



REPRODUCE LIFE.

If you have a head for quality high-fidelity components, you know that AKAI is synonymous with superior performance and life-like sound reproduction.

But here's something you may not know.

The AKAI CS-702D. It's the front-loading cassette deck that doesn't cost you an arm and a leg. In fact, it has a lot of features you'd expect to pay more for.

Dolby,* of course, to eliminate tape hiss, and a multiplex filter circuit to filter out those ghoulish broadcast noises. A limiter switch to prevent over-

level recording. Vertical head block assembly. Separate right and left channel recording level controls. Direct channel recording level controls. Direct function controls. Pause control for easy editing. Full release auto stop. Illuminated VU meters. A terrific looking walnut grained vinyl cover. And a lot more.

So listen to the AKAI CS-702D soon. And breathe a little life into your system.

*TM of Dolby Labs, Inc.

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ART COLLECTORS:

For an 18" x 24" reproduction of this Charles Bragg etching suitable for framing, send \$2 to AKAI, Dept. AP, P.O. Box 6010, Compton, CA 90224, ATTN: Frankie

IN BOTH EARS

Record Care — The Vinyl Step

The microscopic world of dust in your room doesn't float gently to the surfaces of your phono discs. Instead it is literally sucked down by invisible lines of electrostatic force extending from the record. And the amount of force is astonishing. Just removing a record from its jacket can easily develop 500 volts across the record surface. When turning on the platter with a stylus in the grooves the electrostatic force can rise to several thousand volts, a force field that literally vacuums the air in the region of the record. And if you like to smoke while listening, smoke particles add to the dust to form microsize boulders, barriers to the onrushing stylus. Score one for the non-smokers.

You can't hold a record upside down and expect the force of gravity to pull the dust out. Two reasons for this. The first is that the electrostatic force is far greater than the force of gravity. And the second is that the stylus literally pounds the dust into the groove walls. It's a sad fact of life that even anti-static fluids and record cleaning agents cannot eliminate electrostatic force entirely.

But we can fight a rearward action. Fortunately, there is an abundance of record-cleaning products to choose from, some of which are ingenious. But before we catalog some for you, abandon the idea of taking a record into the shower with you. Soaps and detergents leave an invisible film, giving a villainous assist to the electrostatic force. This film acts like a transparent adhesive, holding some dust that might have escaped.

Blowing across a record is good exercise but it's an exercise in futility. It oxygenates the record, but you need it more than the record does. And wiping the record with a dry cloth is a nice gesture, but that's all it is. The rubbing action increases the electrostatic field so the record is dirtier after you wipe than before.

The fact that a record looks glisteningly clean means nothing. You can't see microscopic dust. If a record is brand new and just removed from its wrapper, this too means nothing. The record manufacturing process, plus handling and packing, helps ensure a dirty surface. Phono records have increased in cost while record quality for some labels has become marginal.

Dust in and on record grooves causes a number of listening problems. There can be pops and crackles. The collision of the stylus with dust particles can bounce the stylus into groove walls, scraping away sound-producing groove modulation.

It's a black picture, but you have numerous allies. There are so many commercially available palliatives, so many record-care nostrums that even by the laws of chance some must be good. And the need for cleanliness applies with equal force to styli. They should be brushed before each playing.

Some record care products are cleaners only; others include an anti-static agent. The combined cleaners/anti-static units are better than those that are just cleaners; they

reduce the electrostatic field considerably, but even with the best there is just no way of getting that electrostatic field down to zero.

Some cleaners are liquids; others are sprays. In either case, follow the manufacturer's directions carefully. It isn't the amount of liquid or spray you use, but how you use it. Drowning a record is self-defeating. For a standard 45 rpm record, spray approximately 2 to 3 seconds and for an LP, 4 to 5 seconds is ideal. You don't need a stopwatch; just count as you spray. Always spray at least 30 centimeters away from the record. The most effective amount is that which can be quickly and easily wiped away.

Record cleaner pads are usually deep pile units which you can use with a circular motion on the disc. The pile is often velvet and even special carbon fibers are used. It is somewhat more convenient to use a rolling cleaner. Nagaoka makes a rolling cleaner that doesn't brush away the dirt but instead picks it up with a special grade of rubber which retains its tackiness permanently. The material is soft enough to adapt itself to the shape of the groove. No spray or liquid is used. The price is \$15.95.

Empire Scientific has introduced a film-forming gel called Disco Film, a water soluble solution that is harmless to vinyl. The material is sponged over the record surface with a built-in applicator. When dry, a flexible film is formed which is easily peeled off with Scotch tape. One container of Disco Film will clean up to 70 vinyl LP record sides. The product is not for use on shellac records. Suggested retail is \$29.95.

Theoretically, you should clean records every time you decide to play them, but this can get to be quite a chore. An easier way, if that's what you're looking for, is to vacuum your records. Vac-O-Rec is a motorized unit containing a mohair fiber brush in a record slot. Just insert the record vertically, turn on the switch and in 30 seconds your record has been swept clean automatically. The advantage of natural mohair over synthetic fibers is that mohair has finer terminal points and so can reach deeper into grooves. The Vac-O-Rec Model 100 sells for \$29.95.

You can 'shoot' your records if you find static buildup to be vicious, as it really is. The Zerostat, made by American Audiopoint, looks just like a gun and that's how you use it. When you squeeze the trigger the gun releases ions. The Zerostat doesn't need a power supply or batteries and will last for about 50,000 or more trigger squeezes. The pistol contains a piezoelectric cell which produces a high voltage; inside there is also a corona discharge needle which ionizes the air. But while the Zerostat reduces the electrostatic charge on a record, it doesn't remove dirt, so that record cleaning chore will still be with you. Price is just \$29.95.

Recoton has a varied line of record care and cleaning products. Their 'Clean Sound' solution claims to remove all traces of residue found on a record while eliminating new static buildup. Retail price is \$2.50 but this is only for the liquid. You will still need a brush. Recoton offers a package consisting of the cleaner and brush for \$15.00.

Audio-Technica's record cleaning system, Model AT6008, consists of a velvet-surfaced cleaning unit with handle, a storage base, cleaning brush, special cleaning solution and solution applicator. The foam-backed velvet surface, together with the cleaning solution, collects dust from the record grooves. A special feature of the unit is its rotating handle which permits a fresh cleaning surface to be provided continually as the cleaner is moved across the record.

Martin Clifford