

Contrast and black of the CG232W

How can I use a Pluge signal with the CG232W?

What are the functions „widening the out signal“ and “black value“ for?

Why does the CG232W does not need a contrast regulator?

Normally video signals do not have a tone value below 64. Tone value 64 and below can and should merge with the black background by which the entire brightness spectrum of the monitor is available. This is why the user struggles not to lose the „brightness“ of tone value 64 or close to black, trying to maintain tone value 84. In this way also tone value 64 merges with the black of the background.

This setting actually is for CRT monitors and is not necessary for LCD monitors. The contrast of CRT monitors is variable and the black value depends for example on ambient light and degradation of the phosphors.

CRT monitors that are installed in different environments will show different black values although they may visually appear identical. This is why the Pluge test image is used : to assign tone value 64 to the predominant deepest black value.

CG232Ws deepest black is around 0.1 cd/m² at a maximal brightness of 70 cd/m². This is clearly and firmly assigned to tone value 64 when in the menu „widening the out signal“ is set to ON. Tone value 64 then disappears into the background black (which is what one wishes to achieve with the Pluge setting on CRT monitors).

Pluge exception with CG232W:

From a recording point of view, they may be a requirement to set an instruction not to show a signal between tone value 44 and tone value 64. The monitor the functions as a measurement device for the camera signal. To obtain this, the CG232W will show the Pluge test image correyly when previously the “widening the out signal“ was switched off. Otherwise tone values below 64 would always be cut off. However, tone value 64 logically does not show the darkest possible black anymore.

Black Level and contrast setting:

The CG232W has a maximal contrast of 720:1. The brightness for white on a new monitor can vary in between 380 cd/m² (100%) and around 70 cd/m² (20%) (brightness setting). At 720:1 the contrast will show the darkest black at 0,1 cd/m² (720:1 = 70:0,1). When this is too dark, for example when the contrast is too strong, then one can set the black a bit lighter. This is what the function “black value“ is for.

Conclusion:

A black value or contrast setting through the Pluge testimage – like in old CRT times – ist not recommended for CG232W.

When the user wants to set value 64 to the darkest black, he only needs to set „Widening the out signal“ to ON.



PLUGE (Picture Line-Up Generation Equipment)

The dark perpendicular bars represent tone value 64, the bright grey on the right show tone value 84. A third, **invisible** bar is on the left of the dark bar and has tone value 44. The one almost in the middle (tone value 64) is the reference for the black value.