

How To Burn CDs

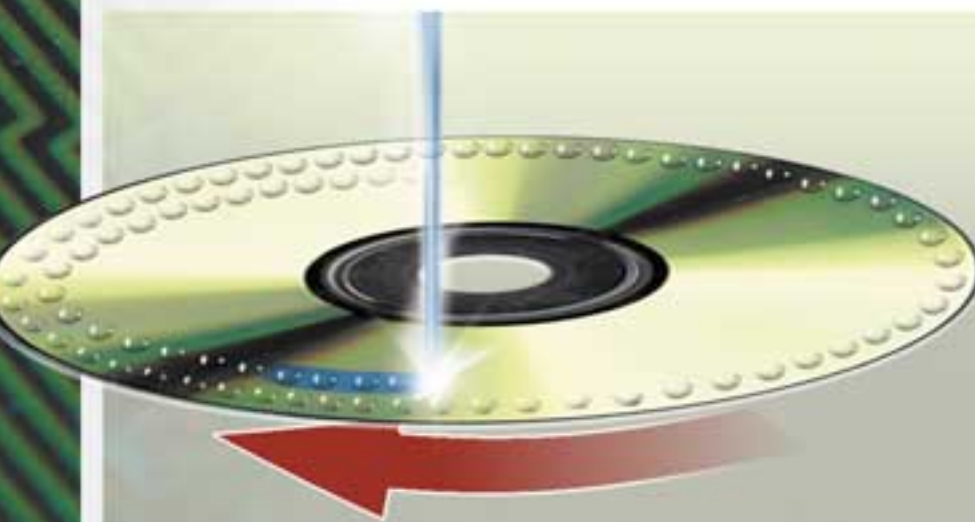
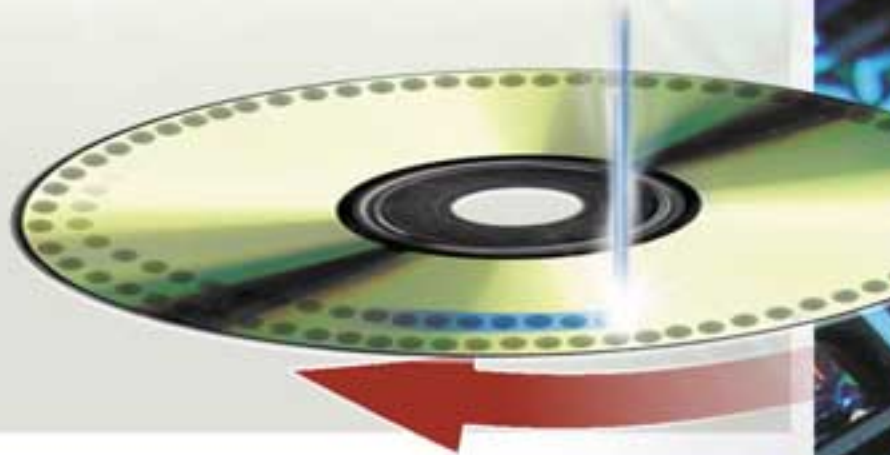
Computer users have many data storage options from which to choose, such as tape drives, Zip drives, portable hard drives, and good old floppy diskettes. These storage options are OK, but for our money the best all-around storage option is the CD-RW (CD-rewriteable) drive. You can store 650MB of data (and in some cases slightly more than that) on a single disc, and you can buy a pack

of 50 discs for about \$25, a mere 50 cents per disc. And CD-RWs, to which you can rewrite thousands of times, don't cost much more than CD-Rs (CD-recordables).

When you record data to either CD-R or CD-RW, your computer sends the data to the CD-RW drive. The information builds up in the drive's buffer and then is sent to the disc in a steady stream of information. The buffer is

necessary because if the stream of data is suddenly interrupted as it's being written to the disc, a buffer underrun error will occur, and the disc will be useless. If the CD-RW drive is a BURN-Proof drive and the buffer nearly runs out of data, the drive will bookmark the last spot it recorded and pause until the buffer fills up again. The drive resumes recording where it left off.

1 A CD-RW drive uses a laser to record pits to the CD-R or CD-RW. CD-Rs have a reflective layer that's covered with a clear coating. The drive's laser burns a dark spot on this coating, which a CD drive interprets as a pit because the dark spot will not reflect very much light. Once a spot is burned on a CD-R, it cannot be undone.



2 CD-RWs reflect light, just as CD-Rs do, but the structure of a CD-RW is completely different. CD-RWs are made of a composite of several metals. When the CD-RW drive's laser heats a spot on the disc, the spot "melts" into a small bubble. This bubble is interpreted as a pit when it is read by a CD-RW drive because it disperses light.

3 The CD-RW drive can erase the pits formed on a CD-RW by focusing the laser on the pit at a slightly lower temperature for a slightly longer time. This returns the pit to its previous state.

