

TECHNOLOGY | DOWNTIME

# DOWNTIME; New Ways to Play MP3 Music, Without Plugs or Speakers

By MICHEL MARRIOTT AUG. 19, 1999

WHEN the first portable MP3 player appeared on the market last year, it looked like some shrew-size mammal living in the shadows of the thundering dinosaurs of cassette and compact disk players: humble enough but poised to evolve into the planet's dominant species.

Now other companies have joined Rioport, a new subsidiary of Diamond Multimedia Systems, in the market for ultraportable, chip-based music players. They are cleverly designed, Walkman-like devices (mini-computers, really) that are the size of pagers, each one slightly different. They download music from a computer and store it on a RAM chip, which plays it back through headphones. This year Samsung released a series of players in Korea called the Yepp. Major consumer electronics companies like Casio and Thomson Multimedia are expected to develop players for the North American markets soon.

"They are the hottest new thing in portable audio players," said Amy Hill, spokeswoman for the Consumer Electronics Manufacturers Association. "Every teen-ager I know wants one of these things, and older people do, too." Forrester Research, an Internet consulting firm, projects that sales of the players will reach

Sony Corp., et al., v. Creative  
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**EXHIBIT**  
Creative-2045

about 1 million units by the end of this year and anticipates a surge to 32 million units by 2003.

The rapidly increasing popularity of devices that can capture and replay music found on the Internet has often been described as nothing less than a revolution, driving a new kind of E-commerce as well as raising fears of copyright violation. Certainly there is enough music, some free and most a credit-card transaction away, available for on-line downloads. More is becoming available every day, much of it in the MP3 format. Music CD's can also be used to create MP3 files.

But freeing listeners from the computer has long been considered vital if downloadable music is to be embraced by mainstream consumers.

"The players are crucial as a way of getting the music off of the PC," said Joe Butt, director of consumer technology research at Forrester. "Sitting at your computer and listening to downloaded music was a big yawn."

The chief advantage of hand-held MP3 players is that they do not depend on tape cassettes or whirling optical disks to play recorded music. They have no moving parts, making them extremely mobile, skip-resistant and gentle on batteries.

And while improvements are certain to be made as these portable players evolve, the newest offerings are worth a close look. But they do have disadvantages. They are relatively expensive, with list prices from \$169 to \$299.95. Playback time is limited, usually no more than an hour. And the sound, while improving, still lacks the power and richness of music heard on most CD and minidisk players. Most of the players have limited storage; if the memory is full, users must erase what is stored there before they can add more music or other audio input.

And to use these new machines, you must be able to link them to a computer. Computers get the music, or other recorded sounds like the spoken word, usually by downloading it in highly compressed, high-fidelity audio formats. Downloading music into the computer and transferring it to the player takes far more time and effort than popping a CD into a portable player.

Just as important, users must know enough about computers to master software programs, usually on CD-ROM's included with the players, that permit the players and computers to communicate. Like the players themselves, some of the programs work better and more easily than others. The quality of the software can be just as important as the model of player.

The Rio PMP500, expected to be on store shelves late this fall, is the only second-generation player on the market. It is a re-engineered update of last year's Rio PMP300 (the first MP3 player on the market) and at \$269 costs about \$100 more than its parent did when it went to market last November. The new Rio also has a 64-megabyte internal memory, twice as much as the old Rio. With an additional removable flash memory card, the memory can be expanded to 96 megabytes. A typical five-minute high-quality music selection takes about five megabytes of memory.

In terms of design, the Rio 500's hardened plastic case appears more durable than its predecessor. Rioport has replaced the old Rio's confusing array of buttons, arranged in a circle, with a few well-placed, recessed buttons. The new player also features a slightly larger display screen that is backlit so that the helpful playback information, like the lengths and names of tracks, can be read in low light.

A key feature, found only on the new Rio, is a speedy Universal Serial Bus line to transfer audio files from computers. The player's software comes in Mac and PC versions. And the player itself comes in three different finishes -- conservative silver, translucent teal and translucent purple.

Like most of the players, the Rio 500 has a voice recorder and is capable of playing multiple audio formats like those used for Audible's books on tape. But while the new Rio is capable of playing at much higher volume than the old one, its overall sound still tends to be tinny.

The Rave MP (\$269) by Sensory Science is a distinctively hourglass-shaped MP3 player and voice recorder that has 64 megabytes of internal memory. Like the Rio 500, it has a slot for additional memory.

Like the Rio 500, the Rave MP operates on a single AA battery and has a large LCD screen.. Unlike any other player on the market, the Rave doubles as a rudimentary personal digital assistant. It includes a clock and can store as many as 128,000 telephone numbers or more than 13,000 pages of text.

Like most players, the Rave connects to computers by a cable plugged into the PC's printer port. Its software is hardly intuitive, but once it is mastered, converting compact disk music into MP3 files or downloading audio files from the Internet takes only a few minutes on a Pentium class computer with at least a 56K modem connection. Transferring the music takes about 30 to 40 seconds for a 5-minute selection.

The Rave can be clunky to use, especially its horseshoe-shaped array of buttons. Some of its display icons and indicators for things like battery life and volume settings are too small to be of much real use. The overall sound is adequate and best when heard through Sennheiser MX4 Audiophile Earbuds that are packaged with some of the Rave players. (All the MP3 players come with some kind of headphones.)

Half the size of a shirt pocket, the Nomad is Creative Labs' long-awaited entry into the portable media player arena. The machine has a retro-forward look, bearing a striking resemblance to the communicator device from the original "Star Trek" television series. The Nomad is finely engineered with a row of tiny buttons along its smooth sides. A liquid crystal screen the size of a quarter on the front smartly lets listeners know what tracks they are listening to by name and performer.

But it is the sound that really sets the Nomad apart from the competition. Music heard on the player is rich, full and detailed. The Nomad is also distinctive in the way it links to the computer. It uses a docking station that connects by cable to the computer's printer port and doubles as a recharger for the two AAA nickel-metal hydride batteries the device uses. The software is fairly simple to use and works smoothly.

Unfortunately, the Nomad comes with only 32 megabytes of internal memory. But it also comes with a 32-megabyte flash memory card for a total of 64 megabytes.

Like most players it can record up to four hours of speech. Unlike most players, however, the Nomad has an FM radio tuner.

I-Jam by I-Jam Multimedia, released last week and sold only on the Internet, is the newest of the MP3 players. Covered with rubberized skin that comes in 10 colors from dark gray to plumlike purple, it is also by far the smallest -- about three-quarters the size of a standard computer mouse.

Yet despite its small size, it is capable of a big sound and has lots of features. It includes an FM tuner and treble and bass tone controls, and it is compatible with both PC's and Macs. It comes with 32 megabytes of storage, on two 16-megabyte Scandisk memory cards about the size of postage stamps. The I-Jam can hold only one card at a time, meaning that it gives only 16 minutes of playback of near CD-quality music. The I-Jam comes in a range of models, priced from \$199 to \$299.95.

As with all the players, industry experts say, the price is certain to drop as more are sold and the cost of flash memory drops.

"These kinds of electronics are deflationary," said Ms. Hill of the electronics manufacturers association. "As time goes on the players will offer more and better features for less money."

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