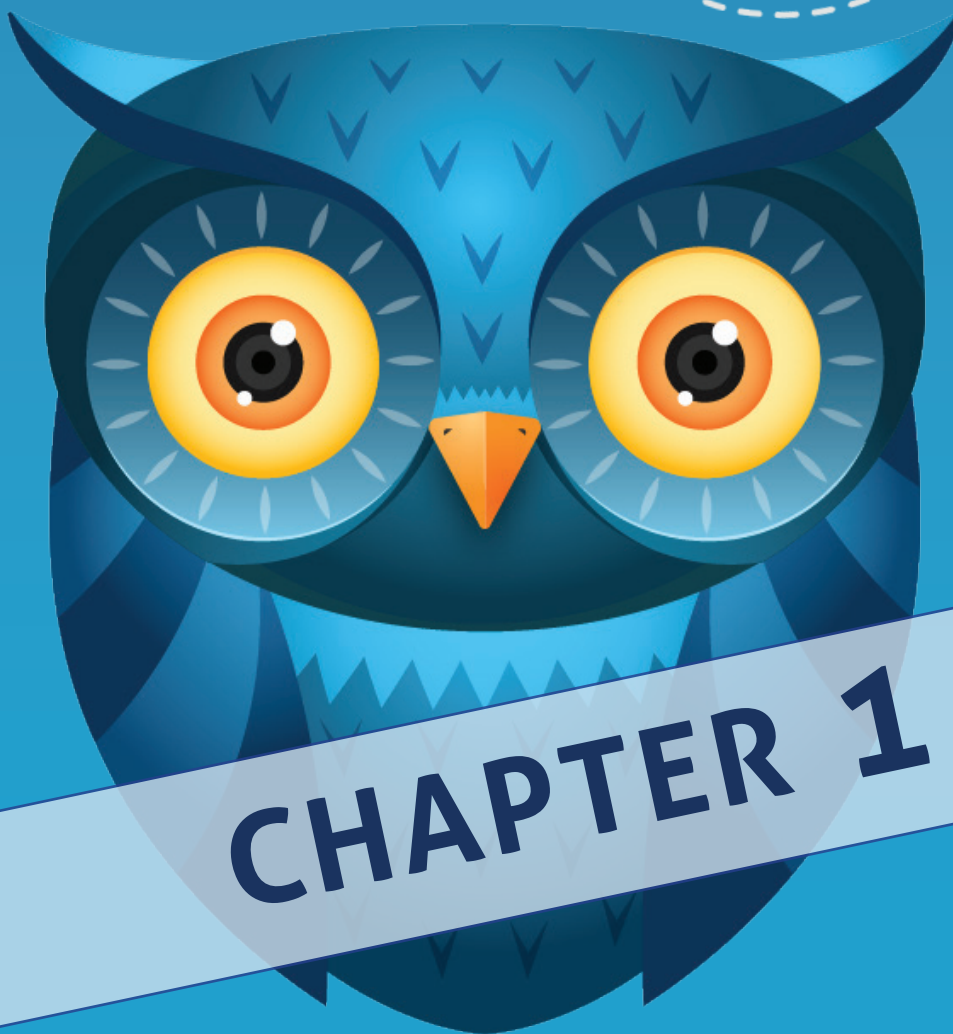


WOOT

# Secrets of the MEMORY GUARDIAN

Leave A Legacy



## CHAPTER 1

[www.leavealegacytoday.com](http://www.leavealegacytoday.com)

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# Chapter 01

## CD and DVD Secrets



# 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 size and shape, 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.

# Making sense of CDs and DVDs (R, RW, +, -, 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. 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](http://www.leavealegacytoday.com) 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.

## X

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.

## How Much Fits on a CD or DVD?

**A CD (compact disk) holds 750 megabytes of information. If all of these bits and bytes don't mean much, 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.**

### CD Capacity

- 80 minutes of audio
- 400 slides scanned at 1200 dpi so you could print a good quality 4" x 6"
- 4,500 4" x 6" photos scanned at 300 dpi

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

### DVD Capacity

- 2 hours of video from a videotape (they can hold more but your video quality will be reduced.)
- 20 minutes of video from a videotape saved as an avi file type (for editing your video at home.)
- 1800 feet of film (this is approximate since films were shot at a variety of speeds)
- 3000 slides scanned at 1200 dpi so you could print a good quality 4" x 6"
- 30,000 4" x 6" photos scanned at 300 dpi



# CD and DVD “Rot” and How to Avoid it

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 10-200 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. Most standard disks are tested to last 10-20 years.

**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. These disks are expected to last at least 100 years! [Leave A Legacy](http://www.leavealegacytoday.com) offers these **Gold Archival DVDs**note: what is the point of the highlight?

*"Thanks for the amazing job you and your talented staff did on the video tribute to my Mother Bonnie. This was literally a last wish and something we could never have done without you...the video is unbelievable!! Your compassion in our grief was so comforting as was your patience as we had a few "add on's" at the last day. Even though I live in Las Vegas I will definitely be using you again for more video memories. Thank you from the bottom of our hearts for a job that knocked our socks off!!:)"*

*-Lisa Stokuca, Las Vegas NV*

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.

## Avoid Damaging Disks

In order to keep your data long-term, your disks must be handled with the respect that 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. 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.

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 65-70 degrees F
- 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

*Leave A Legacy  
has been of great  
assistance and a  
huge time saver to  
our office. They're  
reliable, efficient,  
and great people  
to work with!*

*-Julie Melcher  
Metier Law Firm  
Fort Collins, CO*



# Cleaning your DVD or CD Player

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

Want Leave A Legacy to do all the organizing for you or questions about the next step of digitizing your media?

# Contact us today

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