

# Cellphones that rock

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## Andover company's technology lets users download music over wireless networks

By Hiawatha Bray, Globe Staff | December 21, 2004

Steve Jobs, Apple Computer Inc.'s chief executive, probably isn't losing any sleep over Chaoticom Inc., of Andover. Perhaps he should. By teaming up with cellular phone companies in Europe and Asia, Chaoticom may be spawning a new threat to the dominance of Apple's popular iPod music players.

An iPod can carry thousands of songs, but it can't yet carry phone calls. But there's a new wave of cellphones that feature large amounts of flash memory and tiny, high-capacity disk drives. These phones can double as music-playback devices, eliminating the need for a separate music player.

Chaoticom makes the technology that puts the music into the phone, by pumping it directly over the wireless phone network.

"If I want the new Eminem song that's coming out Tuesday . . . and I can buy it on my phone, I believe it's a very very powerful marketing message," said Adam Sexton, Chaoticom's vice president of marketing.

So powerful that chief executive Bathsheba Matsheen thinks customers will pay up to \$3 a song to download the latest hits, even though the same music costs 99 cents downloaded to a desktop machine. "They'll certainly pay a premium to get their music anytime, anywhere," he said.

Chaoticom's founder and chief technology officer, Kevin Short, is a mathematics professor at the University of New Hampshire. That's where he devised a music compression algorithm dubbed Koz, which produces music files four times smaller than those generated by the popular MP3 algorithm, but with no loss of audio quality.

Wireless bandwidth is expensive, compared to a wire-based broadband connection. But Koz compression makes it practical to sell music by beaming it directly into a cellphone.

Chaoticom also offers "digital rights management" technology that prevents a listener from sharing the music. For now, that means users can't transfer tunes from phones to desktop computers. But, Sexton said, that's a limitation imposed by the recording companies like BMG, Sony Music, and Warner Music that have signed up to use Chaoticom technology. The company is negotiating with the record labels to allow phone downloaders to dump tunes into other listening devices.

Eurotel, a cellphone company in the Czech Republic, launched a Chaoticom-based music download service in February. Norway's Telenor and Britain's Orange came online in July.

"We're very pleased with it," said Mark Ashford, head of entertainment commercial relationships for Orange, a subsidiary of France Telecom. He would not say how many customers are using the service but said, "It's certainly in the thousands."

Ashford said his company partnered with Chaoticom because so many major music companies had embraced the Koz technology. "They came to us with approved label backing," he said.

Last month, SingTel Mobile, of Singapore, became the first Asian phone company to offer the Chaoticom service. Users can choose from about 7,000 songs.

No American mobile phone companies offer full-length song downloads. The reason, Sexton said, is that US cellular technology lags that of other countries. "Asia is well ahead of us. Europe is quite well ahead of us," he said.

Sexton added that the major US cellular companies are spending billions to upgrade their networks' digital data capacity. "They're catching up quickly," he said. "That's going to greatly increase the ability to get access to the products in the US."

Yesterday, Sprint, the third-biggest US wireless carrier, launched a music service that offers "streaming audio" to handsets that have built-in music players, but no downloads. The Sprint Music Choice service costs \$6 a month, on top of a premium wireless data plan, and offers channels including rock and roll, country, 1980s, 1990s, and hip-hop.

For now, the Sprint service works only on a Sanyo MM-7400 multimedia phone, which regularly costs \$380 but is currently selling for \$200 online. Sprint said it will offer the service "in the near future" on other phones.

The music-playing cellphones that work with Chaoticom software are produced by a host of companies, including Motorola, Nokia, and Sony Ericsson. They cost about the same as other phones, but users pay extra for access to a cellular data service that delivers the music downloads. Orange, for instance, charges about \$7.70 a month for four megabytes of downloads, plus \$2.90 per song.

The phones are the same size as the phones commonly used in the United States, because they store music using flash memory cards, rather than the small hard drives found in iPods. In September, the Korean electronics giant Samsung showed off the world's first cellphone with a hard drive inside. Such a device could allow for the creation of phones that would hold as much music as an iPod, or thousands of songs.

But Charles Golvin, principal analyst at Forrester Research in Cambridge, said cellphones will never completely replace pure music players like the iPod. "They're going to be phones first, music players second," he said. He predicted most music-playing phones will rely solely on flash memory chips, which will limit the amount of music they can hold.

Linda Barrabee, senior analyst at Yankee Group in Boston, said many consumers will want musical phones. She pointed to the popularity of ring tones, snatches of music cellphones play to indicate an incoming call. Around the world, phone users pay to download catchy new ring tones. "It's wildly popular," said Barrabee. "It's about a \$2.5 billion global market."

At Get It Now, the Verizon Wireless virtual store, the number of downloads -- including games and ring tones -- has been steadily increasing over the past two years.

Barrabee added that record companies will like the idea of delivering piracy-proof music at premium prices, and wireless companies will benefit from increased use of their data networks.

But any good news for Chaoticom could mean problems for Apple. The company has sold over 5.7 million iPods, while the research firm Gartner Inc. has estimated worldwide cellphone sales of 560 million in 2004 alone. If even 10 percent of future cellphones can double as music players, Apple's will be in for a battle.

Apple has begun to shore up its defenses. This year, it struck a deal with Chicago-based Motorola. Future Motorola phones next year will be able to download music from Apple's iTunes store, by connecting to a computer. But it's not clear whether Apple will team up with cellphone carriers to pump its music directly into phones.

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