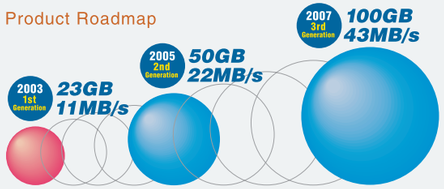
## Hard case protection

A robust shock-resistant polypropylene case is provided for storage and transport. The case design permits the cartridge label to be seen from outside.

## Migration roadmap

In 2003, Professional Disc for DATA opened the door to a new era in disc storage. Storage capacity and data transfer rate are projected to double every two years, leading to 100GB capacity and 43MB/s (read) transfer speed in 2007.




Media Type

| | | |
|---|---|---|
| Media | PDDRW23 | Rewritable model |
| | PDDWO23 | Write Once model |

| Mechanical Characteristics | PDDRW23 / PDDWO23 | | |
|---|---|---|---|
| Recording Capacity (GB) | 23.3 | Protective layer thickness (mm) | 0.1 |
| Data transfer rate (MB/s) | 11 (read), 9 (write) | Erase / write / read cycles*2 | ≧10,000 |
| Sector size (Bytes*1) | 2048 | Read cycles | ≧1,000,000 |
| Recording layer | Phase change | Byte error rate | ≦ $2 \times 10^{-4}$ |
| Recording method | On groove | Estimated shelf life (years) | ≧50*3 |
| Track pitch (µm) | 0.32 | Estimated archival life (years) | ≧50*3 |

*1 : Can be changed to 512Bytes when formatting. *2 : Data result from Internal Testing. *3 : Estimated life under 23°C 50%RH environment by our test.

Dimensions

| |
|---|
| Cartridge Dimensions (mm) : 128.6×130.6×9.1 |
| Disk Diameter (mm) : 120 |
| Weight (g) : 90 |

Environmental Requirements

| |
|---|
| Operation Conditions (°F(°C);%RH) : 32~131 (0~55);3~85 |
| Storage Conditions (°F(°C);%RH) : 14~131 (-10~55);3~90 |

This disc is compatible with the “Professional Disc for DATA” system.
It is not compatible with “Blu-ray” system or “Professional Disc” system (XDCAM).

For more Information, visit our website at
http://www.sony.co.jp/datamedia

ACG-7314-FRO-0406-P1-005

SONY

Sony Storage Media

# Professional Disc for DATA
# Heralding a new era of data storage: 23.3GB capacity and 11MB/s data transfer.

Professional Disc DATA


PDDRW23 (Rewritable)


PDDWO23 (Write Once)

## A leap forward in disc performance

Professional Disc for DATA is a new format based on Sony’s blue-violet laser and disk technologies. While retaining all the advantages of discs, including high-speed random access and a rewritable/write-once option, it also offers vast recording capacity and a high data transfer rate usually associated with tape storage.

## Vast capacity and accelerated data transfer

Professional Disc for DATA leverages the latest short-wavelength blue-violet laser technology together with a high-performance lens and narrow track pitch to achieve unparalleled 23.3GB storage capacity per side together with 11MB/second read and 9MB/second write speeds.

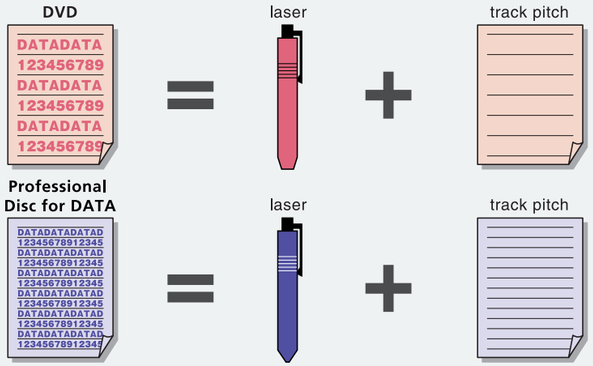
Professional Disc for DATA
OPTICAL DISC

## Media durability of at least 10,000 rewrite cycles

Durability is outstanding since this is a non-contact optical format without friction between pickup and media. Professional Disc for DATA media has been tested by Sony to provide at least 10,000 rewrite (erase/write/read) cycles and at least one million read cycles.

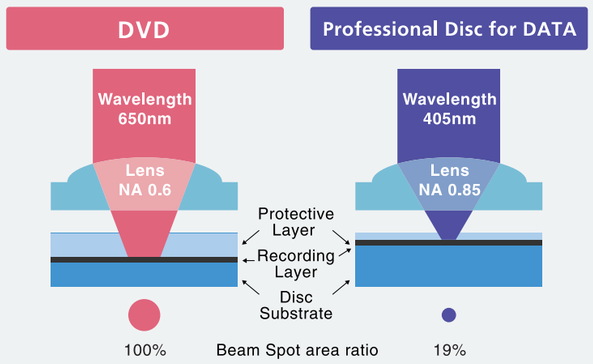
## Keys to higher capacity

To fit more data into a limited area such as the surface of a disc, recording density must be increased. Conceptually, this is like using a finer tipped pen to fit more letters onto a sheet of paper having more lines on it. With optical discs, the laser beam spot is the pen tip and the disc track pitch is the line spacing.



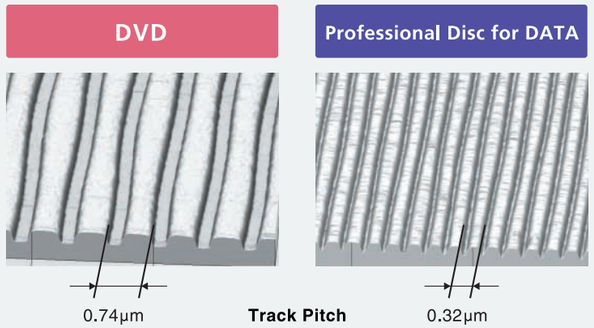

## Blue-violet laser and high-performance lens

Since wavelength decreases toward the blue end of the spectrum, Professional Disc for DATA uses a short 405nm blue-violet laser compared to the longer 650nm wavelength red laser used by DVD and MO drives. Furthermore, the lens NA (numerical aperture) is raised to NA 0.85 for considerably higher convergence than the NA 0.6 of DVD or NA 0.575 of MO drive lenses. This combination of blue-violet laser and NA 0.85 lens creates a beam spot only one fifth the area of a DVD beam spot, so much more data can be packed into a smaller space.



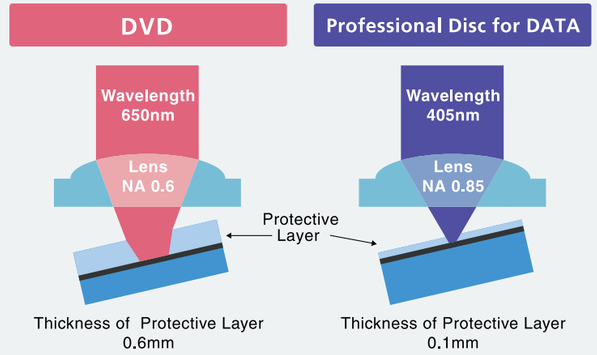

## Track pitch narrower than half a DVD's

A narrow track pitch lets more data be recorded within the same disc area. Sony's advanced stamper technology creates a track pitch of only 0.32μm, far narrower than the 0.74 μm of DVD or 1.3 μm of MO media.



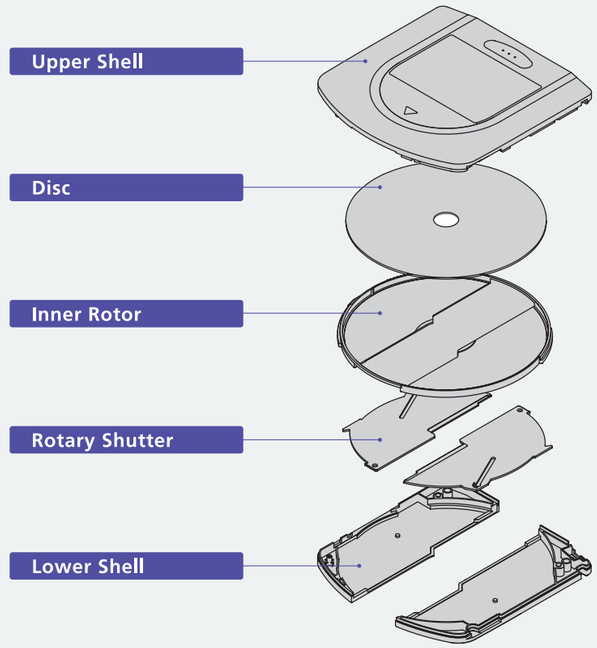

## High tilt margin with thin protective layer

To support read/write accuracy with the use of a small beam spot, Professional Disc for DATA incorporates a protective layer that is 0.1mm thick, with an ultra-precise tolerance of ±2 μm. This effectively prevents aberration of the laser beam spot that would occur with a greater thickness if the disc tilts during rotation. The result is outstanding read/write stability with a tilt margin on a par with the DVD format, while using a beam spot only one-fifth as large.




## Rugged new cartridge design

A rugged new cartridge encloses the entire Professional Disc for DATA, protecting the large volume of data and helping avoid read/write errors. It is constructed to not only seal out dust but also prevent damage of all kinds. The newly developed rotary shutter is also designed to accommodate the dual optical heads projected for the next generation. The cartridge is made of tough, heat-resistant polycarbonate with anti-static polymer for the lower shell and rotary shutter to enhance dust resistance.




## 50-year or better archival stability

Sony test results show an estimated lifespan of 50 years or more for data stored on the Professional Disc for DATA at room temperature. This outstanding archival stability is extremely favorable compared with other media choices.