



## DIY HOME

# \$1,000 WIND CHIMES



Finding the softer side of hard drive platters. By Thomas Arey

Over the years, I have accumulated a number of computer hard drives which either failed or needed upgrading. These old drives were no longer collecting data; they were collecting dust. So it was time to void the warranties and open the cases.

Fair warning: Cracking open any hard drive will probably stop it from working. These units are assembled in clean-room conditions, and while my basement workshop is a fantastic place full of wonders, it has never been described as clean. I knew that whatever came out of this exercise would have to perform some new function.

Most modern hard drives are assembled using small Torx screws. With a well-stocked toolbox this is no problem, but before you start unscrewing, notice the thick metallic tape that runs around the drive to join the 2 halves of the drive case and seal

the innards against the outside world. A quick slice with a razor knife takes this encumbrance away and lets the unscrewed case come apart. Keep an eye out for screws hidden under labels.

Inside we find the drive head assembly, a small printed circuit board, and one or more disk drive platters sitting on a small motor. The most generally useful, recoverable item inside any old disk drive is the powerful neodymium magnet that pulls the drive head. At the very least, these make geeky refrigerator magnets. I have joined several of these magnets together and threaded strong cord through their plates to go "fishing" in a lake. They won't pull up a car wheel, but you may find some interesting underwater debris.

With that said, I began to think a little bit more artistically about the shiny platters. I gathered



Fig. A: Clamp platter with a rag to protect its surface, and use a cutting wheel to free extraneous pieces.  
Fig. B: Smooth, shiny platter with pieces removed from its center.

Fig. C: Measure aluminum strip for hanger ring.  
Fig. D: Mark pilot holes for drilling hanger ring.  
Fig. E: Rivet (or bolt) ends of ring together.

## MATERIALS

Old hard drives  
1" strap aluminum or other material to make a ring  
Small nut and bolt or pop rivet tool and rivets  
Monofilament fishing line or thicker cord to avoid tangling with longer hanging distances  
Torx screwdrivers  
Knife  
Drill

several together and spread them out on my workbench. As I pondered their mirrored surfaces, I heard one of my wife's wind chimes sing from our back deck. In a magic maker moment, an LED lit up in my head. Let's turn these platters into wind chimes!

In my scrap metal pile I found some 1" strap aluminum that would make a nice hanger ring. I laid my 7 platters out in a line on my workbench, with their edges overlapping by about  $\frac{1}{4}$ ", and then took this total measurement. After adding about 1" for overlap, I had the length of aluminum I needed.

I drilled a hole at each end of the aluminum, for joining the ring together using a small nut and bolt. Then I drilled 7 evenly spaced holes for the platters to hang from. Someone more math-oriented than myself could come up with a formula to compute

the hole placement, but I found that eyeballing got me to where I wanted to go. Besides, it was fun.

At first I tried hanging all the platters at the same height below the metal ring. I strung clear fishing line and hung them down about 16". These "first draft" wind chimes sounded nice, and the sunlight reflecting off the platters bathed my backyard in "fireflies" that my dogs had fun chasing. However, strong winds led this design to tangle very quickly and stay tangled. Back to the workbench!

Looking at other wind chimes around my house, I noticed that many had their bells arranged in a cascade of successively longer strings. When these tangled in strong winds, they tended to untangle on their own. Making this simple change in the lengths of fishing line made for an even more attractive kinetic sculpture with a fine sound.

After I hung these chimes, several neighbors asked if I could build some for them. Since the original cost of the hard drives exceeds \$1,000, folks will just have to wait until I can find more dead ones.

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