

JOE KANE PRODUCTIONS

Web: <http://www.videoessentials.com>

E-Mail: joekane@att.net

VE DVD Program Notes

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The Digital Video Disc (DVD) is designed to be the finest standard definition video format ever offered to consumers. It also serves as an introduction to the promise of high definition digital television. Taking full advantage of what the DVD format has to offer will require at least a tune-up of your current audio video system.

Video Essentials (VE) on DVD provides the audio and video test signals with the easy-to-understand instructions needed for system setup. In audio the program suggests you start by making sure the stereo capability is functioning properly. From there it addresses Dolby Pro-Logic Surround[®] and Dolby Digital[®] 5.1 channel audio setup. In video VE is designed to assist in adjusting Brightness, Contrast, Color, Tint, and Sharpness. It goes further in that domain by providing the tools necessary for professional setup requirements as well as video system design testing. Test signals on the disc are often used for proof of performance of video equipment.

The performance quality you obtain from the DVD player is dependent on how you connect it to your system. The best possible picture quality should be obtained when the component output(s) of a DVD player is routed to the display device's component input, assuming both player and monitor have real component capability.

Some display devices and video processors with component inputs convert the component to an S-Video type signal before processing it. In that case the S-Video output of the DVD player might be a better option. If a true type component input is not available, the next best option is the S-Video, or Y/C coupling. In this case, the DVD player internally combines the two color difference signals to the C of the Y/C. That's accomplished by first reducing the amplitude and bandwidth of both signals, then phase-modulating each of them onto their own 3.58 MHz carrier. The two modulated carriers are placed on the single channel, making up the chrominance, or "C" part of the S-Video signal. The other half of the S-Video connection, the "Y" or black and white component, is carried over from the luminance channel of the component signal. The "Y" side of the S-Video signal is delayed in time to compensate for color signal processing time. Otherwise it should remain unaffected in quality. If you have an opportunity to compare a true component video input with the S-Video you should notice a loss in color detail and an increase in noise in the color portion of the signal from the S-Video connection. The Snell & Wilcox Zone Plate test patterns in Titles 15 and 20 provide a reference for this test.

Video Connections to Avoid

The composite video output should only be used when the component and S-Video connections are not available. In the composite signal, the Y and C of the S-Video signal are added together. As much as going from component to S-Video loses color resolution and adds noise, going from S-Video to composite video adds all sorts of artifacts to the picture that are difficult, if not impossible to remove. Two artifacts in particular are dot crawl and color moiré. Once again, look at the Snell & Wilcox Zone Plate test patterns in Titles 15 and 20 for a clear demonstration of the differences.

Use High Quality Video Cable

The quality of the wire you use is equally important. Make sure it's high quality 75-ohm coaxial video cable for either the component or S-Video. Again, we do not recommend using the composite video connection for viewing the output of the DVD player. You will not be able to see DVD's clear advantage over other formats if it's reduced to the NTSC domain before being viewed.

Calibration is Equally Important

The picture quality you see on your set is going to be partially determined by the adjustment of the front panel controls, including Brightness, Contrast, Color, and probably Sharpness in the component input. The Tint control should not be active when using the component input but will be important if you use the S-Video or composite video inputs. Proper adjustment of the Sharpness control in particular will significantly affect the quality of the picture you see. Instructions for setting all of these controls can be found in Titles 9 to 14 of VE.

Use Caution With Some DVD Player Adjustments

Some DVD players allow their video output levels to be altered, giving you control over the Brightness, Contrast, Color, and possibly Tint and Sharpness from the player's menu system. These controls are in addition to those found on your TV set. Improper adjustment of the player's controls can make correct adjustment of the display device's controls difficult. Check the player's manual for a bypass position of these controls.

Audio Connections

The DVD is capable of presenting any number of audio formats. Players are only required to handle Dolby Digital, providing internal processing that can deliver a decoded stereo or Dolby Pro-Logic output at the back of the player. Most players also provide a serial digital audio connection. Externally decoding these digital audio signals should provide higher quality sound than is available at the player's left and right analog audio connections.