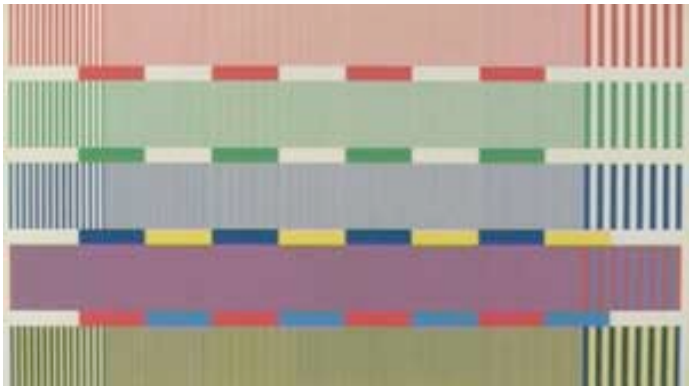
Test Digicon Filters de Schneider

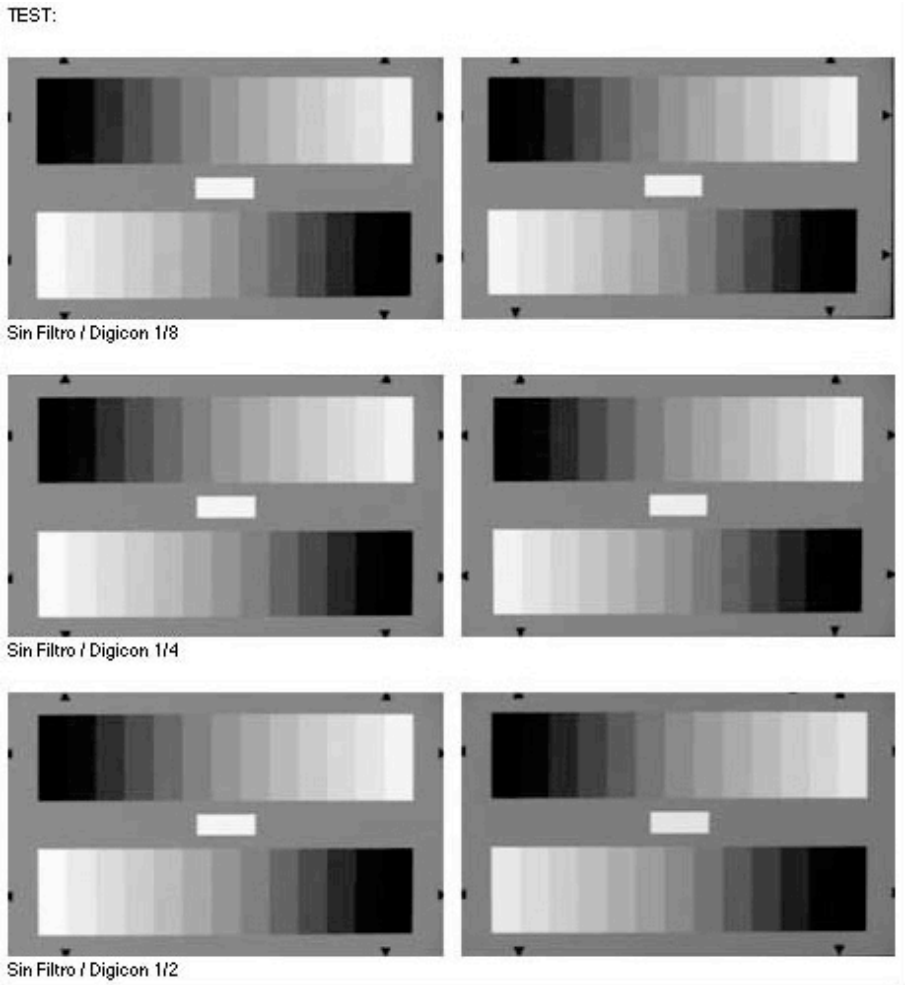


To complement our tests with the new Schneider Digicon Filters we spoke to their inventor, Bob Zupka.

Specifications: Sizes: 4"x 4", 4" x 5.650" (Panavision), 6.6" x 6.6" Densities: 1/8, 1/4, 1/2, 1, 2

Alfonso Parra: What are the Digicon Filters?

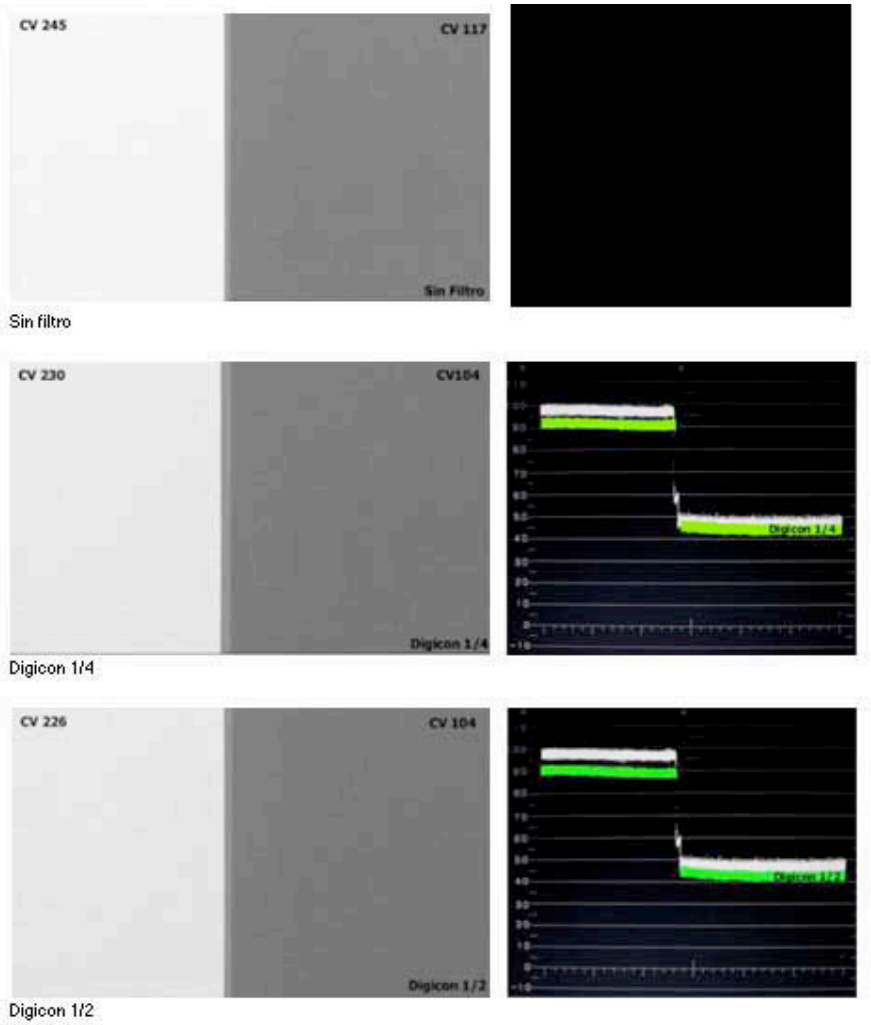
Bob Zupka: The Digicon filters I developed are meant to increase the amount of information a digital camera can capture over a given dynamic range. With high dynamic range (10+ stops) a digital camera user often is forced to expose for the shadows or the highlights losing detail in the other range of exposure. The Digicon has the ability to raise the black level by scattering some of the light into the shadows while at the same time lowering the highlights by absorbing some of the light.



On the greyscale we can see the effect of the filter. It is particularly effective in capturing more detail, although we haven't seen an increase in detail in the shadows, which maintain their normal value with slightly softer blacks.

Normal / Digicon 1/2 / Digicon 1/4 / Digicon 1/8

In the vectorscope we can see the effect of the filter on the highlights as well as how it slightly reduces the value of median grey, therefore changing exposure. This variation can be seen in more detail in the following test:



The filters reduce the value of whites and to a lesser extent that of the median grey, so we conclude that the filter modifies slightly the value of exposure. It should be noted that the change in value of the median grey remains almost identical throughout the range of filters, whereas the change in the highlights depends on the filter's characteristics. This slight underexposure can be easily adjusted during colour grading, so in my opinion it can be ignored during the shoot.

AP: The filters are called Digicon. Have they been specifically designed for digital formats(hd,minidv,betacam etc)?

BZ: They were primarily designed with the pixel size and short focal lengths of digital cameras in mind but they can absolutely be used with film cameras of 35mm and 16mm.

AP: What are the differences with usual Low contrast filters?

BZ: Usual Low Contrast filters often tend to reduce resolution, create halos and do not bring down the highlights.

AP: How does the filter affect shadows?

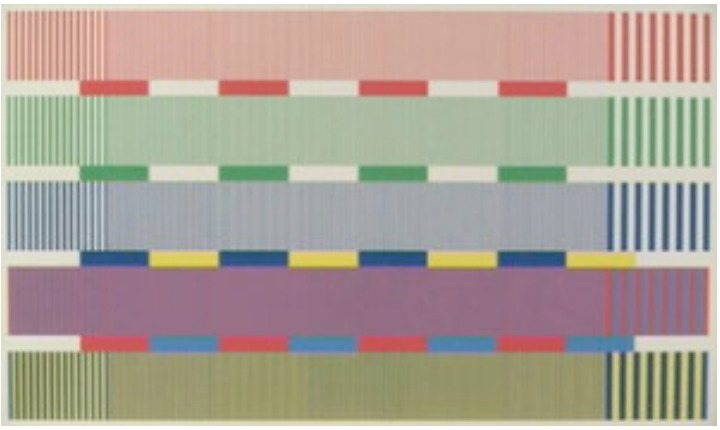
BZ: The filters will allow more detail to be captured in both the shadows and highlights and in post black and white level can be restored to their levels with an increase in information.

AP: How does the filter affect highlights?. Does it produce any kind of flare with high lights?

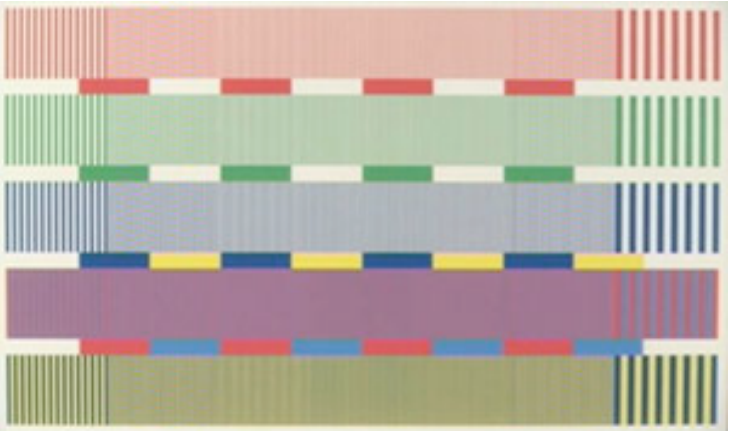
BZ: Generally there is no flaring but more of a uniform spreading of the light.
Effect of the filter on a beam of light. Light dispersion is very tenuous and homogenous. (The Digicon filter was used)

AP: How does the filter affect sharpness and definition?

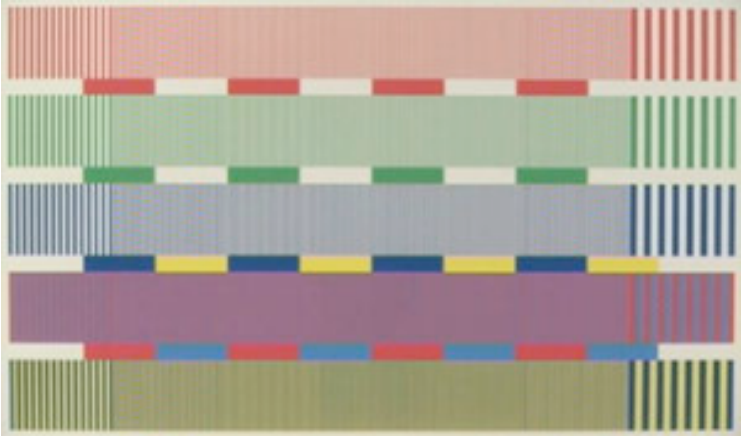
BZ These filters were tested out to 300 lp/mm with no loss in resolution and no color fringing.



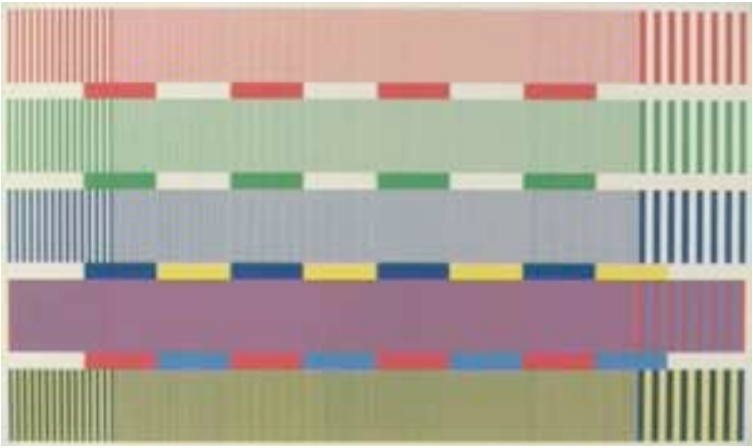
Sin filtro



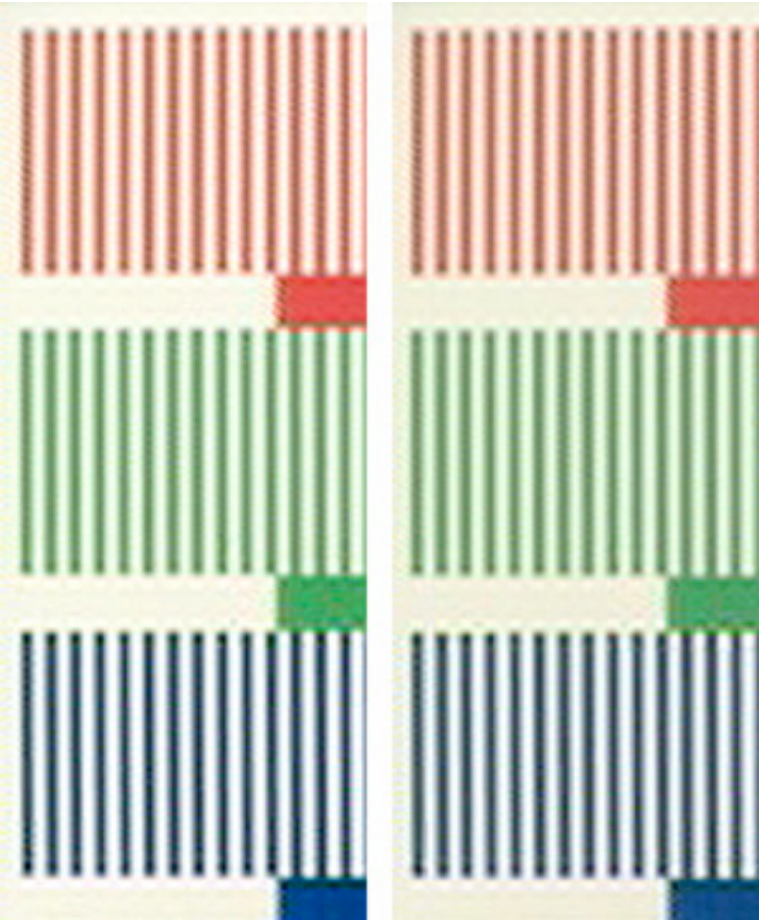
Digicon 1.2



Digicon 1.4



Digicon 1.8

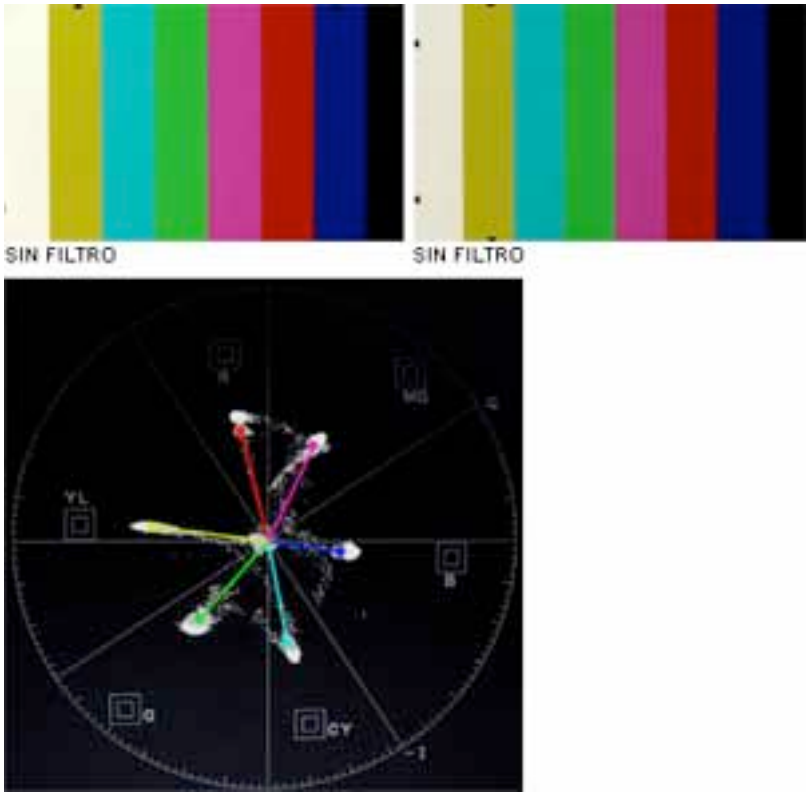


Normal / Digicon 1.2 / Comparación aumentada un 300%

We can see that the filters dont cause loss of resolution or colour fringing.

AP: How does the filter affect colour?

BZ: The filters are neutral in color with no color shift.



Superposición de los vectores de las barras de color.
Las lineas de color pertenecen a la imagen con el filtro Digicon 1.2

AP: Can you obtain with those filters some different thing instead of menus camera: Knee, White Clip, gamma black gamma etc.?

BZ: If time is taken similar results can be obtained in camera but several menus must be addressed and switching back and forth can be very time consuming. In lower end cameras (miniDV) there is very little control of the gamma curves. These filters are a quick, easily used tool to control contrast levels where time and assets (additional lighting) are not available.

Conclusion: In our opinion these filters are a good tool to control contrast in cases where we don't have access to other resources. They are excellent filters that maintain definition and colour while allowing to restore detail under highlights without losing it in shadows.