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MiniDisc Technology

The MiniDisc was first released in 1992 by Sony and was primarily used as a storage device for audio files. Each of these discs could hold anywhere between 60 and 80 minutes of music depending on what year it was made. These discs were ideal for personal stereos that were made to listen to on the go. With their compact size and easy accessibility, it made the perfect for the next piece of upcoming technology in the early 90s and 2000s. As far as the United States is concerned, the MiniDisc never really took off. It was predominantly used in Japan and some European companies. In the United States, the Sony Walkman was the most pervasive and primarily used method for portable stereos systems. A common misconception is that the MiniDisc was only around for a few years, but in fact, they were sold up until 2013. There were dozens of companies that produced compatible minidisc devices, the best of which released in 2006.

MiniDiscs were essentially the same thing as regular CDs, only a fraction of the size. These discs were held in (68x72x5)mm cases and used magneto-optical technology to implement audio data. Essentially, this is where a laser was used to heat one side of the discs with precise patterns so that it would have a unique magnetic makeup that could be read by the portable stereo devices. These magnetic patterns would be read like binary code in 1s or 0s and could hold a total of 1 gigabyte of Hi-MD data: pretty substantial for its size at the time. Like cassette tapes at the time, these discs could be, in a sense erased, and had new data placed over preexisting data. This would in the same cases cause an increase in audio fragmentation and battery usage.

One of the largest issues with the MiniDiscs was that the compatible portable stereos were often quite expensive, the first of which was sold for approximately \$750. The vast majority of marketing was directed towards teenagers, few of which could afford to pay such a steep price. These high prices were not enough to encourage teenagers to get rid of their cassette tapes and invest in the more convenient but more expensive MiniDisc technology. Along with its non-competitive prices, the lack of pre-recorded albums on these MiniDiscs can account for a substantial portion of their demise. Very few musicians and record labels bothered with recording their music on MiniDiscs as the small United States market for them would barely cover the fixed costs of doing so. Although 1998 is considered to be the year with the most usage of these discs, 75% of Americans were still unaware of their existence.

Despite their minimal and short-lived success, MiniDisc technology did affect the future of portable audio systems in the late 1990s and early 2000s. This effect can be best summed up with the response that the general population did not like them. It was technologies such as the MiniDisc and others like it that pushed the industry to create something cheaper with better quality. The death of the MiniDisc era can be accompanied by the birth of MP3 files. The MP3 files offered better quality and could be uploaded for a fraction of the cost. Even Sony recognized their failure and created their MP3 device called the MemoryStick.

The final device that completely choked the already swindling fire of the MiniDisc was the introduction of Apple's iPod in 2001. This device was unlike any previous CD, MD, or MP3 device. It was aesthetically appealing, compact, and somewhat reasonably priced. The iPod could download an entire CD in seconds and could download 1000 songs in less than 10 minutes, an unprecedented technological feat for the time. Although their first introduction of the iPod only

made the 8th page of the newspaper, by 2008 it dominated roughly 70% of the music industry.

The largest innovation that Apple had with the 2001 release of the iPod was the introduction of the simulation of iTunes. This allowed users to automatically connect the iPods to an encompassing source of downloads, unlike the MP3. Furthermore, the iPod introduced the feature of shuffling your playlist which offered a strong appeal to consumers that couldn't be met by CD or MiniDisc technology. In conclusion, The MiniDisc never climbed to the top of the portable music totem pole, but it did help push the industry to create more convenient and user-friendly methods for listening to their favorite songs.



Bibliography:

Faulkner, Joey. "MiniDisc, the forgotten format." *The Guardian*, 24 Sept. 2012, www.theguardian.com/music/musicblog/2012/sep/24/sony-minidisc-20-years. Accessed 8 May 2020. This article goes into the reasons why the MiniDisc technology failed. It explains how its steep prices prevented the technology from really dominating the industry despite its promising debut.

McElhearn, Kirik. "How the iPod changed the world." *Macworld*, 23 Oct. 2011, www.macworld.com/article/1163179/how-the-ipod-changed-the-world-of-music.html. Accessed 8 May 2020. This article explained how the Apple iPod that was released in 2001 took over the portable music industry. It offered quantitative insights pertaining to its success and how it affected the sales of other portable music devices.

"MiniDisc." *wikipedia*, en.wikipedia.org/wiki/MiniDisc. Accessed 8 May 2020. This website explains the all around basics of MiniDiscs and its history, uses, and structure. I used this website to better understand the fundamentals of MD technology and offered some fundamental statistics on the subject.

Ritazzi, Paul. "NOTICE: The opinions, analysis, and conclusions of this work are solely those of the author and do not represent the official position of the United States Air Force, the

Department of Defense, nor the United States Government. MiniDisc: Successful Innovation or Just Cool Technology?" *researchgate*, www.researchgate.net/publication/262107331_MiniDisc_Successful_Innovation_or_Just_Cool_Technology. Accessed 8 May 2020. This article goes into the history and effects the MD technology had on the future of portable audio devices. I used it to support the fact that the MD technology pushed for cheaper and more user friendly technology. Also the push towards Apple's iPod.

Techmoan. "MiniDisc - An Appreciation." *MiniDisc - An Appreciation*, 18 Mar. 2017, www.youtube.com/watch?v=kU3BceoMuaA. Accessed 8 May 2020. This video explains the basics of the MiniDisc in its early years and one person's personal experience with the device. I used this video when referring to specific release dates and compatible devices.