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Centris, Quadra 660AV: Video Capture Issues (12/93)

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TOPIC -----

I'm attempting to capture quality screen snapshots using the Video Monitor application on my Centris 660AV. I'm experiencing the following strange effects:

- 1) A black band line (about 3 pixels wide) appears at the bottom of the picture when taking screen snapshots with Video Monitor. This occurs when using both Composite In and S-Video In as the video source. Is there a work around?
- 2) When capturing S-Video, I get an extremely bright picture when using the lowest video setting in S-Video. When using Composite Video In, it works fine. Is there any way to adjust the brightness beyond the Video Settings?
- 3) I'm concerned that the Centris 660AV is not utilizing all of the resolution lines that my still camera outputs. The camera is capable of putting out 450 Resolution lines. Does the Centris 660AV utilize all of these lines. Customer is concerned that the Centris 660AV is digitizing with field resolution as opposed to frame resolution. How many of the resolution lines does the Centris 660AV utilize in the Video Monitor application?

DISCUSSION -----

Of the two Macintosh AV systems (the Centris/Quadra 660AV and the Quadra 840AV), the Quadra 840AV has better capture characteristics largely due to the option to have an additional 1MB of VRAM installed. Given the fact, here are the answers to your questions:

- 1) The black band is most likely the blanking part of the video frame. The AV digitizer expects a certain number of lines and we've have seen this occur on other video digitizers. The signal contains the blanking information and is normally outside the display area of the typical television monitors.

Due to the vast amount of history with the NTSC standard, there is some "freedom" about exactly how blanking works. If the number of image lines the AV digitizer is expecting is more than what the source

supplies, there will be visible blanking info at the bottom of the image (or at times, on one of the edges).

When capturing still frames it is relatively easy to fix these captured images using an application like Photoshop or Painter. Simply use their tools to Crop out the unwanted area. While not an ideal solution, it is only one available to eliminate this part of the display. Some video capture applications provide a crop rectangle so that cropping can be specified prior to the capture.

2) Based on what the AV expects in a video signal, it is possible to over saturate the bright areas of an image. Over saturation is easier to introduce with S-video because you have a stronger signal available. Choosing the VCR option (instead of the TV/video disc option) in the video input control panel provides the best setting in such situations. The best way to control the brightness is during the shooting of the video. Keeping the contrast ratio as low as possible will provide the best results.

3) There are two issues to consider in the area of video resolution versus computer pixels. First, the output of the analog video device does not always map directly to the pixel count of the digital device.

Second, concerns the number of pixels that are captured by the AV system. Based on VRAM of 1MB, a true 640x480 image can not be captured. A 640x480 image can be created, but it will use line-doubling from single field to produce the full screen image. To get a full 640x480 image using both fields 2MB of VRAM is required. The 1MB limits the dual field/undoubled line image to 496x372 pixels.

Some additional thoughts to consider on single field versus single frame, which uses both fields: If the capture image is 240 or less lines vertical 1 field is dropped to scale the image. Two examples:

- First case, 1MB VRAM - if the capture image is greater than 240 lines vertical or is equal to/less than 372 lines vertical, then both fields are used. A scalar chip is used to scale the information from the two fields.
- Second case, 2MB VRAM (840AV only) - if the capture image is greater than 240 lines vertical, up to 480 lines vertical, both fields are used. Again a scalar chip is used to scale both fields to the selected image size.

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