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Apple IIe: Video Signal NTSC-Compatible, Not NTSC-Compliant

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TOPIC -----

I bought Sharp XA305 video recorders to record the video from my Apple IIe systems: however, I am able to record only black and white pictures.

I tried the same setup with an older Sears model VCR and it worked perfectly. I tried a new camcorder and got only black and white pictures again. Sharp told me that this is because the Apple IIe has a substandard NTSC signal.

Can you help?

DISCUSSION -----

The composite video signal coming from the Apple IIe is not stated to be an NTSC-compliant signal. The signal coming from the video-out port is only considered NTSC-compatible video. "Compatible" means that generally the Apple IIe video will work with an NTSC device, although it may not work in all situations. Specifically, the Apple IIe video signal should work with all NTSC display devices.

When the Apple II was first designed, economy was of great importance. The video circuitry was built with as few parts as possible. In the design process, it was discovered that certain portions of the NTSC broadcast specification could be omitted, yet still display a color image on a standard television set. The one element that affects the described situation is color burst. The Apple IIe does not contain the color burst element of the NTSC video signal. By modulating other portions of the video signal, the Apple IIe simulates this missing information and allows an image to be produced on a television. To provide a consistent color video image for video tape, this color burst needs to be present.

In summary, the Apple IIe composite video signal was designed for display purposes, not for videotaping purposes. The Apple IIe composite signal is close to the NTSC specification and allows the video signal to be displayed on television screens. This, however, does not indicate that the signal can be recorded. Since the signal is similar to the full NTSC specification, video sometimes records properly on videotape with certain VCRs. In other environments, the signal may not record at all. The capability to record a monochrome image falls between these extremes.

To have a true NTSC signal designed for videotaping, the Video Overlay Card is required.

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