



Tech Info Library

QuickTime for Windows 2.0: Increasing Performance (5/95)

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TOPIC -----

This article contains help increasing the performance of QuickTime for Windows 2.0. This article assumes that you are a developer using the QuickTime for Windows Developers Kit available from APDA.

DISCUSSION -----

Read the readme.exe File

This document is part of the QuickTime for Windows 2.0 distribution, and contains important information that you should be aware of concerning performance on various Windows platforms. For instance, the document provides a list of all supported video chips and video hardware.

Check Out the Environment

Some of the PC video and audio cards might cause the problem. Make sure that the you have double checked the problem by running the QuickTime movie on another different QuickTime for Windows environment, and that the cards used in the environment are mentioned in the QuickTime for Windows 2.0 README file as cards supported by Apple for QuickTime for Windows.

Video Chip Sets Supported

The following video chip sets are currently supported:

- Western Digital 90C23
- Cirrus GD542X
- ATI Mach 8
- ATI Mach 32
- ATI Wonder XL
- ATI 28800

- ET 4000 (TSENG)
- Headland 208,209
- P9000
- XGA
- WD90C3X
- S3934, S3801, S386C911, 924, S3801805

NOTE: If the card is a PCI card, direct video chip access is not currently support.

Minimum Configuration

The minimum PC configuration for QuickTime for Windows 2.0 is:

- 386SX at 20Mhz
- 4MB RAM
- 80MB hard disk
- VGA or better display card*
- A Sound Card for playback of movies with sound
- Windows 3.1 or later
- DOS 5.0, MS-DOS 6.0 and 6.2 with and without double space is supported

* NOTE: QuickTime provides best quality and performance on cards displaying 32768 colors (16 bit) or more.

DMA and IRQ conflicts

Check that none of the installed additional boards (CD-ROM, Sound boards, or any other boards) use the same IRQ level. If these card do, the cards try to race for IRQ interrupts and slow down the performance. You should also be able to sometimes see or hear unexpected behavior due to such conflicts (such as interrupted sound, or the system will not function properly).

Similarly, make sure that none of the installed or built-in boards use the same DMA channel. If this is the case, you will have huge performance problems due to two boards trying to use the same channel at the same time. If there's no way to change the DMA channel, then you need to disable DMA support of either board.

Check Out the Throughput of the QuickTime Movie

If the movie requires a lot of throughput due to massive amounts of video or audio (For example, large window, 16-bit stereo sound, or Cinepak throughput of 400kbps or more), make sure this is the real problem. For instance, if the sound is disabled, there's less bytes the system needs to pump out. Also, slow CD-ROM drives or slower systems, and/or badly written device drivers for CD-ROM units might cause performance problems. Test is again to test the movie using a well-behaving PC environment.

If you disable the sound track (volume down to 0) and the movie plays fine from the CD, and enabling the movie sound track causes audio drops and video frame skipping, then there's a good chance that you have problems related to handling

the throughput of the movie.

Check if your CD-ROM drive is a single speed (150kbps) or double-speed (300kbps) system. If you have problems with playing back movies using a single-speed CD-ROM unit, then there's a likelihood that the movies were indeed optimized for a double-speed (or better) CD-ROM environment. If you move movies with bad playback to the hard disk, and the playback works just fine, then the issue has to do with throughput and various parameters that impact the playback rate.

Better Throughput

QuickTime for Windows 2.0 has better throughput than QuickTime for Windows 1.1.1. If the developer could fix throughput problems by switching to QuickTime for Windows 2.0. In some cases it also helps to disable the cache for the CD-ROM driver.

GDI or Driver Use

If the configuration specified is to use either the video driver or the GDI environment without directly using the video chip, then this might be the problem with performance in general.

CD-ROM DRIVERS

In some cases it helps to disable the cache for the CD-ROM driver. For example, you could add a /U at the end of the smartdrv.sys line in AUTOEXEC.BAT.

Driver and System File Issues

----- - SYSTEM.INI FILE

In some cases (for instance, the ATI Graphics cards) changing the device bitmap setting helps performance. To change the device bitmap, use:

Device bitmap=off

MSACM called drivers might cause additional resampling of sounds that could slow down the system. For testing purposes, leave these files in:

timer
midimapper
wave
aux
midil
midi

To test this, comment out or delete the following drivers: msacm.drv (usually set to the wavemapper parameter), this disables the Microsoft audio compression manager so that QuickTime uses its own faster compression scheme.

CONFIG.SYS File

You could try to change the amount of file control blocks in the CONFIG.SYS file so that the system has at least 16:

```
FCBS=16,0
```

QTW.INI File

In some rare cases the QTW.INI file from a former QuickTime for Windows 1.1.1 installation is not removed when the QuickTime for Windows 2.0 installation script is run. If you suspect this is the case, remove the QTW.INI file from the Windows folder and re-run SETUP.EXE.

If the video parameter specifies hardware, then QuickTime for Windows tries to directly access the video chip, resulting in the best possible performance. If the video parameter specifies GDI, then the playback will not be optimal as it tries to use the GDI environment. This is the case with an Windows/NT installation.

Also check that after the installation the Optimize parameter is set to BMP.

Sound Cards

In some cases increasing the buffer of the sound card improves on the playback performance. For example, you could increase the buffer size from 32k to 64k to provide a smoother playback of sound. This usually also improves the quality of the sound. You have to check how each sound board handles the buffer settings.

Sound Sampled At a Non-multiple of 20.050KHz

If the sound is sampled using a Macintosh, and it's sampled at a non-multiple rate of 22.050kHz, then QuickTime for Windows needs to resample the sound during playback of the movie. This can cause poor performance. Usually you hear clear pops and cracking sounds when you playback movies with a non-11.025kHz rate (or multiples of this).

Interleave Factor

The default interleave factor for audio/sound is 1.5 seconds when the movie is recompressed using MovieShop. You could try to increase this to 1.9 seconds (Preferences:Sound... menu in MovieShop) to see if this improves playback.

Using MovieAnalyzer you can figure out the current interleave factor (Info:Playability menu entry).

Contact Apple Developer Support*

Provide a configuration list of systems used and an explanation of the problem including test files used to re-produce the problem. Make sure you have specified the following information:

Hardware used including the sound card, CD-ROM drive, video card and anything that is dependent on the multimedia environment.

Software used (including any specific drivers for the environment)

QTW.INI file

WIN.INI file

AUTOEXEC.BAT file

CONFIG.SYS file

SYSTEM.INI file

A clear example of how to reproduce the problem, including references to a QuickTime movie available from the Developer SDK kit.

* Note: You must be an Apple Certified Developer in order to contact Apple Developer Support.

Article Change History:

11 May 1995 - Reviewed for technical accuracy.

Support Information Services

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