HD test

Technical information

Sony Cinealta F-900 Hdcam Camera screen ratio 16/9 Canon HDTV Zoom HJ 15x8 Sony HD BVM-D9H5S Monitor Wave monitor and vectorscope Camera menus on pre-set.

Filming

Arrilaser with Gamma 1 screen ratio 1:1.85 Kodak Intermediate Kodak Vision positive

Studio

Models, dark and caucasian skin without make-up Carta Gris 18% Kodak. Kodak Color separation Guide Kodak Gray scale Macbeth colorchecker chart Esser test chart TE 105 Pantone

Lighting

Tungsten Fresnel balanced at 3.200k

Camera

All the menus on pre-set, T: 5.6.24psf 1/8 shutter speed

Exteriors

Parque del retiro (Madrid)

Lighting

Sunlight, no lighting equipment was used

Camera Wb

pre-set. Camera Filter D4 T.6.3, 24psf. 1/48 shutter speed.

Through the impulse of Ítaca Producciones and the co-operation of InfoTV, La Luna Digital and Madrid Film we have made some tests as a foundation for working on HD, as a starting point that allows us to understand the way the camera works in relation to the proceses that intervene in the creation of the image up to its projection.

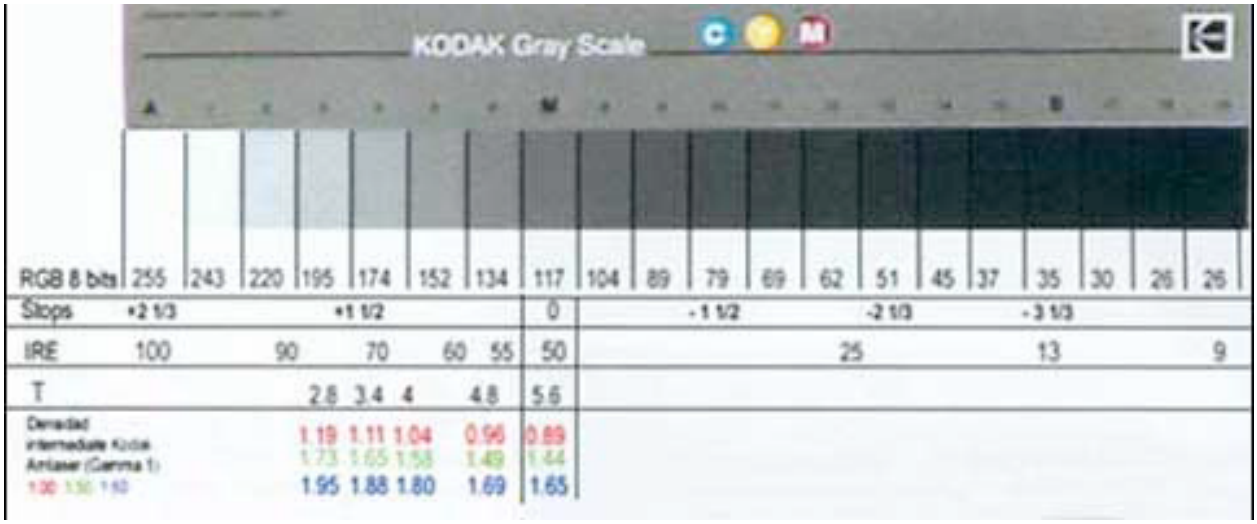
The camera's tools (gamma, Knee, black gammma, etc.), allow it to extend slightly its latitude, as well as providing great possibilities in terms of colour correction, detail and many other parametres. Similarly, the digitising electronic colour grading and shooting stages provide tools that can substantially change the image. Our intention was to study the latitude/contrast ratio, the response to colour, sharpness and depth of field. All the tests were projected for viewing.

These stills are the original frames, converted to the CMYK space with the logical colour and definition differences. May they serve as reference but are not a faithful representation of what was seen at the screening.

The values shown here were measured partly with the wave monitor and partly with the lightmetre; the RGB values were obtained by comparing mean values. By this we tried to create a ratio between all the photographic, digital and video values, bearing in mind that these values can only been used as reference points for further analysis, since they will vary depending on the format.

Latitude/contrast ratio In the studio we exposed for median grey with a value of 50/55 IRE. We saw that with careful lighting the camera kept a latitude of 6 _ points (around 100:1) maintaining details even on the blacks (certain texture could still be seen on black cloth - _ 5 points, albeit it didn't seem a good idea to go beyond 3 2/03 to keep some amount of detail in the dark) and without losing quality in the highlights. Here we observed how values of white above 80 IRE (1 2/3 Stops) start to lose detail, betraying the compression on the signal. This was apparent on the Kodak grey card, where the white values on 2ASA mixed up without hardly any shade.

The camera's sensitivity was 320 ASA, measured on an 18% grey, with intermediate density values of 0.89 1.44 and 1.65, and an IRE of 50.



This value shows a reading of one point under the one made by the camera on pre-sets of a grey card. Choosing this grey has allowed us to obtain smooth positives as well as favouring the detail capture in the highlights without losing detail in the shadows. In exteriors the camera's behaviour was slightly different. With a 6 point latitude, we saw that the faces in shadow were excessively underexposed, taking into account that we had exposed for the highlights. The areas of the face that shine brightest when exposed to direct sunlight lose all the detail and texture despite being 1 1/3 above the median grey.

The camera's latitude is reduced at least 1 point, making the contrast ratio 45:1. This makes us conclude that we need to bring up the level of the light in the shadows, or reduce the ones in the lights, more so than we do with negative emulsions.

In the images * (ej.5),* (ej.6) and * (ej.7), we see that the camera photographs correctly in low contrast situations and that keep a contrast ratio close to 64:1 (some aperture points). Higher contrasts have a dramatic effect on loss of detail, specially in the highlights. We therefore conclude the camera has 6 _ points of latitude, while still reproducing correctly a contrast ratio of 45:1.

ej.5

ej.6

ej.7

Colour

Colour Given the 8-bit RGB colour spectrum (a rather restricted gamut colour), we ascertained the lack of shade reproduction, in certain colour ranges, specially in the purple and dark blue areas. We saw the camera's tendency to saturate colours, specially reds and oranges, which becomes apparent in the medium and high ranges, practically disappearing in the shadows, where the colour balance was excellent.

Given the camera's response in terms of latitude and colour adequate lighting on faces and special care with make-up are critical for the correct reproduction of skin ton