Apple CD300: Oversampling (5/93)

Article Created: 11 May 1993

TOPIC -----

Audio CD players have an oversampling specification, such as four times (4X) or eight times (8X).

Does the AppleCD 300 have a oversampling specification?

DISCUSSION -----

Yes, the AppleCD 300 uses four times (4X) oversampling.

Under the Red-Book or CD-DA (digital audio) specifications that all CD-Audio players and CD-ROM drives must follow, when an audio CD is made, the sampling rate is 44.1K Hz. This means that the audio signal is sampled (or read) 44.1 thousand times per second. Each sample contains 16 bits of data. These digitized samples are then written to the CD.

When you play an audio CD, the DIGITAL audio data is recovered (or sampled) from a CD. This data has to go through a digital filter, D/A converter, low pass filter and amplifier before the ANALOG audio signal is sent through the headphones or speakers.

Oversampling is a technique in which the number of data samples recovered from the CD is multiplied to permit digital filtering of signal prior to D/A conversion. Four times (4X) oversampling means the sample is multiplied four times (i.e. three intermediate samples are generated between each input sample). A higher oversampling makes the design of the low pass filter easier.

Both CD-Audio players and CD-ROM drives reproduce the analog audio signal the same way.

Keywords: <None>

==========

This information is from the Apple Technical Information Library.

19960215 11:05:19.00

Tech Info Library Article Number: 12080