

The Seven Deadly Sins of Projection

"Sinners" Beware!

Remember the movie *Seven*? Brad Pitt and Morgan Freeman play two homicide detectives following a serial killer determined to punish those who commit the seven deadly sins. Let's look at the "Seven Deadly Sins" committed by many theatres, and try to repent and fix them, before they kill presentation quality.

1. Living on the Dark Side

Recent surveys by the *Kodak ScreenCheck* program and *Lucasfilm Theatre Alignment* program have shown the majority of first run theatres do not meet the minimum screen luminance specified by SMPTE standard 196M. Dim pictures with murky shadows, lifeless flesh tones, dull colors and muddy highlights are not acceptable and certainly don't reflect the vision the director and cinematographer saw in the screening room set to the SMPTE screen luminance aim of 16 footlamberts. My article ["Let There Be Light"](#) details the problem, often caused by inadequate lamp power, improper lamp alignment, and dirty screens.

2. Killing Contrast

Is your theatre a contrast killer? Do exit signs shine on the screen, throwing a colored glow over dark areas of the scene? Does light from the lobby shine on the screen every time someone enters the auditorium during a show? Are the lenses more than twenty years old, with fingerprints or scratched elements? Is the port glass dirty or hazy or made of uncoated window glass? Has the lamphouse drifted out of alignment? If so, your theatre is guilty of killing contrast. To repent, follow the advice in my article ["Conquering Contrast Killers"](#).

3. Fuzzy Features

Unsharp or poorly focused pictures should not be tolerated. Old lenses or misaligned and misadjusted projector gates cause fuzzy images, or images that cannot be kept in focus from edge to edge. Evaluate resolution by using

the SMPTE Projector Alignment test film 35-PA, otherwise known as RP 40. For more information, go to: www.smpte.org A really good theatre should be able to resolve 80 lines/mm in the center and 56 lines/mm at the sides. If your image is unsharp, make a resolution to improve your resolution. Remember, it's a sin not to check focus and framing periodically during the show.

4. Composition Carelessness

Cinematographers carefully compose their movies and expect them to be shown with the proper composition, usually either 2.39:1 scope or 1.85:1 flat. Many theatres severely crop the image area, in some cases even projecting both formats on the same size screen without adjusting the masking! Use the SMPTE Projector Alignment test film 35-PA to be sure you are showing the proper image area, and are not guilty of composition carelessness.

For more information, see my article ["Caring About Composition"](#).

5. Shaky Territory

Unsteady projectors produce unsteady pictures. Jump and weave are often due to improper gate tension or misalignment of the gate, but can also be due to worn sprockets or a bad intermittent in need of repair. For 35mm, a good theatre should be able to achieve vertical jump of less than 0.12 percent and horizontal weave less than 0.20 percent. The SMPTE Projector Alignment test film 35-PA provides an easy method of evaluating unsteadiness, since each small square on the test film is equivalent to 0.50 percent.

6. Tortured Prints

After a few weeks or even days in your theatre, are the prints full of scratches? Scratches are most often caused by misthreading of the projector (e.g., incorrectly sized loops), misaligned guide rollers, or allowing the film surface to rub against the rotating platter during makeup or take-up. Learn to thread projectors with the proper sized loops and tension, and always check that the film is running true on all rollers. During makeup or take-up onto the platter, only the edge of the film should contact the platter, just at the point of windup. Never try to clean or inspect a print by rubbing the film surface through your hand or a dry cloth, as any abrasive dirt will get caught and scratch the print. When splicing or inspecting prints, handle the film by the edges only. Never try to tighten a loose roll of film by pulling on the loose end,

or force a dished roll flat, as these are likely to cause cinch mark scratches.

7. Dirty Movies

Are you guilty of showing dirty movies? Do you thoroughly clean the work surface of your rewind bench or makeup table before handling film? Are you careful not to let the film and leaders contact the floor or any dirty surface? Do you avoid getting fingerprints on the image area of the film during splicing? Is your projection room clean and clutter-free, with a regular cleaning schedule for mopping floors and vacuuming dusty surfaces? Is smoking and eating prohibited in film-handling areas? Do you wash your hands or wear film handler 's gloves before handling film? Do you clean the projector and soundheads (rollers, sprockets, and gate) as dirt accumulates? If so, you will be rewarded with clean prints. And for those occasional transgressions, very efficient film cleaners are available that can be used to clean prints every time they are shown, resulting in spotless images.

For more information, go to:

www.kelmarsystems.com

www.film-tech.com

Film Done Right!

As you can see, film done right is usually just a matter of good common sense. It's easy to avoid the sins of poor presentation, and be rewarded with satisfied audiences who keep coming back to the best theatre in town -- yours!

For more information, contact me at john.pytlak@kodak.com