

PR035, MINI35: Tips and Tricks for Shooting for Filmout / Film Look

Settings for Film-like Results with a Video Camera

Which factors are usually responsible for the so called "film look"?

1. Depth of field
(MINI35 or PR035 Image Converter plus 35mm lens)
2. Progressive capture (vs. interlaced capture)
3. Framerate, shutter speed, motion blur, film grain
 - Film-like lighting, film-like operation
(for example correct panning speed)
 - Craftsmanship, creativity
 - Aspect ratio

Recommodations

> Framerate <

- Choose a film-like framerate (23.98/24, 25 or 30 fps) and a corresponding shutter speed (1/48s, 1/50s or 1/60s)
- High framerates (ie. 60fps)
Use high framerates for slow-motion work only (see P+S Technical Info No. 61 "Variable Framerates & high shutter speeds" for details)
- Low framerates (ie. 4fps)
Use low framerates for creative results (timelapse) or sometimes a 'regular' shutter speed (ie. 1/48s) to reduce motion blur effects

> Shutter Speeds <

- Slow shutter speeds
Longer exposure times (1/24s or 1/25s) can be used for creative reasons or to gain extra sensitivity, but be aware of stronger motion blur effects (you might also get better results in de-interlacing - test this with your camera).
- High shutter speeds
Exposure times shorter than 1/60s are only used for special (or creative) purposes - test this BEFORE you shoot, because this can cause artifacts (see P+S Technical Info No.61 for more details)

High shutter speeds DO NOT result in higher framerates for slow motion!

> Progressive Capture vs. Interlaced Capture <

- If your camera does not support TRUE progressive capture, check out de-interlacing in post production (available hardware or software, gives you 24/25/30 progressive frames)
- Most of the built-in film-like frame features reduce resolution or the overall picture quality. Creating the film-look in post production (de-interlac) usually gives you better results.
- Interlaced capture gives you a better motion resolution; this is great for slow motion in post production (60i to 60p conversion, then playback at 24fps)
- Progressive capture gives you full resolution per frame, film-like motion-blur

> Motion Blur <

- High framerates or high shutter speeds cause less motion blur
- film-like framerates or film-like shutter speeds cause in film like motionblur; low framerates or long exposure time cause great motion blur effects

'Filmlook' usually means visible motion-blur!
Use it as a creative tool!

> Grain <

If your pan 'strokes', you might have panned too fast (for film-like framerates). See the ASC recommendations (or similar sources) for recommended panning speeds depending on framerate and focal length used.

Using a shallow depth of field reduces the visible 'strobing' because of the soft background.

Check traditional filming practices - lighting, framing, perspective and other things: they can optimize the visible result more than all the technical adjustments!

> Optical rules <

- Every lens reaches its optimal performance at a certain point: Zoom lenses usually perform best at a medium focal length
- Every iris has an optimal working range, usually not wide open or almost closed, including the iris of the P+S Image Converters

You can optimize the performance of the whole setup (film lens, P+S adaptor, camera) by adjusting the optical system to its best performance.

The light loss of the MINI35 setup is different, depending on the camcorder attached. Camcorders with a fixed lens lose light (ramping) because this lens has to be fully zoomed.

Traditional exposure control with ND filters can increase your ability to operate the optical system at its best performance.

> Compression <

Many electronic recording devices compress the data before it is stored onto the media. These compression algorithms perform more or less well.

In general, a highly compressed image gives you less image quality than a no or less compressed image.

- Some of the compression schemes analyse the frames for content changes and store the information about these changes. A full resolution frame is only stored every couple of frames.
- Trying to explain compression technologies would definitely take too much space and time here, but the fact that compressed camera systems are used should allow a little note on the topic:
- If you have visible artefacts from the oscillating target in the P+S adaptor, compression algorithms perform rather bad. There are too many pixels moving (= changing information) in every frame. (see P+S Technical Info No. 69 "Target Speed Adjustment" for details)
- If you have shallow depth of field, the compression algorithms perform much better, because there is no need to give bandwidth to the soft areas in the frame.

> Lens files / shading <

If you use a 2/3" 3 CCD camera or a camera with a removable lens and the camera supports lens files / white shading adjustments, we strongly recommend to read the P+S Technical Info No. 54 "Color Shading Adjustment".

Checklist:

- Check the F-stops on the film lens for shallow depth of field, to avoid the target being in focus
- Short focal length have a bigger DoF than long focal length by nature
- Wide open lenses gives you shallow DoF by nature
- High Definition will see artifacts earlier than Standard Definition
- Adjust the target speed to its optimal speed.
NO! It is usually not optimal at max. speed. (see P+S Technical Info No. 69 "Target Speed Adjustment" for details)
- Always check your adjustments on a good monitor (at least during preparation)
YES! This means, if you shoot on HD, you need an HD a good full resolution monitor.
- Adjust the color or white shading of your video camera for the Image Converter.

All P+S TECHNIK Technical Info are available from the website www.pstechnik.de