

Test EIZO CG319X - Top monitor for DCI 4K content

31 inch UHD monitor with a resolution of 4096 x 2160 pixels in 17:9 format for DCI 4K content Introduction

19.12.2019, Manuel Findeis

Introduction

With the EIZO CG319X we have the flagship of the premium manufacturer's CG ColorEdge series in our test this time. This is true at least as long as you grant the ColorEdge Prominence CG3145 a special position, because the latter costs as much as a car and is not even listed in common price search engines.

The EIZO CG319X was introduced by the manufacturer a good year ago as the second generation of its 31-inch 4K graphics monitor. With its 4096 x 2160 pixels, the proband wants to be the ideal monitor to process and natively display DCI 4K content. The DCI 4K resolution in 17:9 format is already a unique selling point. In the 32-inch class, only devices with the more consumer-oriented 4K resolution of 3840 x 2160 pixels in 16:9 format can be found.

As a CG representative, the unit is of course hardware calibratable and has a 3D LUT. The built-in calibration sensor and the pre-installed HDR presets for HLG and PQ gamma distinguish the model for professional video post-production, photography and other graphic applications.

The IPS panel, which is equipped with a special retardation film, is supposed to ensure particularly deep black tones even at more extreme viewing angles. According to the manufacturer, the EIZO CG319X has an extremely good contrast ratio of 1500:1 and a maximum brightness of 350 cd/m². In terms of colour space, the proband covers just about everything that is currently reasonably possible, from sRGB to Adobe RGB to DCI-P3. The Rec.-2020 standard is also supported.

Of course, this also has its price - at least if you want real and reliable quality. At the time of testing, the EIZO CG319X was listed in stores from 4,369 EUR.

For detailed information on the features and specifications, please refer to the [EIZO CG319X data sheet](#).

Scope of delivery

All necessary cables are included in the scope of delivery: DisplayPort (2 x; DP to DP and DP to DP Mini), HDMI, USB and power. As a nice extra, the CG series also comes with a matching display cleaning set consisting of a microfibre cloth and gentle cleaning fluid in the box.



Scope of delivery

The enclosed cables all make a very high-quality impression. The HDMI cable has gold-plated connections. Especially those who often change cables will appreciate this.



High quality cables

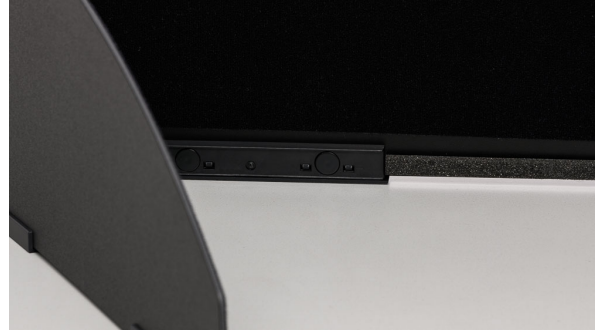
An essential part of the scope of delivery is also the high-quality light protection screen. It consists of one piece and works with magnetic fasteners. The inside is lined with a black, light-absorbing textile.



High-quality light protection screen



Easy to assemble



Works with magnetic closures

Optics and mechanics

The EIZO CG319X is delivered fully assembled in a cardboard box. If necessary, the stand can be quickly and easily detached at the touch of a button. An alternative wall or swivel arm mounting is possible at any time according to the VESA standard (100 x 100 mm).



Assembly of the support leg



Turntable from below

The design of the CG series looks like a unified whole in all the new devices. Apart from the display size, there are hardly any differences at first glance. The design of the new generation of ColorEdge devices is definitely appealing and looks much more snappy and less bulky than the previous generation. EIZO does without unnecessary ornamentation and can still conjure up a powerful statement on the desk with understatement and minimal effort.



Front view in the highest position



Rear view in the highest position

Although the workmanship of previous models with a more solid design was more convincing in some cases, it still seems to be solid and of very high quality in the current device series.

The robust plastic housing appears to be made of one piece and at the same time is convincing from an aesthetic point of view. A recessed handle on the back under the EIZO logo also facilitates transport.



Front view in the lowest position



Rear view in the lowest position

Compared to the CG2730, the CG units with three-digit model numbers have a higher-quality calibration sensor built in - but it also needs more space. This is the reason for the forehead-like bulge in the frame at the top centre. The CG newcomer is initially surprised by a whirring noise when switching on for the first time.

However, this is not a fan, but a functional test of the sensor functionality, which is carried out automatically after every cold start (complete interruption of the power supply). The sensor is extended and retracted via an electric motor.



View Rotation to the left



View Rotation to the right

Usually, the CG series can also score in ergonomics thanks to the proven Flexstand system. However, there are two exceptions with the EIZO CG319X. Firstly, the review sample does not offer a pivot function. Although many people never use the pivot to portrait format, it can be an essential function for studio photographers, for example.

It is understandable that the EIZO CG319X would need a little more space due to the somewhat wider 17:9 format. But not why you can't adjust the flex stand accordingly.

An even more obvious and for some users certainly really annoying point of criticism we have to mention is the mechanism of the rotating function. It is actually supposed to be realised by a turntable that is hidden in the stand (see illustration above for mounting).

There is a non-slip rubber coating on the outside in four places to provide counter support. However, it is of no use because the force required to turn it is so high that often the turntable does not move at all. Instead, the appliance is turned on the rubber coating itself - in other words, it is turned by brute force.

Such a slip-up is difficult to understand in this appliance and price class, especially as the sluggishness of the Flexstand mechanism has been criticised many times. However, this has never affected the swivel function. On inspection, our test unit was flawless. However, a defect cannot be completely ruled out here, because such a faux pas is actually unusual for an EIZO monitor of the CG series.



Lateral view



Lateral view with maximum angle of inclination to the rear

Otherwise, there is nothing to complain about in terms of the ergonomic functions. The height adjustment is generous at 15.4 cm and has two stages. First, the lower part of the stand can be extended telescopically. In addition, the screen can be moved upwards in the upper area - directly at the connection between the display and the stand leg. The display can also be lowered unusually far down to the turntable.

A total of 344° is possible for lateral rotation. Hardly any other manufacturer offers this. The tilt option is also very generous at -5 to +35°. The two-stage height adjustment is not quite optimal, but just like the tilt, it can be adjusted smoothly and very precisely.



Lateral view with maximum forward tilt angle



Lateral view with maximum angle of inclination to the rear

Thanks to the magnetic lock, the foldable light protection screen can be easily put on and taken off again at any time. From our point of view, it represents a great added value.

On the one hand, disturbing light from the sides or from above is greatly reduced, but on the other hand it is also good dust protection. With the bezel in place, it takes much longer to remove dust from the display.



View from the front with mounted light protection screen



Rotation to the left with mounted light protection screen



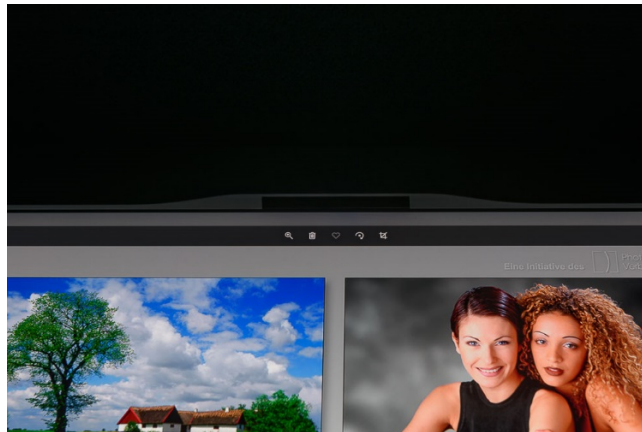
Rotation to the right with mounted light protection screen

To accommodate the integrated calibration probe, the EIZO CG319X already has a rather concise "forehead". Unfortunately, this also has a disadvantage during operation. In contrast to the light-absorbing material of the light protection screen, the inner frame of the test person is already slightly brightened by the screen content and sometimes also reflects it somewhat.



Bulge for the integrated calibration probe

Depending on how you tilt the unit, this is more noticeable either at the top or at the bottom. Depending on the picture content, this already creates a certain distraction. It is particularly noticeable because the surroundings are completely black due to the light shield above it.



The brightening of the bay window for the calibration sensor takes some getting used to

From our subjective point of view, this is worth mentioning, but ultimately not a reason not to have enjoyed working with the EIZO CG319X.



Support leg: tilt joint at top



Support leg: Two-stage height adjustment at the bottom

A small, round plastic clip is included in the delivery to bundle the cables. It can be attached in two positions - depending on how the cables are to be routed.



Cable routing in position 1



Cable routing in position 2

As usual, the power supply unit of the EIZO CG319X is located directly in the housing and has a separate power switch. The device is completely passively cooled.

For the waste heat, there are corresponding ventilation slots on the back and in the frame on the side. During operation, a slight warming can be felt, especially in the area of the upper ventilation slots. The cooling is purely passive. Fortunately, there is no brightness- or contrast-dependent noise at all.



Ventilation slots

The recess above the ventilation slots also has a practical function, as it can be used as a handle for transport.



Practical handle for transport

Technology

Power consumption

	Manufacturer	Measured
Operation max.	140 W	87,4 W
Operation typical	52 W	-
140 cd/m ²	k. A.	57,17 W
Operation min.	k. A.	41,28 W
Energy saving mode (standby)	1,2 W	9,9 W
Switched off (Soft-off)	k. A.	9,9 W
Switched off (mains switch)	0 W	0 W

**Measured values without additional consumers (loudspeaker and USB)*

EIZO states a maximum consumption of 140 watts in the data sheet. According to our measurements, the maximum consumption of 87.4 watts is even 38% lower.

On the other hand, the standby power consumption of the EIZO CG319X is also incomprehensibly high at 9.9 watts. The soft-off button does not change anything. Only the power switch can actually reduce the consumption to zero. You can only reach the manufacturer's specification if you disconnect the USB hub cable. Then you hear a relay click on the EIZO CG319X and the standby consumption drops to an acceptable 0.9 watts.

However, you always want to leave the USB hub cable connected. Not only to use the side USB ports, but mainly because of the necessary data connection for hardware calibration.

It is incomprehensible why EIZO was able to solve this problem with the CG279X, which was released at the same time, and yet it occurs again with the CG319X. The CG279X has the option "Compatibility mode" in the administrator menu of the OSD.

If you switch it off, you hear a relay click when it goes into standby, and the consumption is as you would expect.

The EIZO CG319X also has this option, but it does not have the same effect. Since this relay click does not exist at all on the CG2730 and CS2730, the EIZO CG319X seems to already have the necessary hardware for a better standby. In our test, however, it did not work as it should.

At 140 cd/m² at the workstation, the meter shows 57.17 watts, the efficiency at this brightness is calculated to 0.6 cd/W. Compared to other monitors in general, this is a very poor value. However, it is typical and acceptable for the performance class of the EIZO CG319X.

Connections

The connections are located to the right of the stand and are labelled in an exemplary manner. With two DisplayPorts (HDCP 1.3) and HDMI ("Deep Color", HDCP 2.2/1.4), you can be quite satisfied, even if consumer devices often offer more. The EIZO CG319X does not have a USB-C port.



Connections

Rather untypical for EIZO's CG devices, however, is the lack of a second USB upstream. Three downstream ports with USB 3.0 speed can be found in the side bay. One of them offers a battery charging function with 10.5 watts.



USB 3.0 downstream ports: Still easy to reach in the side bay



USB 3.0 downstream ports: The top one with battery charging function

Operation

Operation is via very reliably responding multifunction touch keys. The ColorEdge units have a small loudspeaker built in, which is used exclusively for acoustic feedback when operating the unit. The beep can also be switched off. In our view, however, the touch operation is noticeably enhanced by the acoustic feedback.

As soon as you touch a key, a bar with the respective functions appears on the screen directly above it. The buttons are illuminated with white LEDs and are therefore easy to find even in the dark. We never found the illumination disturbing during image editing. If necessary, the brightness can be adjusted or switched off completely.



Modern and reliable touch keys

OSD

The OSD from EIZO may appear visually simple. But in terms of functionality and operating logic, it is known to be first-class. Despite the large and professional range of functions, you can find your way around immediately.

Signal source and colour mode can be adjusted directly via the quick selection. Instead of the brightness control, two new function keys have been added to the EIZO CG319X, which can be assigned different functions via the settings. For example, colour gamut and brightness warnings can be quickly switched on and off.



OSD: Operating help (Screenshot: EIZO manual)

The EIZO CG319X also provides useful information automatically, for example, when the signal source is changed. This way, you can immediately see which colour depth and which dynamic range the monitor is receiving.



OSD: Main menu (Screenshot: EIZO manual)

As usual, the main menu consists of seven main levels with logical and self-explanatory functional scopes. Every input is executed promptly and without any delay. This is especially true for switching between different colour modes or colour space emulations. This makes OSD operation really fun. The most that could be criticised is that the OSD has not been adapted to the 4K resolution.

Just as with the EIZO CG279X, you can also view and even change the target settings for each picture mode on the EIZO CG319X. If they are changed, the current subject warns with purple coloured text that the new settings still need to be calibrated.

Thanks to the integrated calibration sensor, calibration can be triggered directly from the OSD - even without a diversion via the ColorNavigator. You can even continue to work undisturbed in colour-uncritical applications. Only the extended sensor and a very small window for the calibration block the normal view of the desktop.

Color (BT.2020)		
Color Mode	[	BT.2020]
Brightness	[	150cd/m2]
Temperature	[	6500K]
Gamma (EOTF)	[	2.2]
PQ / HLG Clipping	[-]
HLG System Gamma	[-]
Color Gamut	[	BT.2020]
Advanced Settings		
Reset		

Advanced Settings (BT.2020)		
Hue	[	0]
Saturation	[	0]
Gamut Clipping	[	Off]
XYZ Format	[	Off]
Gain		
Black Level		
6 Colors		

OSD: Picture Settings Presets (Screenshot: EIZO manual)

Color (CAL1)		
Color Mode	[	CAL1]
Target Settings		
Execute Calibration		
Target	Result	1/APR/2018
L :1000.0 BK:0.20	L :1000.0 BK:0.20	
γ :HLG Clip SG:1.2	γ :HLG Clip SG:1.2	
W : (L, R, G, B)	W : (L, R, G, B)	
R : (L, R, G, B)	R : (L, R, G, B)	
G : (L, R, G, B)	G : (L, R, G, B)	
B : (L, R, G, B)	B : (L, R, G, B)	

Target Settings (CAL1)		
Brightness	[	100cd/m2]
Black Level	[	Min]
White Point	[	User]
Gamma	[	2.20]
PQ / HLG Clipping	[-]
HLG System Gamma	[-]
Gamma Policy	[	Standard]
Color Gamut	[	User]
Gamut Clipping	[	Off]
Reset		

OSD: Image settings for calibration modes (Screenshot: EIZO manual)

The settings for regular self-calibration can be made conveniently via the software or directly in the OSD - or at least checked there. Even though you can continue to work without any problems during the self-calibration, we recommend that you nevertheless schedule it for the night hours. If the workspace is completely dark, possible sources of error due to stray light are excluded in any case.

SelfCalibration		15:30
Execute		
Settings		
Result	1 / APR / 2018 (SUN) 12:00	
	SelfCalibration was successful.	
	For details on each mode, see the color menu.	
Next Calibration	1 / APR / 2018 (SUN) 12:00	

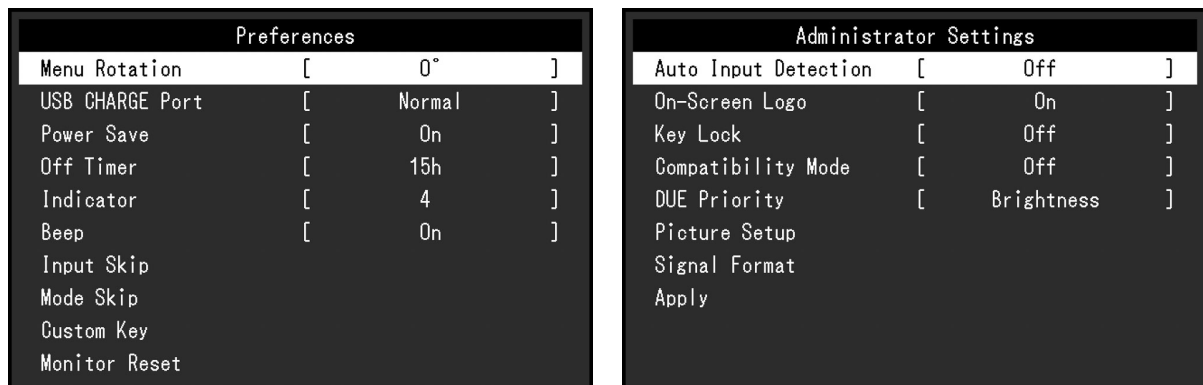
Settings		15:30
Mode Settings		
Schedule		
Clock Adjustment		

OSD: Self-calibration (Screenshot: EIZO manual)



OSD: "Safe Area Marker" (Screenshot: EIZO manual)

The last two illustrations show the general system settings and the hidden administrator menu. The former is self-explanatory. In the admin menu, as already described, the "Compatibility Mode" and the setting for "DUE Priority" are particularly important.



OSD: System settings (Screenshot: EIZO manual)

OSD: Administrator settings (Screenshot: EIZO manual)

Picture quality

The panel frame and the surface of the panel are matt and effectively anti-reflective. Light falling in from the side or even a viewer wearing light-coloured clothing produce only weak reflections on the screen.

Normally, we first examine the picture quality of all monitors in an uncalibrated state after resetting them to factory settings. However, the EIZO CG319X is a special case. For one thing, it uses the Bt. 2020 picture mode with the associated gamma ex works, which is not very helpful for examining our test graphics.

Furthermore, with the EIZO CG319X, the measuring probe is integrated in the housing and the hardware calibration is an essential feature of the device. The test person can calibrate himself completely without being connected to a Windows PC/Mac. Since ColorNavigator version 7, the factory presets such as sRGB and Adobe RGB are automatically calibrated as well.

Therefore, after resetting the unit to factory settings, we first had it perform a calibration run using the following settings:

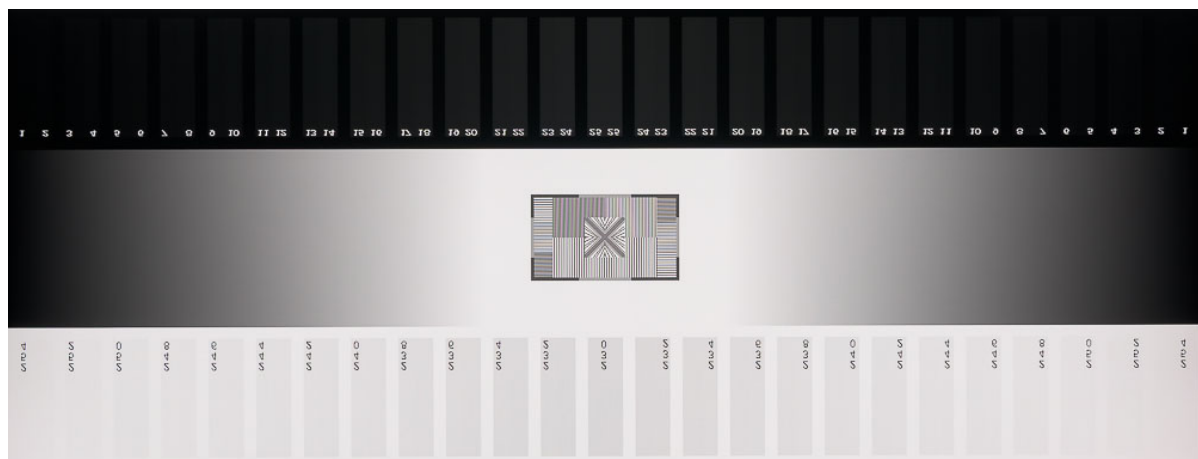
Factory settings (changed)	
Picture mode:	"User"
Brightness:	140 cd
Contrast:	Not available
Gamma:	2,2
Colour temperature:	6500 K
RGB:	100/93/76
Colour Gamut:	Native
DUE Priority	Uniformity
Sharpness:	Not available
Response time:	Not available

These settings provide the best comparability to other CG Series units and other monitors in general, and we have used them as factory settings for the following assessment.

Grayscale

The greyscales and the grey gradient are already top class and at reference level in the factory setting. Subjectively, they appear completely neutral. In the greyscales, the lightest and darkest gradations are completely recognisable.

The grey gradients are extremely even and flowing. This is true not only in the horizontal but also in the vertical view. Colour shimmer and banding effects were generally not observed.



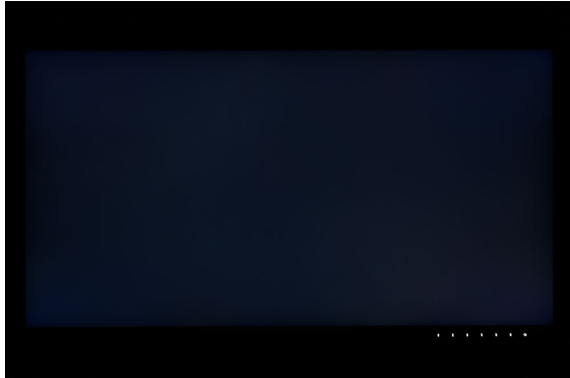
Grayscale

The extremely good viewing angle neutrality, which is already evident in the greyscales, is also particularly worth mentioning. The drawing remains practically unchanged even at more extreme viewing angles, as the usual brightening in dark areas is absent.

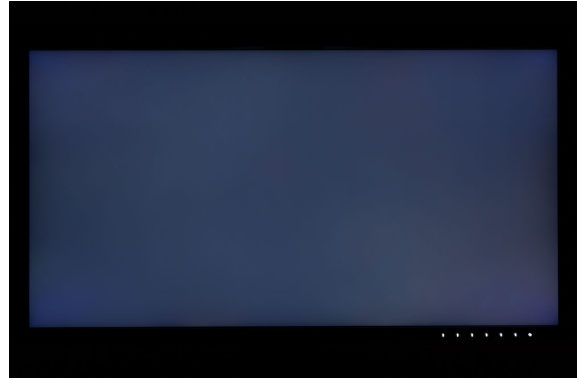
This top level is also achieved by other units in the CG series, but not by the CS series. This is due to the True Black panel, which is only used in the two more expensive units.

Illumination

The left photo shows a completely black image approximately as one sees it with the naked eye in a completely darkened room; here the noticeable weaknesses become visible. The right photo with a longer exposure time, on the other hand, highlights the problem areas and only serves to show them more clearly.



Illumination with normal exposure

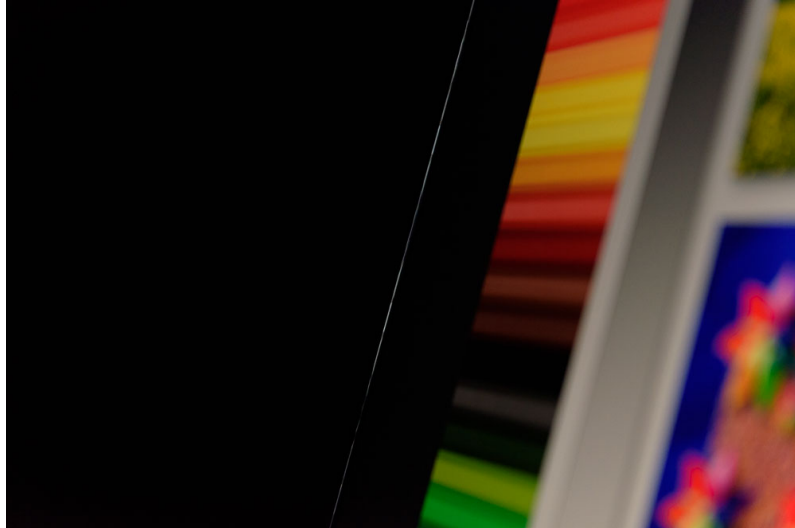


Illumination with extended exposure

The uniformity of illumination in the black image is among the best we have seen in our tests so far. The very good black level is also immediately noticeable. You need a longer-than-average exposure time to get the photo on the right and then minimally recognise slight irregularities in the illumination. Considering what is technically feasible at the moment, this can certainly be called perfection. Compared to most other test devices, the displays of the CG series are definitely in a league of their own.

What is particularly remarkable is that the black image practically does not change even at extreme viewing angles. The usual brightening of the entire picture surface is completely absent. Only a slight reddish shimmer is partially visible - especially at extreme vertical viewing angles or from above.

The only criticism is when you look at the picture from the side at an unnaturally flat angle. Then you can see the backlight of the EIZO CG319X in a narrow white strip. We don't know this from other CG devices. In practice, however, this did not play a role at halfway normal viewing angles.



Only visible from a very shallow angle: Translucent background light

Brightness, black level and contrast

Measurements are taken after calibration to D65 as the white point. If possible, all dynamic controls are deactivated. Due to the necessary adjustments, the results are lower than when performing the test series with native white point. The latter does not apply to the EIZO CG319X, as it is already delivered from the factory with a perfect white point adjustment.

The measuring window is not surrounded by a black border. The values can therefore be compared more with ANSI contrast and reflect real-world situations much better than measurements of flat white and black images.

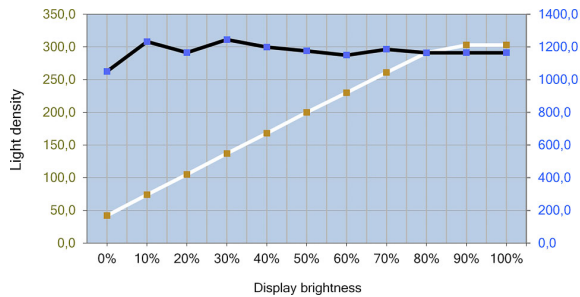
All ColorEdge devices from EIZO (also the CS series) have a special function for uniformity optimisation with the "Digital Uniformity Equalizer (DUE)". With the "DUE Priority" option, priority can be given either to the most uniform illumination possible (uniformity) or to high brightness and contrast values.

The option must be changed in the administrator settings or via the ColorNavigator software and then remains unaffected by the reset to factory settings. The hardware calibration is always dependent on this option. If you change it, the unit must also be recalibrated.

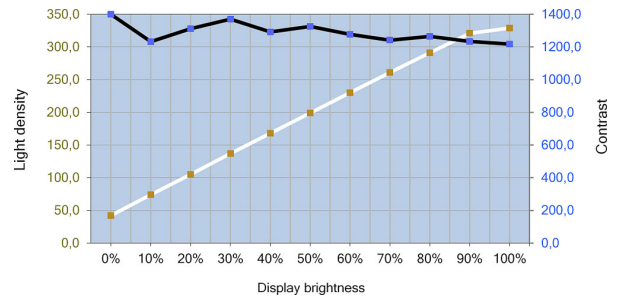
The brightness is not set in steps from 0 to 100, as usual, but in concrete cd/m^2 specifications. This makes setting the desired target brightness much easier. The slider positions are also surprisingly reliable and match our measurements fairly closely. Furthermore, the control range can be adjusted much more finely than is usually the case.

For the EIZO CG319X, this ranges from 40 to 350 cd/m^2 . The upper limit also corresponds to the manufacturer's specification for maximum brightness. In DUE uniformity mode, the brightness slider turns purple from 302 cd/m^2 . In DUE-Brightness mode, this is only the case at 329 cd/m^2 . This warning is immediately intuitively understood correctly. From this value onwards, you can adjust the brightness even higher, but the indication is no longer reliable and the brightness hardly increases.

Nevertheless, we have measured over the entire range of values. This results in a kink in the brightness curve at the corresponding point. We assume that depending on the selected colour temperature, the brightness of 350 cd/m² can actually be achieved without a warning.



Brightness and contrast curve of the EIZO CG319X - "DUE Uniformity"



Brightness and contrast curve of the EIZO CG319X- "DUE Brightness"

EIZO states the contrast ratio of the IPS Wide Gamut panel at 1500:1, the maximum brightness at 350 cd/m². With the "DUE Brightness" option, the EIZO CG319X achieves a first-class contrast of 1288:1. We measured the maximum brightness at 329 cd/m².

As a rule, however, the EIZO CG319X will be operated with the "DUE Uniformity" option - i.e. optimal picture homogeneity. Here, the maximum brightness drops to a still completely adequate 303 cd/m². The contrast ratio of 1173:1 is also still excellent. In both modes, the brightness can be reduced to a minimum of 42 cd/m².

Image homogeneity

We examine the image homogeneity on the basis of four test images (white, neutral tones with 75 %, 50 %, 25 % brightness), which we measure at 15 points. This results in the averaged brightness deviation in % and the likewise averaged delta C (i.e. the chromaticity difference) in relation to the respective centrally measured value. The perception threshold for brightness differences is about 10 %.

+1.37%	-0.66%	-1.99%	-1.91%	-1.9%
+1.2%	-0.25%	0.0%	-1.11%	-1.59%
+3.03%	-0.5%	-1.8%	-1.84%	-0.66%

Brightness distribution of the white test pattern - "DUE Uniformity"

0.61	0.33	0.43	0.45	0.67
0.64	0.3	0.0	0.55	0.42
0.46	0.64	0.85	0.79	0.7

Colour homogeneity in the white test pattern - "DUE Uniformity"

Unfortunately, functions to improve uniformity all too often conceal pseudo-functions from other manufacturers, some of which do more harm than good.

EIZO's DUE ("Digital Uniformity Equalizer") plays in a completely different league here too and does a great job with the EIZO CG319X as usual. The display is extremely uniform across the entire panel surface. Brightness and colour deviations are neither visible to the naked eye nor can they be detected by measurement. By the way, this is already pleasantly noticeable during everyday work with office documents, even if this precision is of course not absolutely necessary here.

The brightness distribution is first-class with an average value of 1.42%, and the maximum deviation of 3.03% is also excellent. The EIZO CG319X also performs fantastically in terms of colour homogeneity. We find the maximum deviation at the bottom centre edge with a Delta C of only 0.85. The average value is only 0.56 Delta C.

-6.76%	-3.91%	-8.0%	-5.7%	-11.24%
-7.09%	-1.79%	0.0%	-2.65%	-10.11%
-1.19%	-0.35%	-1.46%	-1.85%	-3.4%

Brightness distribution of the white test pattern - "DUE Brightness".

0.72	0.48	0.44	0.38	0.57
0.57	0.27	0.0	0.45	0.36
0.43	0.52	0.78	0.65	0.47

Colour homogeneity in the white test pattern - "DUE Brightness".

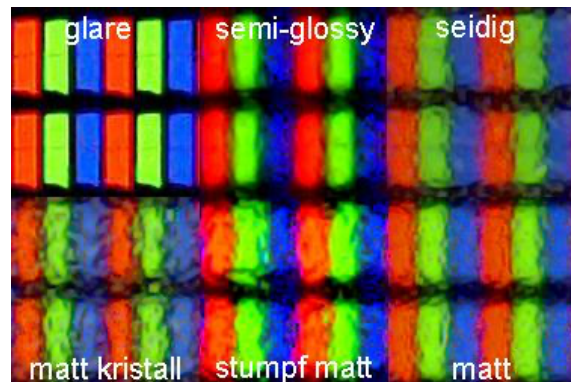
If you prefer to focus on the highest possible value for contrast and maximum brightness, set the DUE to "Brightness". We have already shown the resulting improvements above. Surprisingly, the EIZO CG319X can still convince with a first-class surface homogeneity. Nothing at all changes in the flawless colour purity. A good result is then achieved.

Coating

The surface coating of the panel has a great influence on the visual assessment of image sharpness, contrast and sensitivity to ambient light. We examine the coating with the microscope and show the surface of the panel (foremost film) in extreme magnification.



Coating of the EIZO CG319X



Coating reference picture

Microscopic view of the subpixels, with focus on the screen surface: The EIZO CG319X has a dull matte surface with microscopically visible pits for diffusion.

Viewpoint

The EIZO CG319X uses a wide-gamut IPS panel. The factory specification for the maximum viewing angle is 178 degrees horizontally and vertically. These are the typical values for modern IPS and VA panels.

IPS panels are generally known for their good viewing angle neutrality. Above all, the colour reproduction remains completely stable even at extreme viewing angles. Among the devices with IPS panels, we do occasionally have some that appear slightly above average (or below average). However, these differences are usually only slight and difficult to grasp.

However, one disadvantage of IPS technology is usually the brightening of dark areas when the viewing angle deviates from the central sitting position. Depending on the size of the display, brightenings can become visible in the corners, which are caused by the viewing angle and not by edge illumination. A particularly rich black level is also not generally one of the strengths of IPS panels.

However, in the EIZO CG319X (as well as in the CG series in general), the manufacturer uses a special True Black panel. EIZO's variant is equipped with a special retardation film that enables deep, rich blacks - even at large viewing angles.

The photo shows the CG319X screen at horizontal viewing angles of +/-60 degrees and vertical viewing angles of +45 and -30 degrees.



Horizontal and vertical viewing angles

As we already indicated with the greyscales, the EIZO CG319X - despite the generally high level of IPS panels - is also in a class of its own here. The colour stability is extremely good. However, the brightness, black level and contrast are particularly remarkable.

The reduction in brightness is comparatively small even at extreme viewing angles, black remains black and the contrast impression is thus also hardly reduced. This means, for example, that the only faint markings in the black ribbed shirts of the two ladies remain visible practically unchanged even at extreme viewing angles.

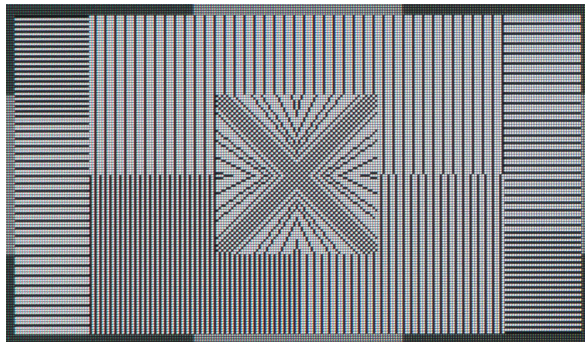
All in all, the viewing angle neutrality of the EIZO CG319X is definitely first-class and visibly better than conventional IPS panels.

Interpolation

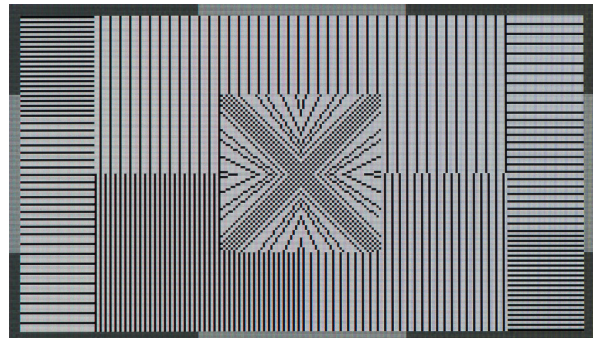
Our test signals are processed very well. Scaling by the graphics card does not improve the display. EIZO does without a separate sharpness control, but in most implementations this only achieves questionable improvements anyway.

For input signals that deviate from the native resolution, the EIZO CG319X offers the options "full screen" (distorted if necessary), "aspect ratio" (undistorted) and also a pixel-precise 1:1 display.

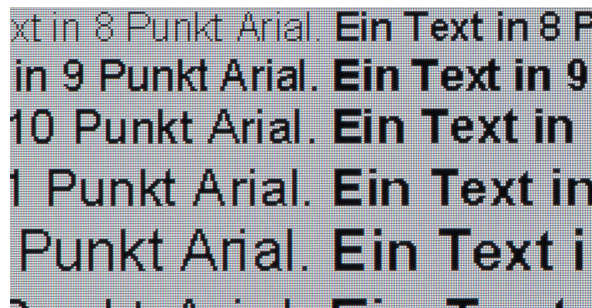
Strangely, the scaling of the HD resolution 720p does not work on the DisplayPort, but it does via HDMI. The 480p resolution is scaled to fill the entire area, but is then no longer distortion-free. Apart from that, the scaling unit of the EIZO CG319X works extremely well as usual.



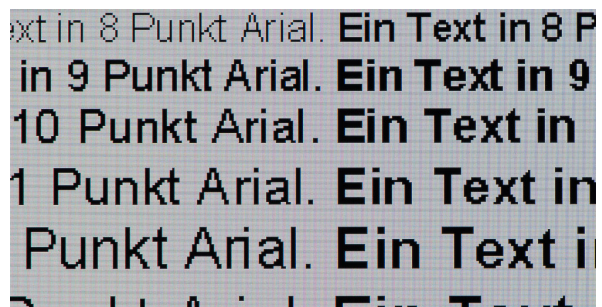
Test graphic native, full screen



Test graphic 1920 x 1080, full screen



Text reproduction native, full screen



Text reproduction 1920 x 1080, full screen

The sharpness at native resolution is very good, as expected. At 1920 x 1080 you can see that the necessary pixel enlargement is mainly caused by additionally inserted grey

pixels. This leads to somewhat bolder contours with a slight impression of blurriness. Colour fringing does not occur.

In all interpolated resolutions, the readability of texts and the reproduction of the test graphics are - according to the degree of scaling - good to very good. The unavoidable interpolation artefacts are low. Even texts with bold letters remain legible.

Signal	Distortion-free, maximum area-filling reproduction	Unscaled playback
576p	yes	yes
480p (4:3)	not distortion free	yes
HD (1080p)	yes	yes
HD (720p)	HDMI: yes, DP: no	yes
PC (5:4)	yes	yes
PC (4:3)	yes	yes
PC (16:10)	yes	yes
PC (16:9)	yes	yes

Colour rendering

In the case of monitors for the graphics sector, we first test the colour reproduction in the factory setting after the reset and - if available - in an sRGB and Adobe RGB mode. Then the screen is calibrated with Quato iColor Display. If the test person has a full hardware calibration, this is used instead in conjunction with the manufacturer's software.

Since the EIZO CG319X has a built-in calibration sensor, there is little point in checking the presets as delivered. For the factory measurements, we therefore first calibrated all available standard modes (such as sRGB, Adobe RGB, etc.) with the built-in calibration sensor. This is more or less the same as readjusting the factory settings with on-board tools.

For the hardware calibration in the extended calibration mode, we then used an external sensor with the X-Rite i1Display Pro as usual.

Colour space comparison in CIELAB (D50)

The following illustrations are based on the colourimetric data after a calibration to D65 as white point. The reference white for the preparation in CIELAB is D50 (adapted with Bradford).

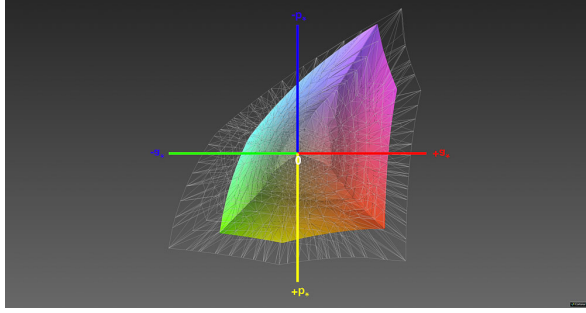
White volume: Screen colour space

Black volume: Reference colour space

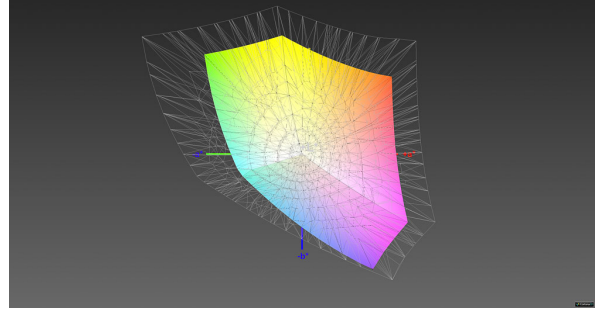
Coloured volume: intersection

Comparison targets: sRGB, Adobe RGB, DCI-P3, ECI-RGB v2

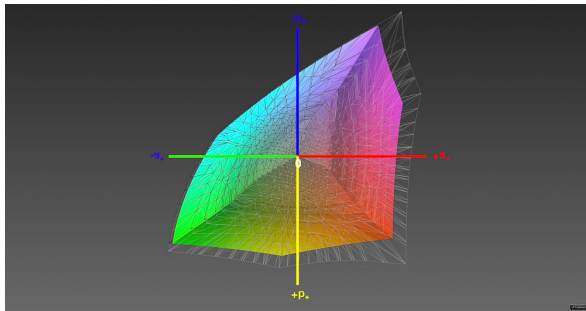
The following graphs show the colour space coverage after hardware calibration:



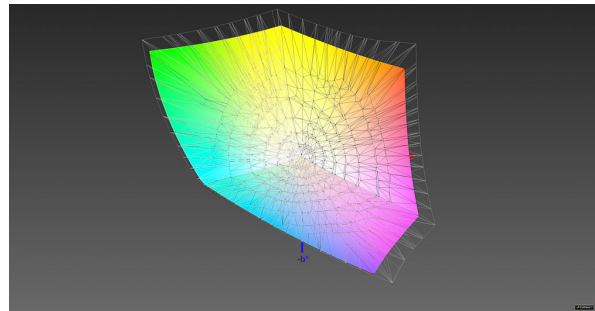
Coverage of the sRGB colour space, 3D slice 1



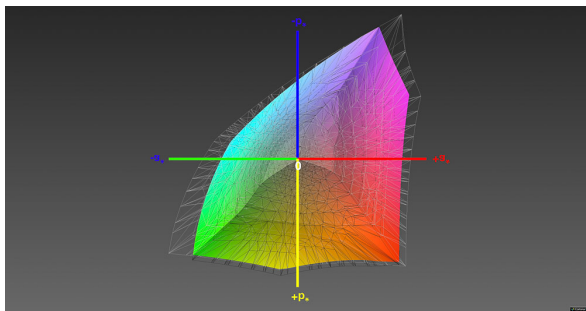
Coverage of the sRGB colour space, 3D slice 2



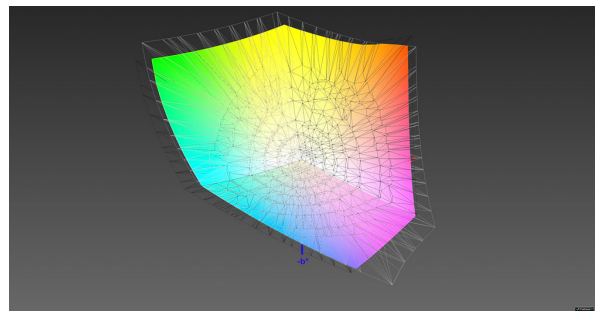
Adobe RGB colour space coverage, 3D cut 1



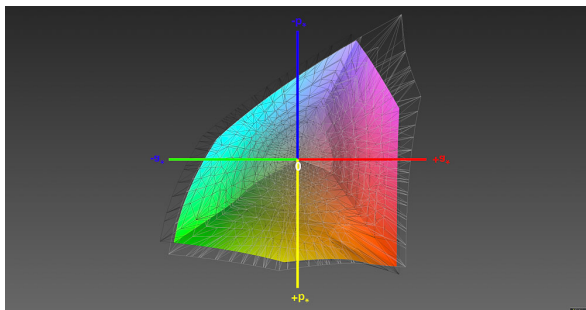
Adobe RGB colour space coverage, 3D cut 2



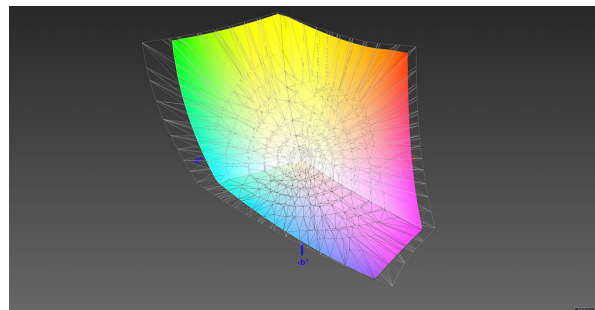
DCI P3 colour space coverage, 3D cut 1



DCI P3 colour space coverage, 3D cut 2



Coverage of the ECI RGB v2 colour space, 3D cut 1



Coverage of the ECI RGB v2 colour space, 3D slice 2

The sRGB, Adobe RGB and DCI-P3 colour spaces are almost completely covered. Even the coverage of the ECI-RGB-v2 colour space is already good at 90%. The native colour space of the EIZO CG319X is enormous and in other places goes well beyond the mentioned comparison colour spaces.

The following table summarises the results for the factory preset and after hardware calibration with ColorNavigator:

Colour space	Cover in factory preset	Coverage after calibration
sRGB	97 %	99 %
Adobe RGB	97 %	98 %
ECI-RGB v2	-	90 %
DCI-P3 RGB	96 %	96 %
ISO Coated v2 (FOGRA39L)	-	99 %

The EIZO CG319X meets strict softproof specifications based on the ISO/CD 12646 draft standard and is equipped with the Fogra seal of approval "FograCert Softproof Monitor".

Colour mode: Custom (factory setting)

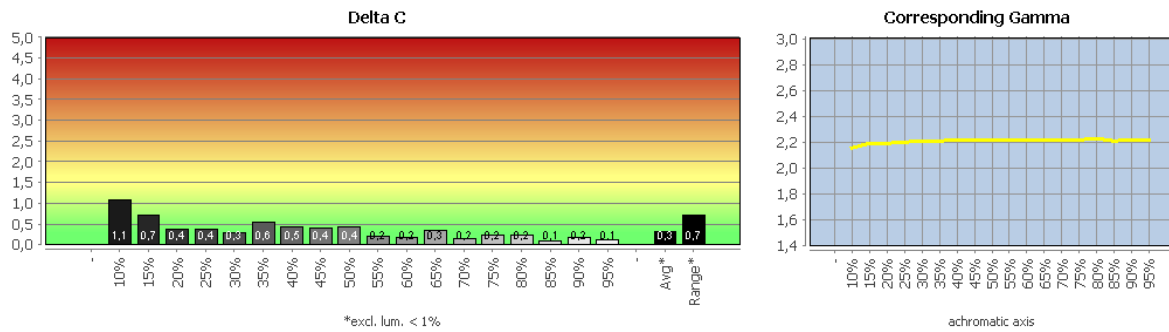
As mentioned at the beginning, we carried out the following measurements in the factory presets after a hardware calibration of the standard modes using the built-in probe. We did not change the target settings in the respective presets. They correspond exactly to the specifications of the respective colour space anyway.

Since the EIZO CG319X does not have a user mode, we have created our own user mode instead of the factory-set Rec.-2020- to make it comparable to other CG devices. It uses the native colour space with the following settings.

In the global settings of the EIZO CG319X, the "DUE Priority" is set to "Uniformity" ex works. Of course, we have left this important setting as it is.

Factory settings (changed)	
Picture mode:	"User"
Brightness:	140 cd
Contrast:	Not available
Gamma:	2,2
Colour temperature:	6500 K
RGB:	100/93/76
Colour Gamut:	Native
DUE Priority	Uniformity
Sharpness:	Not available
Response time:	Not available

We have summarised the explanations for the following charts for you: Delta E deviation for colour values and white point, Delta C deviation for grey values, and gradation.

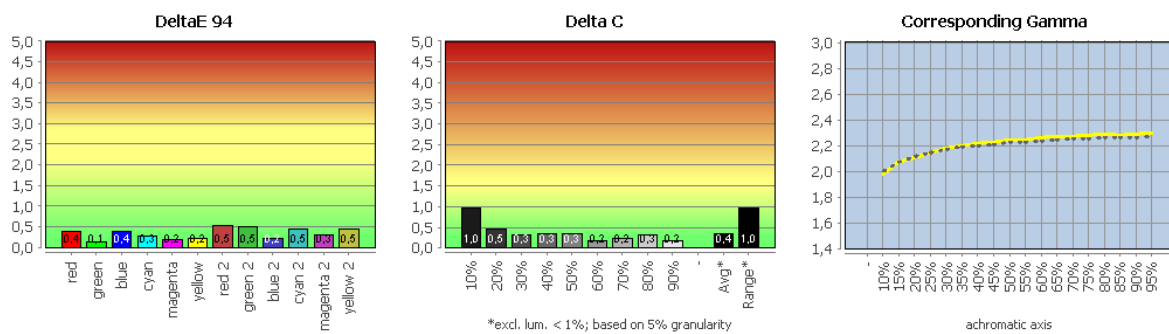


Grey balance in the factory setting, "User" picture mode

The grey balance of the EIZO CG319X is at reference level in the native colour space. The colour temperature (6510 K) and the gamma (2.21) are exactly within the target specifications within the measurement accuracy. The gamma curve is almost linear.

The detailed test results can be downloaded as a [PDF file](#).

Comparison sRGB mode with sRGB working colour space



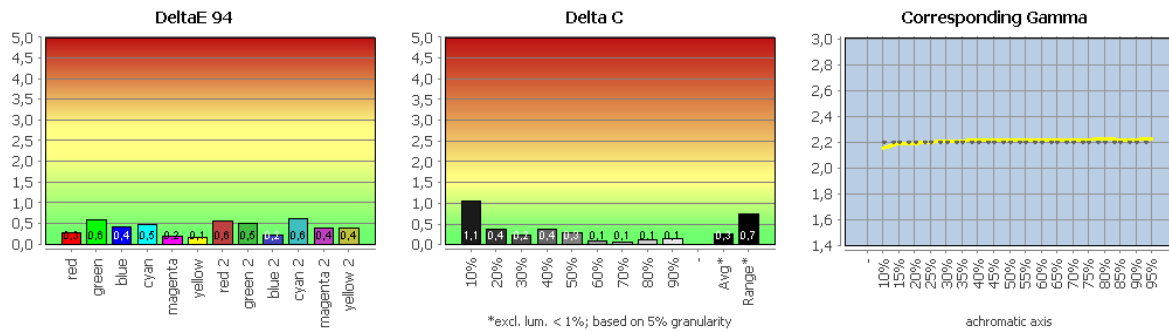
Colour reproduction in the factory setting, picture mode "sRGB"

In sRGB mode, the large native colour space is clipped very precisely to the sRGB colour space. For colour temperature and average gamma, we measure practically exactly the same values as above in native user mode. However, the gamma curve is perfectly adapted to the standard curve.

The grey balance is very good on average as well as in the range (Delta-C-Average: 0.36, Delta-C-Range: 0.97). The same applies to the colour values (Delta-E94-Average: 0.40). The colour space coverage does not quite reach 100%, but is still very good.

The detailed test results can be downloaded as a [PDF file](#).

Comparison Adobe RGB mode with Adobe RGB working colour space



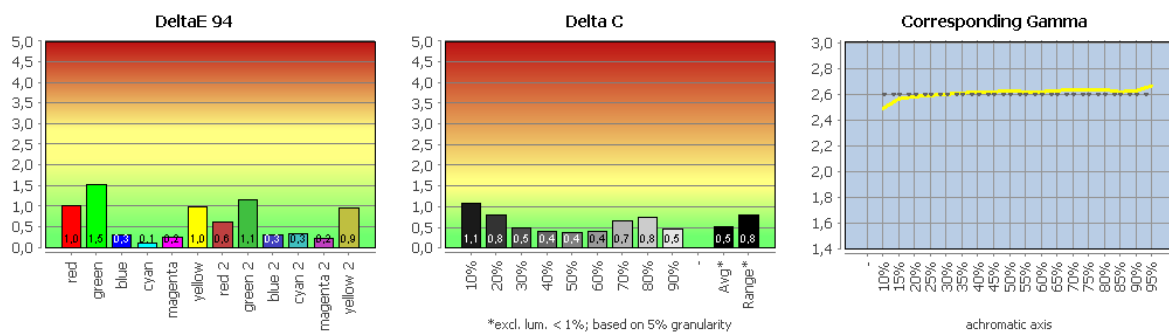
Colour reproduction in the factory setting, "Adobe RGB" picture mode

The result for the Adobe RGB preset is similarly perfect. The grey balance remains at the same excellent level with a delta C average of 0.26 and a range of 0.74. The gamma is linear as desired and averages 2.21. The gamma is linear as desired and averages 2.21.

The colour space coverage of 97 % is also very good and shows only very slight colour deviations (Delta-E94-Average: 0.47). This is evidence of precise colour space transformations.

The detailed test results can be downloaded as a [PDF file](#).

Comparison DCI-P3 mode with DCI-P3 working colour space



Colour reproduction in the factory setting, picture mode "DCI-P3

The somewhat higher deflections in DCI-P3 mode are only noticeable in comparison with the graphics of the other modes. Here, too, the measurements for the grey balance (Delta-C-Average: 0.51; Delta-C-Range: 0.81) and the colour values (Delta-E94-Average: 0.66) provide very good results.

The high gamma setting of 2.6 is achieved with an almost perfectly linear progression, as is the colour temperature of 6499 K measured.

It is truly remarkable how well EIZO's graphics monitors manage to change colour temperature, gamma progression and colour space extremely precisely and almost independently of each other. With the factory presets, content can be reproduced very attractively even in applications that are not colour-managed.

The detailed test results can be downloaded as a [PDF file](#).

Measurements after calibration and profiling

Hardware calibration

In contrast to standard monitors, professional displays from EIZO offer the possibility of hardware calibration. The software required for this is called ColorNavigator at EIZO and is generally also included in the scope of delivery.

This is a powerful calibration tool that meets professional demands and is still easy to use. Having experienced the software solutions of other manufacturers, the ColorNavigator alone is a decisive reason to reach for an EIZO.

With hardware calibration, the calibration settings are made directly in the monitor via USB connection. Therefore, the subsequently measured profile does not contain any calibration data, which are written to the LUT of the graphics card at every system start in the case of a software calibration. A hardware calibration, on the other hand, is completely independent of the computer and graphics card.

This enables a significantly higher precision in the calibration and at the same time avoids the undesired clipping of colour gradations. Whereas with a software calibration the number of possible colour values is cut by the RGB adjustment via the RGB gain control of the OSD, with a hardware calibration the maximum possible 256 colour levels per colour channel are fully preserved.

In addition to the corresponding hardware requirements in the monitor itself, manufacturer-specific software is also necessary for this. The application that comes with the colourimeters is usually not capable of this. With a graphics monitor, the necessary interaction of hardware and software is therefore a very important quality criterion.

Together with the EIZO CG279X, a new main version of the ColorNavigator was introduced with version 7. It brings a whole range of improvements and can also be used with the EIZO CG319X.

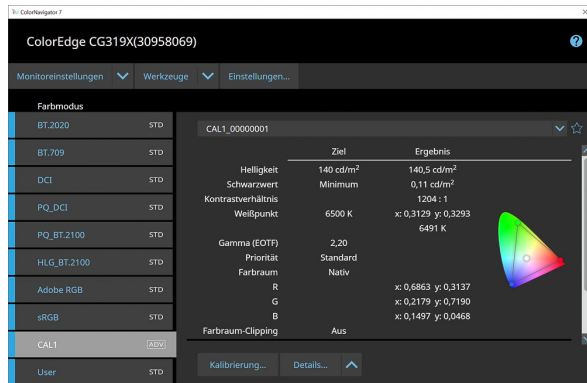
A major innovation is the introduction of "Standard Calibration" and "Extended Calibration". The setting options of the extended calibration can hardly be topped. But even the available options in standard calibration already have a scope that other manufacturers are still dreaming of.

The great highlight of the standard targets is that a single pass is sufficient to calibrate all targets in one go - a considerable speed advantage. Except for Cal mode, all colour modes are assigned standard targets ex works.

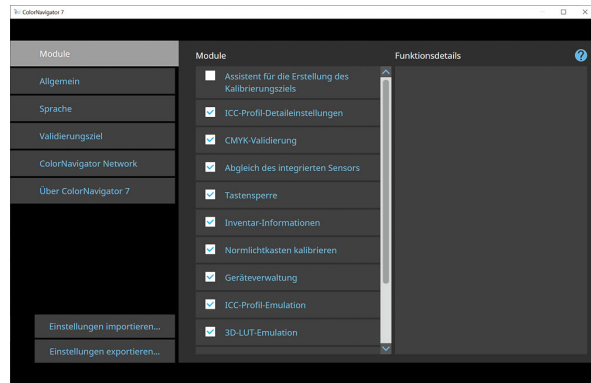
ColorNavigator 7: Procedure and scope of functions

In the initial screen you will now find all colour modes on the left. The abbreviations "STD" and "ADV" indicate whether it is an extended or standard calibration. On the right you can assign a target in the drop-down menu. The target details and, if applicable, the result of the last calibration are then displayed.

In the further course of a fresh installation, only basic functionalities are initially available. Further functions can be added modularly as extensions via the settings.



CN V7: Initial screen (screenshot)

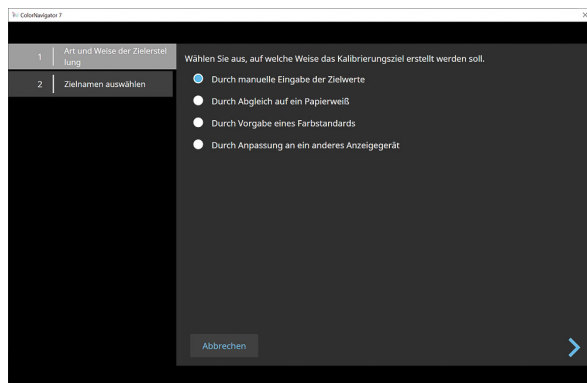


CN V7: Settings with module options (screenshot)

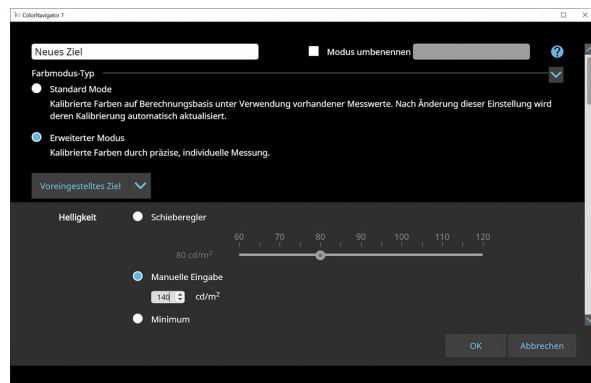
In the following we briefly describe the procedure for creating a new target with manual input of the data. Alternatively, existing targets can be changed and colourimetric target data can be read from ICC profiles or determined by various measurements.

To define or change calibration targets, there is a separate calibration target management under "Monitor settings". There you can define as many different targets as you like and then calibrate them later and assign them to a colour mode.

What was still distributed over several sub-pages in version 6 is now available centrally in one window. The window appears quite small at first and you have to scroll vertically. The following illustrations show individual sections. However, the window is scalable and can be expanded to full screen. This means that you can now see all the settings at once.



CN V7: Initial target creation (screenshot)



CN V7: Brightness (screenshot)

The destination can be freely named and, if desired, also linked to a colour mode. Somewhat hidden at the top is the distinction between extended and standard mode.

1. Brightness, black level and white point

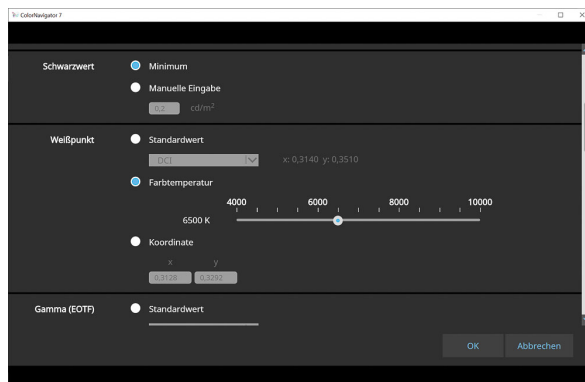
The setting range of the brightness slider can be increased via manual input. Previously, a maximum of 200 cd/m² was also possible there. With version 7.0.7.7, at least with the EIZO CG319X, the complete value range of the OSD is also available (40-350 cd/m²).

For the white point, you can choose between various presets in Kelvin (reference: daylight spotlight, illuminant D) and the individual definition in xy standard colour value components. The black level can be raised in a defined way if desired.

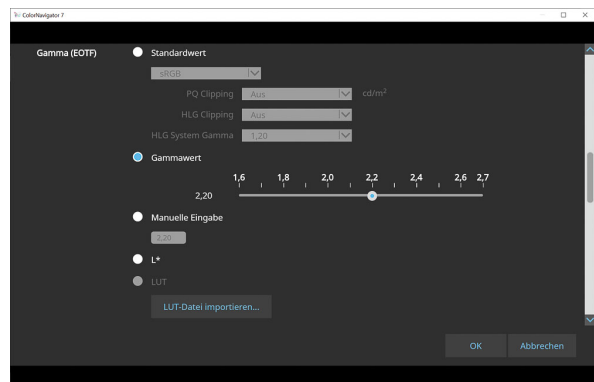
2. Tone value curve

The setting range of the slider for the gamma value can be increased via manual input. For calibration, gamma tone value curves (1.0-2.7) and the L* characteristic are thus initially available. New in CN V7 is the possibility to select standard gamma curves such as the sRGB tone value curve.

Furthermore, individual tone value curves can be defined by specifying a suitable ICC profile - all necessary parameters can nevertheless be flexibly adjusted - or by loading a text file (CSV) with corresponding assignments.



CN V7: Black level, white point (screenshot)



CN V7: Gamma (screenshot)

3. Colour space and grey balance

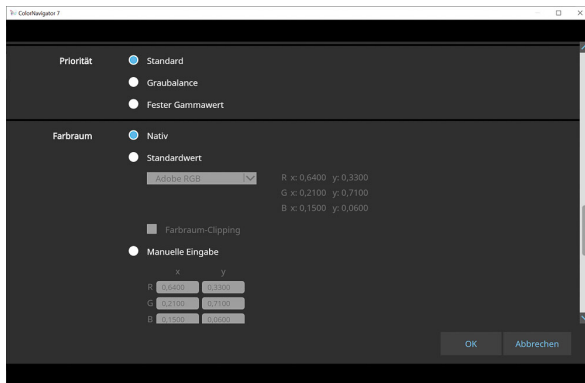
In a colour management-enabled workflow, you will mostly want to work on the basis of the native monitor colour space. This maximises flexibility. Alternatively, a variety of standard colour spaces are available. If this is not enough, the colorimetric data of the primary colours can also be extracted from an ICC profile or defined by specifying the xy standard colour value components.

The choices under "Priority" control the calibration process in relation to the grey axis. With the setting "Contrast" it remains unchanged. The LUT is adjusted accordingly only with regard to the desired white point. "Standard" optimises grey balance and tone curve, but does not raise the black level. By opting for grey balance, the maximum possible neutrality is achieved. This requires raising the black level to avoid colour casts even in the absolute depths.

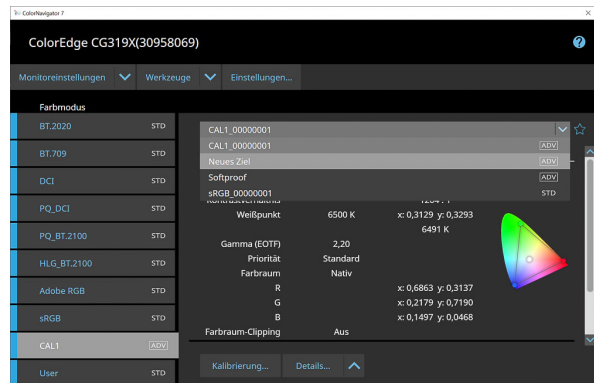
ICC profiles can still be saved as v2 or v4 type. However, this option is now set globally in the overall settings and no longer per target. If this option is changed later, no new calibration is required. The ICC profiles in the colour management of the OS are then simply exchanged by CN V7.

LUT profiles are not generated (only shaper/matrix). In view of the excellent linearity, this is bearable, especially since the characterisation optionally reflects the actual black level of the monitor.

After leaving the calibration target management, one can assign the new target to a colour mode and then initiate the calibration process.



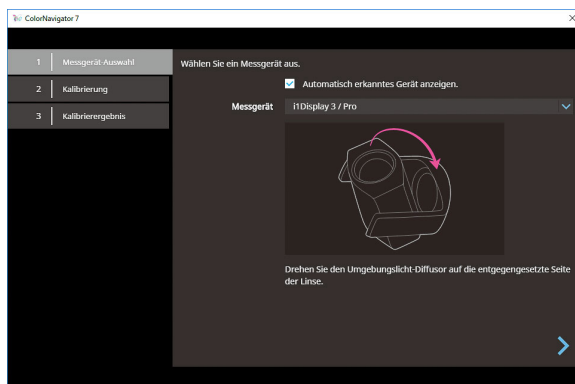
CN V7: Grey balance and colour space (screenshot)



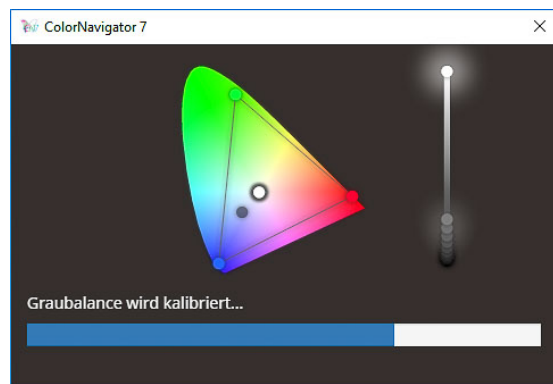
CN V7: Assignment of target to colour mode (screenshot)

If available, you can also use an external measuring device instead of the internal probe. After that, the calibration process is quick and self-explanatory. You are kept up to date on the progress through nicely designed animations.

With the integrated sensor, the entire process takes about 2:30 minutes. With the i1Display Pro from X-Rite, it's almost another minute faster. Compared to many other manufacturers, this is a difference from world-class athlete to old men's team.



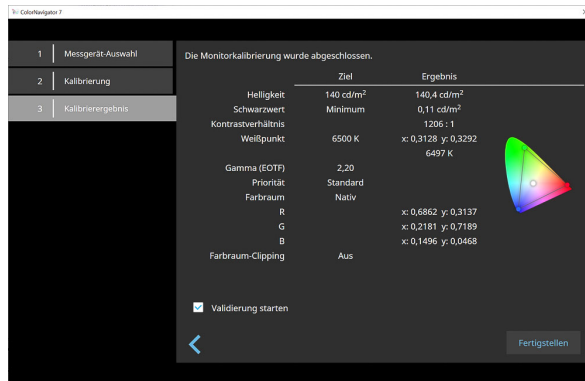
CN V7: Selection of measuring device (screenshot)



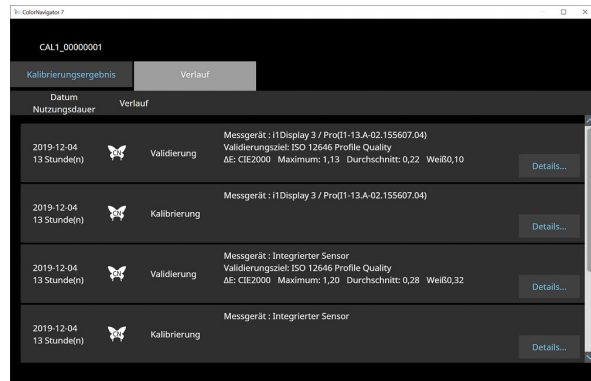
CN V7: Animated calibration process (screenshot)

At the end, the achievement of important parameters is compared with the target. Optionally, a validation can be initiated at the same time. The history of all processes (calibration, self-calibration, validation) is permanently saved and can be viewed clearly. This way, you can also have a detailed PDF report created for a specific process at a later date.

In the professional environment, the presentation of a validation report in connection with colour-critical work in customer contact can be worth hard cash. We have already mentioned the general Fogra certification as a softproof monitor of the EIZO CG319X.



CN V7: Result and optional start of validation (screenshot)

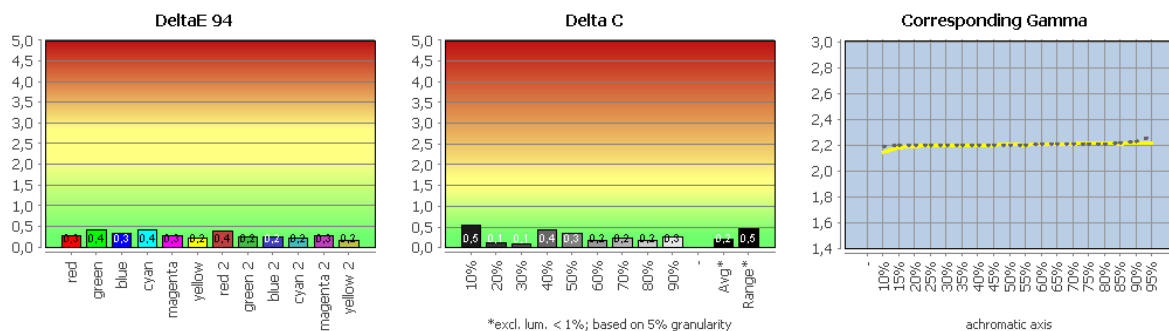


CN V7: History display per image mode (screenshot)

For the following measurements, the unit was calibrated from ColorNavigator (colour gamut "native", gamma 2.2, colour temperature 6500 K, DUE "Uniformity") and profiled.

Neither represents a generally valid recommendation. This also applies to the choice of gradation, especially since the current characteristic is taken into account within the framework of colour management anyway.

Profile validation

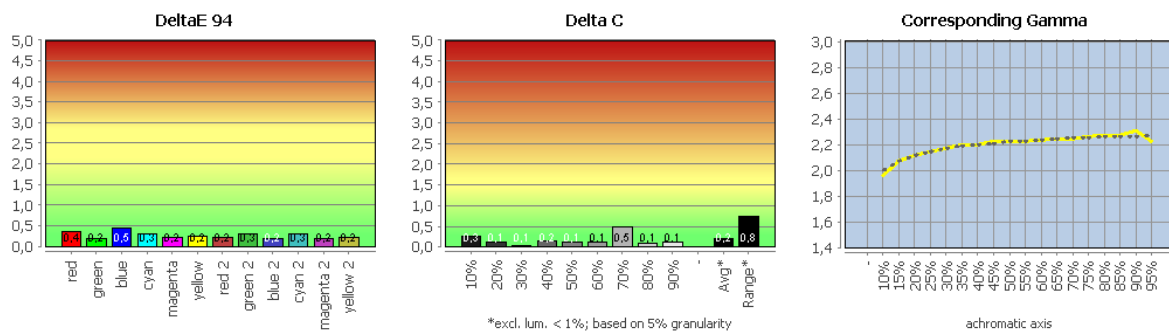


Profile validation

The EIZO CG319X shows no noticeable drifts or unsightly non-linearities. The matrix profile describes its condition very accurately. A repetition of the profile validation after 24 hours showed no significantly increased deviations. All calibration targets were met. The grey balance and colour values are very good.

The detailed test results can be downloaded as a [PDF file](#).

Comparison with sRGB (colour transformed)

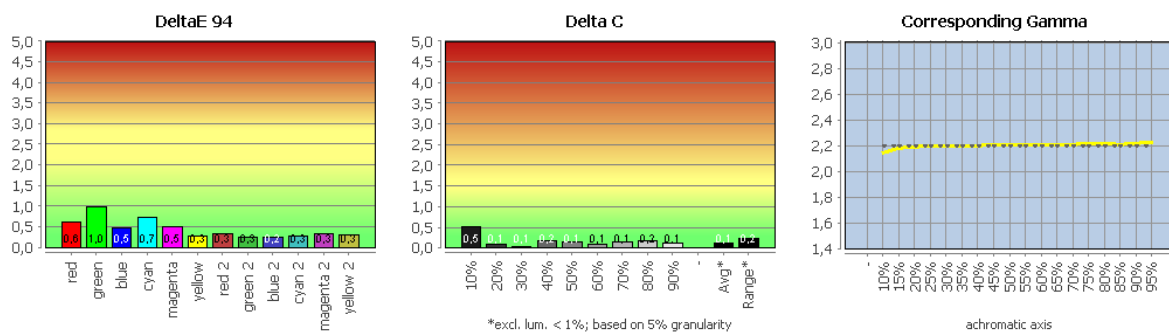


Comparison with sRGB (colour transformed)

Our CMM takes into account the working colour space and screen profile and performs the necessary colour space transformations with colourimetric rendering intent on this basis. The graphics speak for themselves. Overall, the result is excellent for both colour and grey values.

The detailed test results can be downloaded as a [PDF file](#).

Comparison with Adobe RGB (colour transformed)

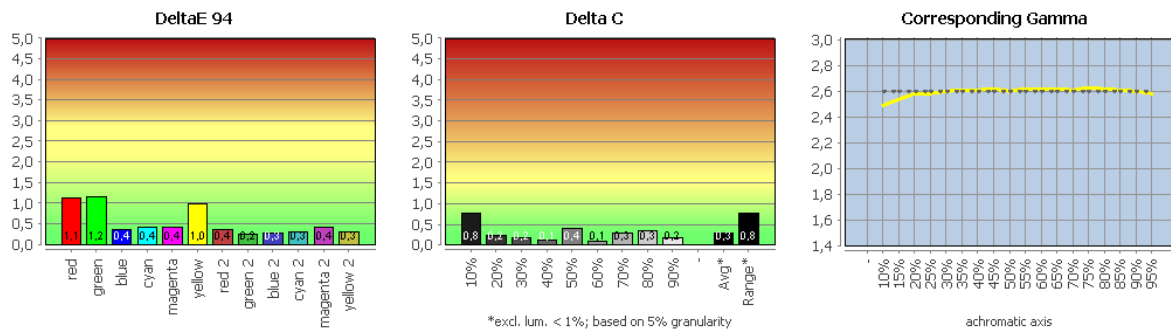


Comparison with Adobe RGB (colour transformed)

The graphics in comparison with the Adobe RGB colour space do not really need to be commented on either - a first-class and precise result in every respect. The same applies to the comparison with the DCI-P3 colour space.

The detailed test results can be downloaded as a [PDF file](#).

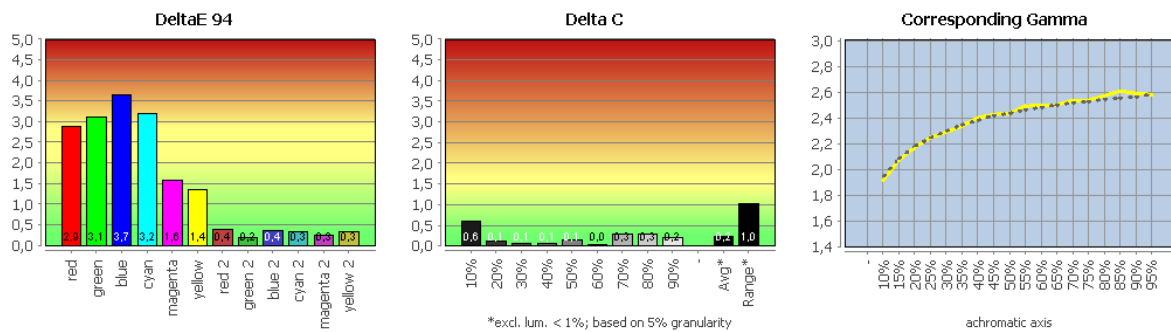
Comparison with DCI-P3 (colour transformed)



Comparison with DCI-P3 (colour transformed)

The detailed test results can be downloaded as a [PDF file](#).

Comparison with ECI-RGB 2.0 (colour transformed)



Comparison with ECI-RGB 2.0 (colour transformed)

In sRGB and Adobe RGB, there are effectively no out-of-gamut colours on the EIZO CG319X due to the large colour gamut. Some saturated tonal values in ECI-RGB v2, on the other hand, can only be approximated by mapping to the colour space boundary. This also increases the risk of tonal value breaks in these areas.

The detailed test results can be downloaded as a [PDF file](#).

Colour space emulations

Colour space emulations serve to limit the colour space of the monitor to a desired target colour space. This is always necessary when accurate colour reproduction is required but the applications or signal sources used do not support colour management. This would be, for example, office applications, most internet browsers or external signal sources such as BD players.

To configure the colour space emulation, the desired colour gamut is defined via the xy standard colour value components of the primary colours. Alternatively, the data can be read from an ICC profile. In this way, the intended tone value curve is also adopted. The setting "Gamut Clipping" forces a colourimetric transformation. Out-of-gamut colours are then shifted to the colour space boundary.

In order to guarantee the most correct representation possible in colour management-capable applications - here, however, one will usually calibrate without monitor-internal colour space emulation - the ICC profile now reflects the emulation characteristics even if the actual monitor colour space is smaller.

A variant that tends to be even more precise - but in any case more comfortable - requires a programmable 3D LUT as a necessary but not sufficient condition at EIZO. This is one of the main differences to the CG2730, which does not have this. The EIZO CG319X offers a 24-bit 3D LUT and is thus also capable of 3D LUT film emulation (10-bit log).

The colour space transformations can therefore be precalculated via a CMM and then transferred to the scaler. For this purpose, the user selects the desired emulation target in the form of an ICC profile and assigns it to an already performed calibration. As long as the characterisation information is correct, the conversions are carried out very accurately and with specified rendering intent. This variant is particularly interesting for professional users in the video sector.

With the factory presets, the EIZO CG279X practically comes with eight colour space emulations. We have already tested three of them at the beginning. With ColorNavigator version 7, these presets are also kept permanently up to date during calibration. Furthermore, since the results are so extremely good - although we calibrated with the built-in sensor and countermeasured with the i1Display Pro without correlation - we also refrain from trying to optimise the result even further here.

A defined display even away from workflows based on ICC profiles is without a doubt possible with the EIZO CG319X.

Reaction behaviour

We tested the EIZO CG319X in native resolution at 60 Hz on the DisplayPort. The monitor was reset to the factory settings for the measurement.

Image build-up time and acceleration behaviour

We determine the image build-up time for the black to white change and the best grey to grey change. In addition, we give the average value for our 15 measuring points.

The measurement value CtC (colour to colour) goes beyond the conventional measurements of pure brightness jumps - after all, one usually sees a coloured image on the screen. This measurement therefore measures the longest period of time that the monitor needs to change from one mixed colour to the other and stabilise its brightness. The mixed colours cyan, magenta and yellow are used - each with 50 % signal brightness.

With the CtC colour change, therefore, not all three subpixels of a pixel switch in the same way, but different rise and fall times are combined.

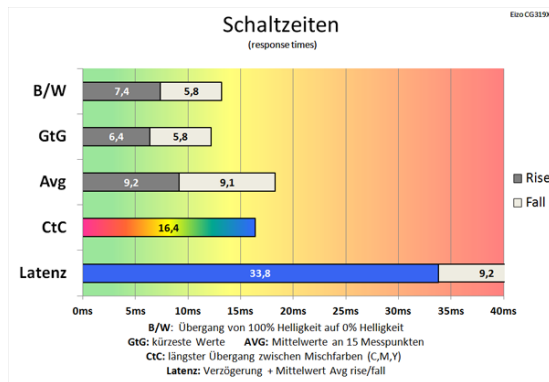
The data sheet mentions a response time of 9 ms for GtG. An acceleration option (overdrive) cannot be found in the OSD of the EIZO CG319X and is obviously not available.

60 Hz

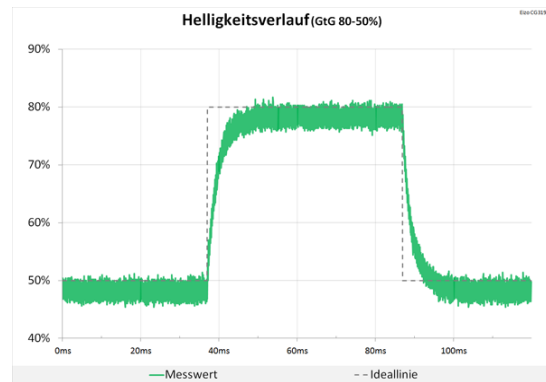
We measure the black/white change with 13.2 ms and the fastest grey change with 12.2 ms. The average value for our 15 measuring points is 18.3 ms and the CtC value is determined with 16.4 ms.

There are no overshoots to be observed, the tuning is completely neutral.

The switching time diagram shows, among other things, how different brightness jumps add up, how fast the monitor reacts in the factory setting in the best case and what average reaction time can be assumed.



60 Hz: Acceptable switching times

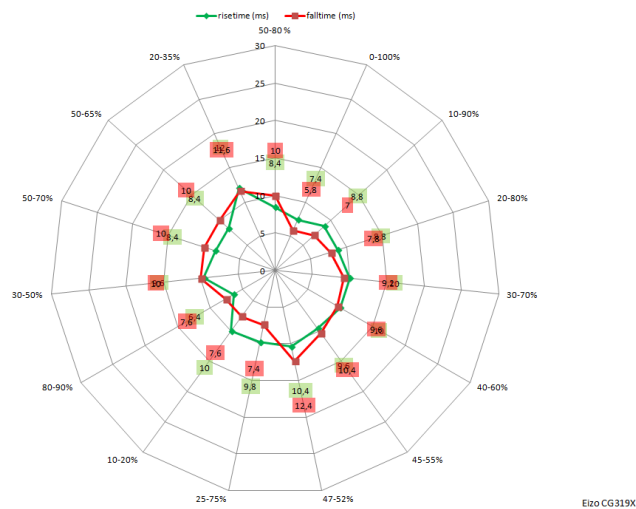


60 Hz: No overshoots

Network diagrams

In the following grid diagrams you can see an overview of all the measured values for the different brightness jumps of our measurements. Ideally, the green and red lines would be close to the centre. Each axis represents a brightness jump of the monitor defined in level and dynamics, measured via light sensor and oscilloscope.

Reaktionszeit bei verschiedenen Helligkeitsübergängen (grey-to-grey)



Network diagram

Latency

Latency is an important value for players, we determine it as the sum of the signal delay time and half the average frame change time.

The EIZO CG319X has half the average refresh time of 9.2 ms. Despite actually still quite good GtG response times, the long latency prevents gaming with the professional monitor specialised in graphics. The signal delay of 33.8 ms is simply too pronounced for this. Overall, the latency adds up to 43 ms.

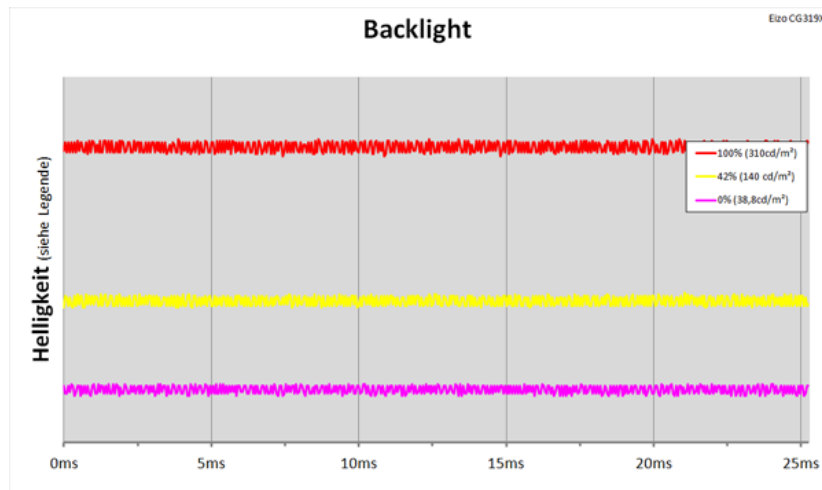
Subjective assessment

The EIZO CG319X is a work device and not a toy. Where it matters - office applications, mouse movements, Photoshop and co. - you don't notice the supposedly mediocre response times. Here, as well as in video playback, the review sample can shine.

However, the device is not designed as a gaming monitor and is therefore only suitable to a limited extent. However, this always depends on the type of game. Casual gamers should not be deterred from trying a game on the EIZO CG319X. In any case, you will be rewarded with excellent picture quality and splendid colour reproduction.

Backlight

The backlight of the EIZO CG319X shines continuously. The comparison in the diagram shows: Both at full and reduced brightness settings, the luminous flux is not interrupted, as would be the case with PWM backlights. Thus, the monitor is also suitable for longer work at reduced brightness.



LED backlight with continuous brightness control

Sound

The EIZO CG319X does have a small beeper on board, but it is only used for acoustic feedback when operating the touch keys.

Apart from that, the EIZO CG319X has neither built-in speakers nor a headphone output. Consequently, it is not recognised as an audio output device on the DisplayPort. In any case, the splitting of image and sound must take place before the image signals are transmitted to the display, otherwise the sound will go nowhere.

DVD and video

HD players such as Blu-ray players, HDTV receivers and game consoles can be connected directly to the HDMI socket of the EIZO CG319X. However, the sound signals must be disconnected from the input player and output elsewhere, as the EIZO CG319X itself does not support any sound playback or sound forwarding.

The EIZO CG319X processes digital RGB and YCbCr signals. An adjustment of the dynamic range is possible via the "Input Range" option. If desired, noise reduction can also be activated (only with HDMI).

Video playback for entertainment purposes is first-class, given the picture quality already described in detail, and needs no further comment. Smooth 24p playback is possible and, if desired, you can also enjoy an extended colour space that can be precisely adapted to common standards. The scaling of important video resolutions - as already explained in the chapter "Interpolation" - also succeeded flawlessly.

Although the EIZO CG319X is also the top option in the CG series for photographers and graphic designers, the device's priority is clearly video post-production. This is already apparent from the resolution and the unusual 17:9 format. As far as we know, the EIZO CG319X is the only monitor besides the EIZO Prominence CG3145 that can natively display the DCI 4K resolution common in digital cinema.

Furthermore, the unit has a 3D LUT. The 3D LUT files can be taken directly from the colour grading of films to generate data for emulation on the monitor. This film emulation is available for up to five colour modes of the screen and is suitable for simulating the colouring of films.

In addition, the EIZO CG319X offers special functions for video editing in the OSD, including "Safe Area", "Aspect Marker" and a 4K zoom for quick assessment of details and sharpness. With the pre-installed HDR presets for HLG and PQ gamma, the proband is also well equipped for processing HDR content.

However, this only helps with editing in the initial stages of the post-production workflow, which is usually done with SDR monitors. The EIZO CG319X cannot reproduce finished HDR content. The corresponding switches in Windows 10 are greyed out. Of course, the device is not designed for this at peak brightness, but at least the extended colour space would be available. In this respect, it is a pity that EIZO denies the model this option.

In the video post-production workflow, you have to use a real HDR reference monitor like the ColorEdge Prominence CG3145 for grading anyway.

Evaluation

Housing processing and mechanics:	4
Ergonomics:	4
Operation/OSD:	5
Energy consumption:	1
Noise generation:	5
Subjective image impression:	5
Viewing angle dependence:	5
Contrast:	5
Illumination (black image):	5
Image homogeneity (brightness distribution):	5
Image homogeneity (colour purity):	5
Colour space volume (sRGB; Adobe RGB; DCI-P3; ECI-RGB v2):	5; 5; 5; 4; 5
Before calibration:	5
Before calibration (sRGB, Adobe RGB, DCI-P3):	5; 5; 5
After calibration (sRGB, Adobe RGB, DCI-P3, ECI-RGB v2):	5; 5; 5; 4
After calibration (profile validation):	5
Interpolated image:	5
Suitable for casual players:	3
Suitable for hardcore players:	1
Suitable for DVD/Video (PC):	5
Suitable for DVD/video (external feed):	5
Price-performance ratio:	5
Price [incl. VAT in Euro]:	approx. 4,407 €
Overall ranking:	4.5 (VERY GOOD)

Conclusion

If one grants the EIZO Prominence CG3145 a special position, then the EIZO CG319X represents the flagship of the CG series in terms of size, resolution and weight. The device is primarily aimed at video post-production. The ability to display DCI 4K content natively is already a unique selling point.

But also for photographers and pre-press, the EIZO CG319X offers the only possibility so far in the 32-inch class to enjoy a hardware-calibratable monitor with 4K resolution in EIZO quality. Working in applications such as Adobe Lightroom and Photoshop is really fun with the test model. The large display area is also welcome when working with office applications. When reading texts, the advantages of the 4K resolution are most noticeable anyway.

The new design of the CG series looks significantly slimmer and more nimble on the desk than the devices of the first generation. Particularly remarkable is the consistent harmony between different models of the CG series. From the outer design to the OSD to the colour space coverage and colour temperature, the units can be placed next to each other and combined with each other at any time without any problems. That is by no means a matter of course.

Extensive ergonomic functions are standard at EIZO. Here, however, the EIZO CG319X surprised us less positively with an extremely sluggish swivel function. Some users might also miss a pivot function. You practically have to look for other points of criticism regarding quality with a magnifying glass.

No one will be surprised that the EIZO CG319X is on the reference level in terms of picture quality. However, our test results confirm this once again very impressively. Conversely, the fact that the review sample is a graphics monitor and not a gaming toy should not surprise anyone either.

Despite the many double-plus ratings, the enormous advantage of EIZO's CG series over the hardware-calibrated solutions of other manufacturers can only be understood when the "ColorNavigator" software and the many features that are not visible at first glance are also taken into account.

EIZO's CG-class graphics monitors incorporate patented electronics that compensate for temperature fluctuations in the unit and the environment, ensuring consistently reliable colour reproduction after just three minutes. This feature alone is worth its weight in gold.

Quality undoubtedly has its price, and with the performance on offer, it is also justified. Nevertheless, the surcharge seems high to us compared to the EIZO CG279X, which with 27 inches and WQHD resolution otherwise offers practically the same performance.

Nevertheless, the EIZO CG319X receives a recommendation from the PRAD editorial team, which it has well and truly earned due to its performance.



Note: PRAD received the CG319X on loan from EIZO for testing purposes. The manufacturer did not exert any influence on the test report, nor was there any obligation to publish it or any confidentiality agreement.

Link to the original test report: <https://www.prad.de/testberichte/test-eizo-cg319x-top-monitor-fuer-dci-4k-content/>

