

SKIPPING CD PLAYER

I have a CD player that skips regardless of how well I clean the discs. I suspect that the problem is caused by interference that is generated by my computer, which is on the same AC line. Can you suggest a filter that would help?—G. Elder, Panama City, FL

It's unlikely that the skipping or mistracking problem is a result of RF interference from your computer. The leading cause of CD mistracking is dirty discs. But apparently you've ruled out that possibility. A dirty lens in the laser receiver can

also cause tracking problems. Laser lens cleaners for CD players are available from hi-fi shops and some music stores. Since a cleaner is not expensive (under \$20), trying one is a logical next step.

If a dirty lens is not causing the mistracking, solving the problem is going to be more complex and more expensive. Before you can stop the mistracking, you must understand how a correctly functioning CD player maintains tracking.

A single laser beam is split into three beams by a diffraction grating or beam splitter. The middle beam reads the data from the transition between the pits and flats on the disc. The two outside beams follow the blank areas between the data track being read and the two adjacent tracks. If an outside beam hits some pits, a photodiode array detects the strike, and a tracking-error signal is generated by a differential amplifier. The error signal is then fed to tracking actuator coils, which move the head in one direction or the other to restore proper tracking of the disc.

A tracking problem can also be caused by a weak laser—a solid-state CD laser does not have an unlimited lifespan—or a malfunctioning photodiode in the sensor array. Actuator coils can also cause mistracking if they burn out.

Another common cause of tracking problems is the spindle motor that turns the disc. A little dirt can cause the bearings to wear prematurely. That causes the disc to wobble as it spins. The actuator coils can't keep up with the wobble, and the disc skips. Unfortunately, replacing the motor is time-consuming and expensive. If you do not have experience servicing CD players, don't attempt any repair other than cleaning. Even before doing that, however, it is recommended that you obtain instructions on how to service your CD player from its manufacturer.