

# Analog Recording in Peril

By Zane Van Dusen



*The recent demise of the last high-quality analog tape manufacturer has brought the future of analog recording into question.\**

When Jeff Tweedy and his band Wilco entered their Chicago recording studio in January, they were shocked to find a complete lack of the analog audio tape that the band was accustomed to using for their recordings. Mr. Tweedy's first "impression [was that there] was a shortage of tape in Chicago," however this shortage was not limited to the city.<sup>1</sup> In fact, on December 31 Quantegy Inc, the last producer of high-quality analog

tape, declared bankruptcy and shut down its factory in Opelika, Alabama.

Anyone involved in the analog recording industry is very familiar with the name Quantegy. Since the mid '90s, the company has dominated the analog tape market. And for the past five years, Quantegy has been the *only* American company that still sells analog tape. Finally, in 2004, their last major competitor, a German company ten times their size, filed for bankruptcy and "just disappeared."<sup>2</sup> This left any analog producer completely dependent on Quantegy for their recording supplies.

The company was forced to shut its doors in December when one of its major money sources, Imation, ended their two year contract with the tape manufacturer. Imation agreed to cover Quantegy's expenses for two years while they developed a new product, Digital Beta Cam. However, Digital Beta Cam experienced many issues with quality control, and in 2004 Imation decided to build its own factory and cease all

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\*Photo courtesy of <http://www.punchstock.com>

<sup>1</sup> Smith, Ethan & McBride, Sarah "Tale of the Tape" *Wall Street Journal* 2005

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<sup>2</sup> Lowery, Tamiko, "Quantegy Hearing Today" *Opelika-Auburn News* 2005

business with Quantegy.<sup>3</sup> This major loss combined with the decline in tape use since the advent of digital recording, made it impossible for the company to continue to do business.

While Quantegy's shut down may have been sudden, it did not come as a total surprise. Analog purists and producers like Steve Albini (Nirvana, The Pixies, and Shellac) have "been expecting the news for about a year." Over the past decade analog tape has been rendered virtually obsolete in use by newer and cheaper digital technology.

### **A Brief Audio Recording History**

In 1948, the Ampex Corporation (Quantegy's former parent company) released the first American tape recorder, the Ampex Model 200. Immediately following its release, the Ampex Model 200 became extremely popular and was used by the likes of Bing Crosby and the American Broadcast Corporation (ABC).<sup>4</sup> Analog tape was used almost exclusively from the 1950s up until the mid 1980s, when digital recording first became possible.

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<sup>3</sup> Lowery, Tamiko, "Quantegy Hearing Today" *Opelika-Auburn News* 2005

<sup>4</sup> Schoenherr, Steve, "Recording Technology History" <http://history.acusd.edu/gen/recording/notes.html>



*Bing Crosby played a large role in popularizing analog by recording his radio show using the Ampex Model 200*

In 1987, Digital Audio Tape (DAT) was introduced and it took the professional recording industry by storm. Producers found DATs to be extremely helpful because of their relatively low-cost, large storage capabilities, and convenient size.<sup>5</sup> Many amateur producers stopped using tapes all together and opted to simply record straight to their hard drives using programs like ProTools. Due to digital's immense popularity, it was able to replace analog as the standard for the recording industry in only a couple years. It is now estimated "that as few as 5% of albums are recorded and mixed using [analog] audio tape."<sup>6</sup>

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<sup>5</sup> "Vintage Audio History" *Video Interchange* [http://www.videointerchange.com/audio\\_history.htm](http://www.videointerchange.com/audio_history.htm)

<sup>6</sup> Smith, Ethan & McBride, Sarah "Tale of the Tape" *Wall Street Journal* 2005

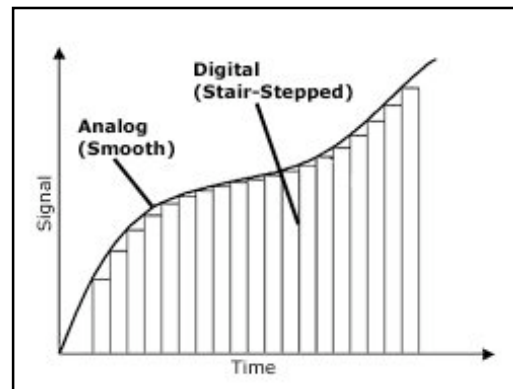
## The Benefits of Analog Recording

While digital recording techniques may be cheaper and easier than analog, many audiophiles “swear their allegiance to analog tape, prized for its warm, natural presence and archival superiority”<sup>7</sup> Many analog purists, like producers Steve Albini and Joe Gastwirt (Grateful Dead), are so loyal that they refuse to work in any other medium. Gastwirt believes that analog tape is “a much more musical medium,” its warmth acts like an instrument and “actually does something to the music.”<sup>8</sup>

So, what is this ‘warmth’ that so many audio purists praise? When these audiophiles talk about ‘warmth,’ they are referring to the slight amount of “distortion and compression built into” the analog tape.<sup>9</sup> The presence of this natural distortion is clear if you listen to any recording made before 1981, and compare it to a modern digital recording. Modern digital audio recorders record sounds at or above CD quality. However, many feel that the sound is a little *too* perfect. According to Timothy

Powell, owner of Metro Mobile Recording, digital recording is analogous to “a news photographer taking a picture of someone’s face, warts and all [while] analog is akin to a colorized fashion picture – it has a certain sheen and smoothness.”

Furthermore, while digital recordings may sound cleaner than analog, it does not necessarily mean they are more accurate. In fact, the way that digital sound is processed makes it less faithful to the original sounds. Digital recorders do not capture the actual sound waves; instead they use a process known as stair-stepping. In this process, the recorder takes ‘snapshots’ of the analog signal at certain rate. Audio at CD quality uses a rate of 44,100 times per second (44.1 kHz).<sup>10</sup> While the rate is so



*Digital recorders try to simulate analog sound waves by taking ‘snapshots’ of the original wave to form a stair-like shape.*

<sup>7</sup> Gendron, Bob, “Analog Recording Tries To Survive A Digital World” *Chicago Tribune* 2005

<sup>8</sup> Smith, Ethan & McBride, Sarah “Tale of the Tape” *Wall Street Journal* 2005

<sup>9</sup> Gendron, Bob, “Analog Recording Tries To Survive A Digital World” *Chicago Tribune* 2005

<sup>10</sup> [www.howstuffworks.com/question487.htm](http://www.howstuffworks.com/question487.htm)

high that it is impossible to notice the steps, the process affects the quality of the recording and removes the natural warmth of an analog tape.

The other major argument for continuing to work solely in analog is its archival reliability. Analog tape technology “has remained unchanged since the ‘30s,”<sup>11</sup> therefore every analog tape ever made is still playable today. This allows any analog recording to theoretically last forever. However, digital recording methods are constantly evolving. This constant change leads to the obsolescence and incompatibility of the original storage medium.

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**“Digital doesn’t allow for a permanent master. The storage media changes and becomes inevitably obsolescent... I’d be irresponsible to make something that wasn’t permanent and playable in the future.”**

*-Steve Albini owner of Electric Audio studios*

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However, while analog is still very important and functional from a sonic and archival standpoint, the industry has opted to use digital because of its low-cost and ease of use.

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<sup>11</sup> Gendron, Bob, “Analog Recording Tries To Survive A Digital World” *Chicago Tribune* 2005

Analog	vs.	Digital
<ul style="list-style-type: none"> <li>•Analog recorders are generally cheaper.</li> <li>•Analog tape is more expensive than digital.</li> <li>•Analog recorders are more archival reliability.</li> <li>•Analog adds a pleasant ‘warmth’ to recordings.</li> </ul>		<ul style="list-style-type: none"> <li>•Digital storage media is much cheaper than tape.</li> <li>•Digital recordings do not degrade over time.</li> <li>•Digital has quickly become the industry standard.</li> <li>•Digital adds virtually no noise to the recordings.</li> </ul>

### The Future of Analog

So, what’s in store for the future of analog recording and Quantegy? Analog die-hards and Quantegy CEO Richard Lindenmuth are optimistic. Lindenmuth believes that Quantegy will be able to resume operations with the injection of \$10 million from investors. Tax attorney, Collier Swecker believes there is nothing to fear, similar events have occurred in “the airline industry, companies bounce back after bankruptcy all the time.” However, if Quantegy is unable to resume business, and make a profit, audiophiles like Jeff Tweedy will be forced to find alternative means of recording. One idea Tweedy has considered is splicing together the final versions of their previously recorded

songs from their archive of almost 100 reels, and recycling the tape for future recording.<sup>12</sup> However, Lindenmuth does not think audiophiles will have to resort to such extreme measures. “There are enough people who love analog that will support it and ensure that it stays alive forever.”

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<sup>12</sup> Gendron, Bob, “Analog Recording Tries To Survive A Digital World” *Chicago Tribune* 2005

