



HOLOGRAPHIC

FREQUENTLY ASKED QUESTIONS

maxell
PROFESSIONAL

What is the capacity and speed of the media?

The first generation holographic media will have a capacity of 300GB and a transfer rate of 20MB/s (megabytes/second) which equals to 160Mbps (megabits/second).

How much information can one 300GB disc hold?

A single 300GB Disc holds:

- 35 hours of broadcast quality video @ 19Mbps
- 14 hours of SD (Standard Definition) @ 50Mbps
- 7 hours of HD (High Definition) @ 100Mbps
- 25 minutes of uncompressed @ 1.6Gbps

When will we see Holographic products on the market?

It is expected to be some time in 2007.

* **Please note:** All inquiries regarding Maxell Holographic Technology should be directed to Rich D'Ambrise, who will respond to all press calls on this matter.

How is it different from a DVD?

Besides the obvious capacity advantage of Holographic vs. DVD, there are three key differences between the two recording technologies:

1. Holographic recording is “volumetric”. Recording is done three dimensionally, whereas DVD is done in a serial manner on one surface.
2. Holographic records a “page” of data at one time, or over a million bits at one time (approximately 1.2 million bits of data per “page”). DVD records data one data bit at a time in a serial stream.
3. Holographic recording employs “multiplexing”, or the ability to record different data at the same location on the disc, by simply changing the angle of the reference beam. 350 data pages can be stored in one single location on the disc. As an example, if you were to look at a hologram on a credit card, as you change the angle of the card, the visible image within the hologram changes. Standard optical disc recording, such as DVD, does not and cannot use multiplexing in its recording scheme.

Will there be compression available?

It will be drive firmware dependent.

What is the shelf and archival life of the media?

Based on Maxell's testing at this stage of development, we estimate the shelf life of the media to be approximately 2-3 years, and archival life to be somewhere between 30 and 50 years.

How does the Holographic technology work?

For recording, two laser beams are utilized, a data beam and a reference beam. Recording takes place where the two beams intersect, writing a three dimensional beam interference data pattern to a photopolymer layer within the disc. Reading, or playback, occurs when the reference beam presents data to a camera detector.

Will there be a bare disc product?

Never. The disc contains a photosensitive material, which is sensitive to light prior to recording. The cartridge is necessary to shield the disc from external light sources.

Is Holographic backward compatible with CD/DVD?

Basically not. The holographic technology operates on an entirely different principle, and there is no backward compatibility with any of the current optical technologies, including CD and DVD. Maybe in the future CD/DVD compatibility will be added, but it is drive system dependent.

What are the initial markets for Holographic recording?

The initial markets for Holographic recording will be primarily in both:

- The Professional sector - film and video content in all professional formats can be transferred to Holographic media for archive, distribution, or replication.
- The Commercial sector - data archiving / regulatory compliance.

When will the consumer market see this product?

At this time it is still undetermined, but this technology is eventually expected to have some sort of consumer application / product available to the general public. Two of the major factors that will determine when and if this happens are “cost” and “product acceptance”.

Is there any other Holographic product development?

There are two other Holographic products that are currently in the development stages by companies named Optware and Aprillis. All three employ different multiplexing methods, so there may not be any compatibility between them.

Will we see this technology being used in portable camera applications?

There is a possibility down the road, but at this point the recording aspect of this technology is not portable.

What is Maxell's relationship with InPhase?

Maxell is a technology development partner with InPhase, for both the media and the technology. Maxell is also an investor of InPhase.

When will we see a re-writable product?

TBD. Since it is still in research phase, no particular product schedule is determined.

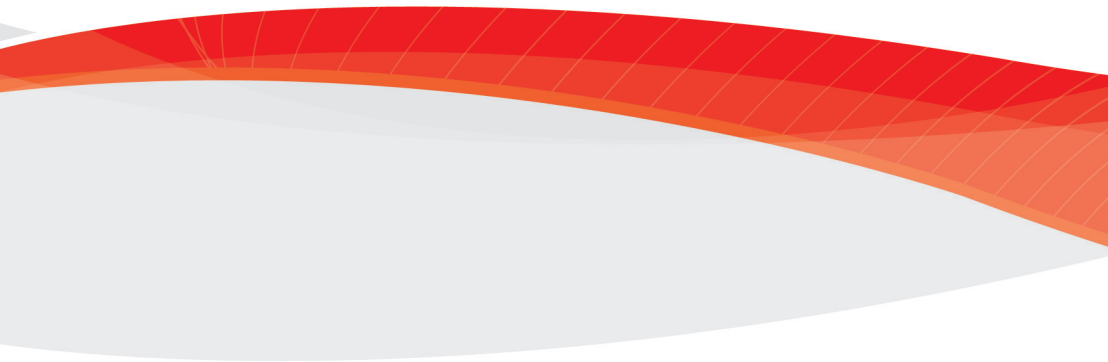
Is this technology jukebox friendly?

Yes, in fact several of the major jukebox manufacturers have either expressed interest in this technology, or have begun negotiating with InPhase to become an OEM partner.

Is holographic media susceptible to damage / corruption from x-rays or airport security screening?

No. X-rays and airports security screening procedures have no adverse effect on holographic media, both in its un-recorded and recorded states.

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