

Pinnacle Studio: Dropping frames in Studio

• Pinnacle Studio

There are number of reasons for frame loss during capture. Dropping frames typically indicates that the computer is having difficulty handling the data bandwidth required to transfer the video from the camcorder/VCR, through the system to the hard drive, so the problem could lie with issues like the CPU speed, the throughput of the USB port, the data transfer rate of the hard drive, etc. This document covers the most common causes of the problem.

- **1. Current version of Windows:** Make sure you have the latest Windows Service Pack installed for your operating system. This is extremely important if you have a USB capture device (510-USB, 710-USB, Dazzle DVC 100 etc.)
- **2. Latest version of Studio:** As a general troubleshooting rule it is always best to begin by making sure you have the latest version of Studio installed. You can do this in Studio by clicking on the Help pulldown menu and then clicking on Software Updates. If there is a newer version of Studio available, you will be prompted to download it.
- **3. Reduce the capture quality setting:** This is just a test to see if lowering the capture quality will reduce or eliminate dropped frames.
 - Select the MPEG preset and lower the Datarate. The default is 6 Mbit.

If frames are no longer being dropped, then there is a bandwidth problem. The problem may be due to a slow CPU, too many task running causing Studio's capture module to not get enough CPU cycles or low USB bandwidth (for USB capture devices). As a workaround as you troubleshoot this problem further, please capture at the highest setting that does not drop frames and continue editing in Studio.

- **4. Troubleshooting USB capture devices:** If you are using a USB capture device such as the Pinnacle 510 or 710 USBor Dazzle DVC, we recommend you run the following test and after each step, try capturing again to see if the problem is resolved.
 - Try plugging the capture device into another USB port on your computer. Try capturing from all of the USB ports.
 - For our capture devices that require USB 2, make sure you have plugged the hardware into a USB 2 port.
 - Disconnect all other USB devices from your USB port (excluding a mouse or keyboard).NOTE: Pinnacle does not require other USB devices to be disconnected for our product to work. In this step we are trying to determine if an USB device that is connected may be misbehaving (constantly using the USB path, drawing too much power, etc.).
- **5. Startup tasks/programs:** While you are capturing, don't run other that fixes the problem. Make sure there aren't any programs running on the task bar and then start the capture. If the problem persists there may be a background task running that can be turned off. On many computers there are programs that are always running that use system resources (i.e. CPU cycles, memory) which are not necessary. These programs could have been installed by the computer manufacturer or when you installed some hardware or software.

If you are familiar with Microsoft's MSCONFIG, you can use this tool to disable these programs that are running at startup that are using system resources that could inhibit the performance of capturing video and lead to dropped frames. If you are not familiar with MSCONIG, we recommend that you go to the following links on the Microsoft site to learn how to use MSCONFIG: Microsoft site: MSCONFIG instructions

To run MSCONFIG do the following:

- Click on Start Run
- In the Open box, type MSCONFIG

- Click OK
- In the System Configuration Utility window, click on the far right tab called Startup
- Click on the button called disable all
- Then click the OK button
- Restart the computer when prompted to have the setting take effect.

If this helps, you can re-enable startup tasks until you find what was causing the problem.

- **6. Defragment the capture hard drive:** Since hard drives become fragmented over time, it is important to defragment the hard drive on a regular basis. See this link to a Microsoft article on using the Disc Defragmenter: Improve performance by defragmenting your hard disk
- **7.** Capture to a separate hard drive: If you have a separate hard drive with more available space than the C: drive, capture your video to the secondary drive. Capturing video is a very "write intensive" process. If you capture to your boot drive (the one where Windows is installed), Windows will also be writing to this drive (a process called paging) as part of its normal operations. Reasons for capturing to a secondary hard drive are:
 - All captured video is in one location easier to maintain
 - Drive fragmentation is less of an issue and it is easier to defrag
 - Windows will not page to this drive

NOTE: It is not a requirement of Studio to capture to a secondary hard drive but a recommendation that does help many customers eliminate or avoid problems.

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