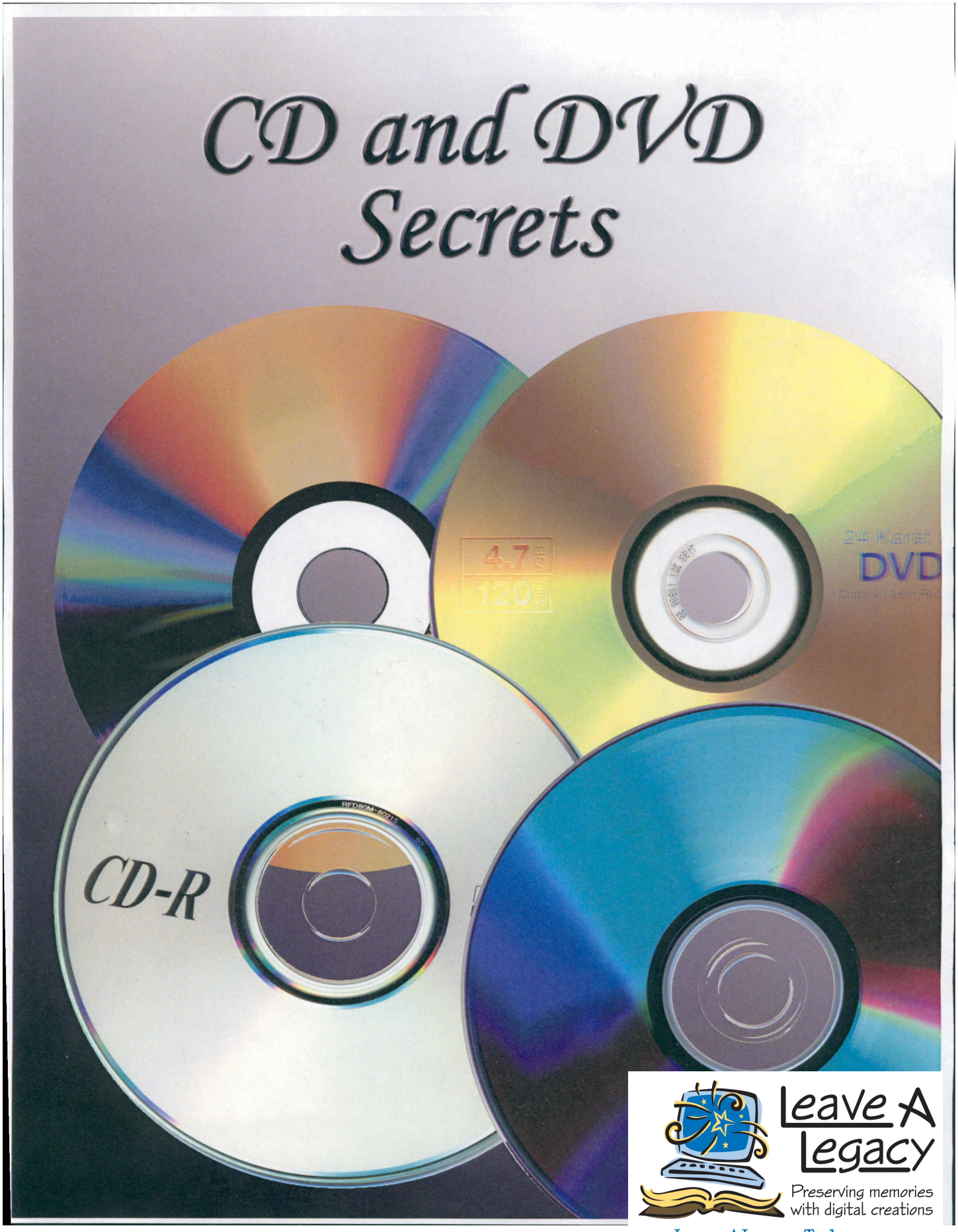
CD and DVD Secrets



Leave A Legacy
Preserving memories with digital creations

LeaveALegacyToday.com

CD and DVD rot and how to avoid it

Last month we made sense of + x and - on your CD and DVD. This month we look at disks and discuss their longevity.

The first disk was created in the early 80's. Today's disks are much more advanced in write performance, capacity, quality and price. Quality manufacturers have determined through testing that current data life spans range from 50-200 years. However, all disks on the market are not created equal. Manufacturers cut many corners in making disks that save them pennies but cost you data in the long term.

CD and DVD rot? Just one more thing to worry about! Your disks can delaminate (separation of the layers that make a disk), oxidize (when air comes in contact with the reflective layer), galvanize (reaction between the layers and coatings), and deteriorate from other chemical reactions (caused by impurities in the disk's adhesive or aluminum coating). These problems usually occur when price-oriented manufacturers use outdated equipment and cheaper materials. Most standard disks use silver as the reflective layer and this is where the oxidation occurs.

Gold Archival DVDs have earned the reputation as the highest-quality storage media currently available. The reflective layer is comprised of 24 karat gold, which doesn't oxidize like silver does. These disks are expected to last at least 100 years! **Leave A Legacy offers these Gold Archival DVDs** to clients who seek long-term preservation of their movies, TV slide shows, memory pages (aka: digital scrapbook pages) and digital photos. Our newest gold disks also have the added protection of Scratch Armor anti-scratch coating. This coating protects your disks from scratches, scuffs, fingerprints, dirt and chemicals. Don't worry about price, as it only cost a few extra dollars to go first class.

Cleaning your DVD or CD player

Dust can collect on the lens in your DVD and CD players which causes difficulty in playing disks correctly or for them to not play at all. I used to always blame the disk in having flaws or scratches but when your video skips a lot it may be indicating that it is time for cleaning the DVD and CD player.

Cleaning disks are available at any of the electronics stores. Many have little brushes on the backside of the DVD or CD. The disk spins when placed in the player and the brushes act to clean the dust from your laser lens.

To use the cleaning disk, just place it in your player and allow it to detect it. Then hit play and it will start to play the disk. It should run for only 15-20 seconds and then stop. Finally, you can eject the disk and your player should be clean.

It is recommended that you repeat it for every 8 hours of play. I would just do it when your images or music starts to skip. Take note that these should not be used on gaming systems that use a DVD as it can damage the system.

How much fits on a CD/DVD

A CD (compact disk) holds 750 megabytes of information. If all of these bits and bytes don't mean much to you then this is a practical guide for you. These are the basics for how much of your various types of memories will fit on a single **CD**.

80 minutes of audio

400 slides scanned at 300 dpi for a 4" x 6"

4,500 photos scanned at 300 dpi for a 4" x 6"

A **DVD** (digital video disk) holds 4.7 gigabytes (1 gigabyte = 1024 megabytes). In useful terms this would be:

2 hours of video from a video tape (they can hold more but your video quality will be reduced)

20 minutes of video from a video tape saved as an avi file type (for editing your film at home).

1800 feet of film (this is approximate since films were shot at a variety of speeds)

3000 slides scanned at 300 dpi for a 4" x 6"

30,000 photos scanned at 300 dpi for a 4" x 6"

Avoid damaging disks

Last month we shared information on differences in disk quality and longevity. The next step to keeping your data long-term is handling your disks with the respect your data deserves.

Many environmental factors can damage your disks. These include: exposure to direct sunlight: intense heat; fluctuations in temperature and humidity; gravity; fingerprints; and smudges and scratches. By following the lists of do's and don'ts, you can ensure a maximum life expectancy for your disks.

Do:

- Handle disks by the outer edge or center hole
- Use a nonsolvent-based felt-tip permanent marker to mark the label side of the disk
- Keep dirt or other foreign matter from the disk
- Store disks upright (book style) in original jewel cases
- Return disks to their jewel case immediately after use
- Leave disks in their spindle or jewel case to minimize the effects of environmental changes
- Remove the shrink wrap only when you are ready to record data on the disk
- Store in a cool, dry, dark, clean-air environment -- relative humidity should be 20% - 50% and temperature 4 - 20 degrees C
- Remove dirt, foreign material, fingerprints, smudges, and liquids by wiping with a clean cotton cloth in a straight line from the center of the disk toward the outer edge
- Use deionized, distilled or soft tap water to clean your disks; for tough problems, use diluted dish detergent or rubbing alcohol

Do not:

- Touch the surface of the disk
- Bend the disk
- Store disks horizontally for a long period of time (years)
- Expose to extreme heat or high humidity
- Expose to rapid temperature and humidity changes
- Expose to prolonged sunlight
- Write on the data side of the disk
- Clean in a circular direction around the disk

Reference: audioholics.com

How to handle disks- don’t touch!

From the disks we’ve seen come back to the shop we know that more people need the message on how to handle disks correctly to keep them working. Don’t touch the back of the disk with anything. The back of the disk (the side that goes down in the dvd player without the label on it) is where the information is contained on the disk. Any scratches or finger smudges can affect the playability of the disk. When you pick up a disk, hold it by the edges of the disk or the edge of the inner hole only. When we set a disk down at Leave A Legacy it is either in its jewel case or we flip it upside down.

Making sense of CDs and DVDs: R vs. RW, + vs. – and x.

R vs. RW:

The "R" stands for recordable while RW stands for re-writeable. On recordable disks you can record information on it until it is full, but can't erase and re-write on the disk. The re-writeable disks work more like our old floppies that you could copy to, erase and reuse. In general, we suggest that you choose "R" for archiving files (things you don't want to change) and choose "RW" for files that are changing and for temporary backup.

- vs +:

The "-" (minus) and the "+" (plus) signs identify two different formats that are not compatible with each other. To clarify: a DVD-R/DVD-RW writer can only write to a DVD-R/DVD-RW disk, while a DVD+R/DVD+RW writer can only write to DVD+R/DVD+RW disks. These formats do not affect the storage capacity of the disk. If you have a Combo drive then you are in luck, as you can use either format. All of the kiosks at Leave A Legacy are equipped with Combo drives.

The next question is: "How do I know what kind of disk I have?" The writers and players will often have a logo sticker on the front or back that tell which kind you have. You may need to get out a magnifying glass to read it if your vision is not stellar.

The "x" on your disk, simply put, is an expression with a number following that tells you how fast you can record to the disk. The difficulty comes in when you compare CDs with DVDs, since DVDs are so much faster they use a different unit of measure to express their speed. The 1x of a DVD is equivalent to 8x of a CD.

Making sense of CDs and DVDs: what's the difference

We all have them CDs and DVDs, but what is the difference between them? What they have in common is that they are both about the same and size shape, and look about the same and both hold information of some sort. One of the first differences (and most easily understood) is that DVDs can hold at least seven times as much information as CDs. This is accomplished by using multiple recording layers and even recording on both sides of the media. Your information is saved in a series of bumps and holes (called pits). DVD technology writes and reads smaller pits than CD technology.

With the smaller pits it is possible to record more pits in a track and also possible to write more tracks per disk. DVDs with higher storage capacity will have more tracks than similar DVDs with less capacity. The narrower tracks require special lasers for both reading and writing. That explains why DVD players can't play CDs and CD players can't play DVDs. This problem is solved by putting two lasers in drives (one for reading CDs and the other for DVDs).

Recording format is another big difference between DVDs and CDs. DVD recording uses UDF (Universal Data Format). This format allows us to save data, video, audio or a combination of the three in the same file structure. CDs do not comply with UDF.