

Digital Answer Man

Digital Audio Explained

(NAPS)—Digital technology revolutionized prerecorded music in 1982 with the introduction of the CD. In today's column, Jim Barry, aka the "Digital Answer Man" of the Consumer Electronics Association explains how new digital technologies are changing the way we enjoy our favorite music.

1.) What are digital audio and mp3 that I'm hearing so much about?



Jim Barry

Digital audio is an umbrella term for a wide variety of new technologies that are changing the way we access and listen to music.

mp3 is a digital technology that compresses music files into small packages that can be sent between computers and stored on tiny portable devices. Although it has become a generic term for all digital audio music, mp3 is just one of many "compression" technologies. There are others including Windows Media Audio (WMA), Advanced Audio Coding (AAC), mp3PRO, mp3SURROUND and ATRAC3.

2.) How does digital compression work?

When a song is converted into computer code, digital compression eliminates some of the audio "information"—usually in the lower ranges that produce bass sounds. The result is smaller computer files that can be stored, transferred and downloaded more efficiently.

3.) What does digital compression do to the sound quality?



While the compression process limits the sound quality a bit, most consumers do not notice as they listen to their digital audio files through headphones on a portable player. Listeners are comparing the sound with cassette tape players that weren't that great or portable CDs that were apt to skip when jostled.

4.) What other types of digital music are available?

Digital technology means more choices and better quality in listening at home or on the go. mp3 and other compression technologies squeeze songs into tiny spaces so we always have our music, but other digital technologies also give us top-quality audio. Digital radio using satellites from XM and Sirius brings advertising-free, CD-quality music, sports and talk to homes, cars and portable devices. Many local broadcasters are delivering Digital "High-Definition" radio that ups the quality and offers more choice and control.

5.) What about listening to prerecorded music?

Two new formats deliver high-

quality pre-recorded music. DVD-Audio (DVD-A) discs use the large storage capacity of a DVD to record music at a sound quality much higher than a CD. These discs may also include some brief video or still pictures along with other information about the artist.

Super Audio CD (SACD) also uses a disc-type format to create high-quality sound. With either of these new digital formats, you can get terrific sound. While you can't play these discs on a standard DVD player, there are a growing number of "multiplayers" that will read both types of high-quality audio discs along with your old DVDs.

6.) How can I listen to music from my home theater in other rooms around the house?

The industry term for this is "multiroom audio," which simply means sending signals from your receiver (typically the A/V receiver setup with your home theater) to speakers throughout the house. These systems can range from simple to very complex. "Multi-zone/multisource" receivers let you listen to different programs in different rooms, while with others you'll listen to the same program everywhere.

If you enjoy listening to music, you'll want to explore one of the new DVD players that also handle SACD and DVD-Audio. (All DVD players play regular CDs.) If you record a lot of music to CDs, you'll want a player with "CD-R playback" to listen to CDs you've recorded yourself.

For more information, check out www.ce.org/audio.

Did You Know?

For information about audio electronics, check out the Consumer Electronics Association Web site at www.ce.org/audio.