



## CARING FOR CDs AND DVDs

Optical discs such as CDs and DVDs should be kept in a stable environment with controlled temperatures and humidity. Although many archives place such media in rooms below standard room temperature, the important factor in maintaining these discs in your home is to find a place that does not fluctuate in temperature.

The following tips can help you extend the life of your discs. Although the actual lifespan of optical discs is unknown, manufacturers frequently cite lifespans of up to 100 years, but without standardized tests it's hard to evaluate these claims.

Keep in mind that disc quality can vary significantly from brand to brand. In order to preserve the information they contain, older discs may need to be copied or remastered to a newer format. Remember that as technology improves, earlier formats may become obsolete. Although most new players are downwardly compatible it is important to make sure that you do not get stuck without the appropriate player for your discs.

For more information visit the Conservation Online Web audio preservation Web site.

<http://palimpsest.stanford.edu/bytopic/video/>

### GENERAL STORAGE AND HANDLING PRACTICES

- Keep discs in climate controlled conditions (preferably around 70 F, and 35% - 45% humidity).
- Avoid storage in hot areas such as near windows, a heater, or on or near any type of equipment, including TVs and VCRs. Never leave them in a sun-warmed car.
- As with most storage media, large fluctuations in temperature and humidity can significantly reduce the life of the disc.
- Avoid exposing discs to prolonged sunlight or other forms of ultraviolet light.
- Never store discs directly on the floor. A minimum of 3 inches off the floor is recommended.
- Avoid storage under or near water pipes, water heaters, sinks or any areas where water is used.
- Discs should always be stored in their cases to protect them from dust, moisture, and other environmental problems.
- Discs and their cases should always be labeled with clear information.
- Do not use adhesive labels on discs, as these can warp or unbalance them.
- Use a felt-tip permanent marker to mark the label side of a disc. The marker should be water-based or alcohol-based, these are generally labeled 'non-toxic', and stronger solvents may eat through the thin protective layer and corrupt the data.
- Never use a pen, pencil, or fine-tip marker to write on a disc.
- Never try to remove a label from a disc this could cause the disc to become unbalanced.
- Discs should always be stored on their sides with the spine vertical as you would with a book on a shelf, never flat in a horizontal position, which could result in warping that may prevent the disc from playing.
- Only handle by the outer edge or the center hole, never touch the surface of the disc. Fingerprints may be acidic enough to damage the disc. Never touch the surface of the disc.

- Keep discs clean. Wipe with a piece of cotton fabric in a straight line from the center of the disc to the outer edge. Do not wipe discs in a circular motion as scratches could follow the tracks of the disc and render them unreadable.
- Use CD/DVD-cleaning detergent, isopropyl alcohol or methanol to remove stubborn dirt.
- Never bend a disc as this may cause the layers to separate.
- Always return discs to their plastic cases after use.
- Never scratch the label side of the disc, as it is far more sensitive than the mirrored side of the disc because the data is stored closer to that area.
- Be careful not to bend discs when removing them from their cases because flexing the disc puts strain on the glue that could make the layers of the disc separate.

## **EQUIPMENT**

- Equipment should always be well maintained and serviced regularly.
- Never try to force a disc into a player.
- DVD recorders are especially sensitive to dust and other small particles that could significantly affect accurate digital recording.

## **DISC QUALITY**

- Always use good quality discs for use as both Masters and copies.
- Stay with well-known brands that you know work for your needs.
- Cheap, poor-quality discs can result in poor recordings.
- Gold discs are of better quality than regular ones but obviously a lot more expensive.
- Manufacturers frequently change the materials and manufacturing methods of discs without notifying users. When buying a DVD-R or a CD-R as well, you really don't know what you're getting. You can buy a particular brand of disc, and then get the same brand six months later and it can be quite different. This can render the frequently heard advice to buy name-brand discs for maximum longevity fairly moot.
- DVDs are a bit tougher than CDs in the sense that the data layer (or layers - some discs have two) is sandwiched in the middle of the disc between two layers of plastic. But this structure causes problems of its own, especially in early DVDs. The glue that holds the layers together can lose its grip, making the disc unreadable at least in parts.
- Rewriteable CDs and DVDs, as opposed to write-once discs, should not be used for long-term storage because they contain a heat-sensitive layer that decays much faster than the metal layers of other discs.

## **DISC ROT**

- Discs can deteriorate with a problem known as 'CD rot', where the surface gradually breaks down and the data can no longer be read. In these cases often the aluminum layer disintegrates and light can be seen through the surface of the disc. It is not clear exactly how to prevent this problem but proper storage and handling conditions can help to reduce the chances of this occurring.

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