Audio Codecs in Case CATalyst

The best audio codec for your realtime session depends on whether you plan to transfer the audio to another computer and if so, what method you will use to effect that transfer.

The following chart shows the size of an audio file at four hours and at eight hours using each of the available audio compression rates in Case CATalyst Version 16 and higher. Audio quality is much higher with less compression and a higher sampling rate (measured in Hz); however, lower compression rates result in significantly larger audio files. Large files take much longer to transfer over the internet than to back up to local external media.

Codec	MB/Hr	4 hour job	8 hour job
GSM 6.10 8000 Hz (Standard)	6 MB/hr	24 MB	48 MB
ADPCM 8000 Hz (Standard)	15 MB/hr	60 MB	120 MB
PCM 8000 Hz	58 MB/hr	232 MB	464 MB
PCM 11025 Hz	80 MB/hr	320 MB	640 MB
PCM 16000 Hz	116 MB/hr	464 MB	928 MB
PCM 22050 Hz	159 MB/hr	636 MB	1272 MB
PCM 32000 Hz*	231 MB/hr	924 MB	1848 MB
PCM 44100 Hz*	318 MB/hr	1272 MB	2544 MB
PCM 48000 Hz*	346 MB/hr	1384 MB	2768 MB

If you are planning to use the same computer for both recording and playback, then you can use _any_ of the audio codecs. Before selecting a particular codec, it is advisable to test each codec using your hardware (computer, internal or external sound card, microphone, speakers or headphones) to determine which codec sounds best to _you_ on your system.

If you are planning to record audio on one computer and then transfer the audio to another system then the best codec for you to select will depend not only on the results of testing to hear the quality of each codec on the hardware used for recording and playback, but also on whether the audio file will be transferred via media (such as a flash drive or external hard drive), or the Internet.

If you are planning to transfer audio recorded on one system to

another system via media, for example, back up the job and its audio to a flash drive and then restore the backup to another computer, you can use *any* of the audio codecs.

If you are planning to transfer audio recorded on one system to another system via the Internet, it is very important to consider the available bandwidth of your Internet connection. While wired Internet connections may have sufficient upload speeds to support lower compression levels, wireless (WiFi or cellular – 3G/4G/LTE) networks can seldom efficiently transfer a file recorded with less compression than PCM 11025 Hz at 80 MB/hr. The larger the file, the longer it will take to arrive at its destination; plus, with a cellular internet connection, transferring an audio file can very quickly use up the available data on a data plan. As you see in the chart above, a full day of audio recording at the lowest compression level would be nearly 3 GB of data. A file of that size could take 12 hours or longer to transfer from one site to another via a wireless Internet connection.

As with audio recorded and played back on a single system, you should test the codecs on all hardware that will be used for recording and playback. Record a short sample using each codec (one codec at a time) using the hardware that will be used for recording during realtime, and then test playback both on the equipment used for recording and the equipment used for playback. You may experience different levels of quality with the same codec on different hardware.

TIPS:

- The 6 MB/Hr and 15 MB/Hr codecs are the same that were available in Case CATalyst Versions 15 and earlier. If you were satisfied with the recording quality and playback in those versions, you can continue to use either of those settings.

- If you require a higher level of quality and you will be using the Internet, Stenograph recommends that you try the PCM 8000 Hz at 58MB/hr codec instead of the PCM 11025 Hz at 80 Mb/Hr. The difference between the quality levels at the 58 Mb/hr and 80 Mb/hr rates are insignificant on most hardware, and a 58Mb/hr file will transfer more quickly than an 80 Mb/Hr file.

* Wav files have a file size limit of 2 Gigabytes. When using the 231 MB/hr. or

higher audio codecs, a warning message will inform you how many hours of recording time can be used with this codec and prompt if you would like to change the codec. Select Yes to change the codec or No to continue writing realtime knowing the size limitation.

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