DURABIS has eliminated the need for cumbersome cartridges to protect the mediaâ€™s recording layer and is allowing the development of bare Blu-ray Disc media. Eliminating the need for a cartridge will minimize manufacturing costs. Whatâ€™s more, with DURABIS coating technology allowing the production of bare Blu-ray Discs, the format will allow for the same user experience as with todayâ€™s CDs and DVDs.

As a member of the Blu-ray Disc Association Board of Directors, TDK has played a key role in the development of Blu-ray, the next generation optical media format that will not only change the way we experience home entertainment and computing, but will also create unprecedented business efficiencies.