

# File Not Found: The Record Industry's Digital Storage Crisis

Vinyl and analog tapes last forever, but hard drives fail and digital formats change By David Browne

**L**AST YEAR, THE BEGGARS Banquet label unearthed the multitrack master recordings of the Cult's classic 1985 album, *Love*, for a planned deluxe edition. The LP was an early digital recording, and to the label's shock, one master was unplayable; the other contained only 80 percent of the album. "That's the problem with digital," says Steve Webbon, head archivist of the Beggars Group. "When it goes, it's just blank. It's gone."

Welcome to the digital nightmare. Until the 1980s, music was recorded on analog tapes that were stored in vaults and easily played back. In the digital era, that process has changed irrevocably. A new report issued by the Library of Congress calls digital formats "not inherently safe harbors of preservation," and raised red flags about how music collections are being stored. "There's a paradox," says Sam Brylawski, a former Library of Congress archivist. "We can record so easily now with digital recorders. But at the same time, the stuff is at greater risk than it used to be." Producer T Bone Burnett, who testified at a hearing on the topic, couldn't agree more: "Digital is a feeble storage medium."

Why does it matter? With the record industry battling shrinking sales, labels have been scouring their catalogs for new revenue streams: deluxe reissues, remixes and video-game and soundtrack licensing opportunities - all of which can require the multitrack masters (these contain all of a song's separate vocal and instrumental elements). For instance, this year's hit *Exile on Main Street* reissue, where the Rolling Stones recorded new material onto sessions from the 1970s, or the new "stripped down" version of John Lennon and Yoko Ono's *Double Fantasy* couldn't have happened without fully intact multitrack masters.

The great advantage of the digital medium - that it's always evolving - is also its downfall. Modern computers aren't always compatible with old formats. "Say you have a Word file on an old Mac OS and you want to retrieve it," says Paul West, a former archivist at Universal Music. "Look at the hoops you have to go through for that. Multiply that by an incredible factor to try to retrieve music."

Smash Mouth had to go rerecord parts of their 1999 hit "All Star" for a TV ad when the digital master was missing tracks. Engineers at EMI have discovered that drums and percussion effects on some Eighties recordings are gone. As a result, engineers are sometimes forced to reconstruct these effects

themselves. "You open a session even from 10 years ago, and it might have a plug-in that's not supported, so you don't have that effect anymore," says Greg Parkin, VP of archives at EMI. "Our guys are becoming detectives - it's a booming industry."

Hard drives, which became standard in the past decade, present their own problems. Label archivists tell horror stories about receiving hard drives that are blank or filled with unidentified files. "You'll get a drive with thousands of files on it," says Chris Lacinak of AudioVisual Preservation Solutions, which has helped preserve music for the Rock and Roll Hall of Fame. "Imagine if all the songs in your iTunes library just said 'Track 1' or

'Track 2.' Ten years later, when you want to do a remix or collect outtakes - good luck."

When a multitrack digital tape is missing or inaccessible, the music isn't completely gone; it still exists on backup tapes or CDs. But it's the multitrack masters that soundtrack supervisors and video-game companies need for their projects. The Wallflowers wanted to license one of their songs to *Guitar Hero* - but discovered that the drum track, recorded on a separate file, couldn't be found. "If people can't figure out why a song isn't on *Guitar Hero*, there's a good chance it's because there's no way to revive the digital master file," says one industry source.

Unfortunately, future-proofing digital music isn't easy. The Library of Congress report recommended regularly migrating files to updated systems, a costly expense. (The library estimates \$187,500 for every 1,000 hours of audio.) Bob George of the ARChive of Contemporary Music, which has collected more than 2 million CDs, LPs and tapes of decades of pop music, says he won't be converting the library's collection to hard drives. "By the time we'd finish," he says, "there would be a new system for digitizing."

Labels are starting to take notice of these digital-archiving issues. Some keep their files backed up on servers in climate-controlled rooms. Others, like EMI and Universal, immediately convert files of new albums onto systems like Linear Tape-Open (LTO), a heavy-duty digital-tape format used by banks to back up their data, and store the tapes in vaults around the country. "Down the road, LTO may make way for something else," says EMI's Parkin. "The point is to make sure it's safe. With all these new revenue streams, we have to make sure we're packaging every single asset as best as possible for the future." ☛

## Is Your Music Safe?

Five tips on preserving your digital collection

### 1 BACK IT UP, STUPID

It's common sense: Hard drives fail, so keep everything backed up on an external hard drive. In addition, keep the support drive away from your main computer. "If there's a fire in the room where you keep your computer," says music archivist West, "you've lost it all."

### 2 FUTURE-PROOF YOUR TUNES

With a terabyte of storage available for under \$75, there's no reason to compress files to low-quality MP3s anymore. Future-generation iPods will have plenty of room for audiophile-quality files, such as Apple Lossless.

### 3 CD-RS AREN'T SAFE

Avoid burning your music onto data CD-Rs or DVD-Rs. "They can last as little as three to five years if they're left in the sunlight and if it wasn't good quality to begin with," says former Library of Congress archivist Brylawski. Also: Not all CD-Rs are manufactured alike, and some deteriorate faster than others.

### 4 SAVE YOUR CDS

Don't toss your CD collection yet, as experts agree that most discs in your collection should last another 30 to 40 years. (Reports of "CD rot" haven't proved to be widespread.) "No panic is called for," says Jerry Hartke of Media Sciences, a data-storage consulting company. "We're not driving toward the edge of a cliff."

### 5 AIM FOR THE CLOUD

Consider backing up your music with a remote online "cloud" system. One service, Carbonite, offers unlimited backup for less than \$5 a month.