

Test EIZO EV3450XC: EV series now with 5 MP webcam

34-inch business curved monitor (3800 R) offers a 5 MP webcam, two noise-canceling microphones and USB-C docking with 94 watt PD, KVM switch and LAN port

26.07.2024, Simon Blohm

Introduction

The EIZO EV3450XC is a 34-inch business monitor that will be available in retail stores from mid-August and is already listed in some price search engines for around €1,100 (RRP €1,198) in Germany. As usual with EIZO models from the EV series, there are two color variants (black and white). The black version has the suffix BK (Black), the white model the suffix WT (White). Our test is dedicated to the EV3450XC-BK.

Extra-wide screens with a curvature and webcam have been around for some time. EIZO presented the first curved monitor back in 2020 with the [EV3895 \(test report\)](#), and that's as far as it went. The EV3450XC has a subtle 3800 R curvature and, as an EIZO premiere, an integrated 5 MP webcam. For the Japanese premium manufacturer, it's not necessarily about being the first to use new technologies, but rather about sophisticated and reliable devices.



The FlexScan monitor is available in two color variants: EV3450XC-BK and EV3450XC-WT

The IPS panel of the 21:9 format model measures 34.1 inches diagonally and has a resolution of 3440 x 1440 pixels, which corresponds to a pixel density of 109 ppi. Two HDMI ports, a DisplayPort and a USB-C interface (DisplayPort Alt Mode) are available as signal inputs. External devices can be charged or powered with up to 94 watts. The manufacturer specifies a maximum brightness of 300 cd/m² and a contrast ratio of 1000:1.

With its picture-by-picture mode, docking station including LAN port and KVM switch, 5 MP webcam and numerous ergonomic features and energy-saving functions, the EIZO FlexScan EV3450XC is ideal for use in a business environment or home office.

Detailed information on the features and specifications can be found in the [EIZO EV3450XC data sheet](#).

Scope of delivery

The EIZO EV3450XC is supplied in a cardboard box measuring 94 x 50 x 32.5 cm (W x H x D). Especially with business models, manufacturers nowadays have to pay attention to environmentally friendly packaging. The device is packed and shipped in an environmentally friendly, recyclable cardboard box. Specifically, this means that the usual polystyrene parts are not used and cardboard is also used inside the box. Even the side carrying handles are made of fabric. The inside consists of a kind of cardboard tray, similar to an egg carton in combination with folded and tucked cardboard. The stability is not quite optimal, and after two postings, the cardboard box already looks clearly worn.

The display, cable cover, stand and base are all packed separately in plastic bags or protective sleeves to prevent scratches. The cables, on the other hand, are wrapped in tissue paper. The entire contents can be easily removed from the wide side.

In addition to the monitor itself, the box contains the stand, the stand leg, a cable cover and one cable each for DisplayPort, USB-C, USB-A to USB-B and power. A brochure with safety instructions, assembly instructions for the stand, a quick start guide and a class F energy label are also included.



Scope of delivery

The manual is available as an HTML document on the German EIZO website. The manufacturer is one of the few companies that still publishes manuals worthy of the name.

The helpful additional software is also worth mentioning. Screen InStyle makes it easy to manage various settings such as power consumption, colors and brightness. With Screen InStyle Server, system administrators also have the option of controlling monitors and PCs in the network. Drivers, which are generally not necessary, and color profiles were not yet available online at the time of testing.

Optics and mechanics

The screen still needs to be connected to the stand. First, the arm and the stand are mounted. This is done without tools using two wing screws. In order to keep the display stable in place, a rubber coating is attached to the underside of the stand, not at specific points, but around the sides. This effectively prevents the monitor from slipping when turned sideways and enables safe and convenient one-handed operation. Although this makes it somewhat more difficult to move the monitor around on the desk, it generally stays in place after the initial adjustment.



Base from below

Turned U-shaped base

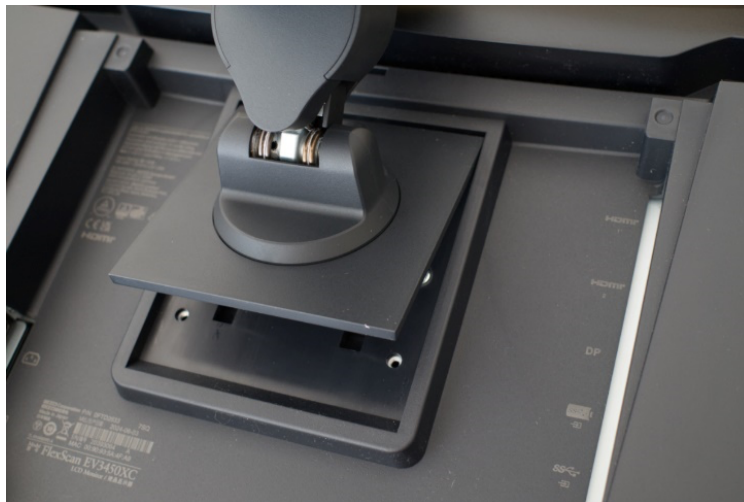
The stand construction is then placed on the back of the display and pressed down until it clicks into place. The monitor is left in the box for secure installation. The fully assembled EIZO EV3450XC can then be easily lifted. To release the arm again, simply press the push button provided.



Support leg from the front

Support leg from behind

The stand has the dimensions 31 x 23 x 1.4 cm (W x D x H). The minimum standing depth of the EIZO EV3450XC is approx. 20 cm - measured from the rear stand to the side frame.



Mounting the support leg

A VESA mount with 100 x 100 mm is also provided. The necessary mounting holes are directly accessible after dismantling the stand.



VESA 100 mounting option

The EIZO EV3450XC weighs a total of 12.1 kg and is therefore comparatively heavy. This also applies to the display alone, which weighs 9.2 kg without the stand. Although the weight itself is not the only quality criterion, it gives the current model a robust and high-quality impression. The screen is well stabilized and remains largely steady even when operating the OSD.



Front view in the highest position

Rear view in the highest position



Front view in the lowest position

Rear view in the lowest position

The frame of the display measures 2 mm at the sides, 16 mm at the top and 25 mm at the bottom. The webcam with microphones and the infrared sensor are integrated in the upper frame, while the speakers, sensor buttons, status LED and light sensor are integrated in the lower frame. During operation, there is an additional panel frame up to the actual image display. This is 7 mm at the sides and top and 3 mm at the bottom and is created by the unused display area.



Lateral rotation to the left, maximum up to 90° possible
Lateral rotation to the right, maximum up to 90° possible

Thanks to the two-stage design, the height of the leg can be adjusted by 19.5 cm and lowered almost to the foot. The distance to the table surface is 3 cm. The two-stage design is not noticeable when handling. However, a little more force is required to adjust the height.



Decent degree of curvature of 3800 R (Image: EIZO)

The display of the EIZO EV3450XC has a subtle curvature of 3800 R. The "R" in a curved monitor stands for "radius". The preceding number indicates the curvature radius (in mm) of the screen. The higher the preceding number, the flatter it is. For example, a model with a curvature of 3000 R has a radius of curvature of 3000 mm, i.e. 3 m. In the current model, the radius of curvature is 3.8 m.



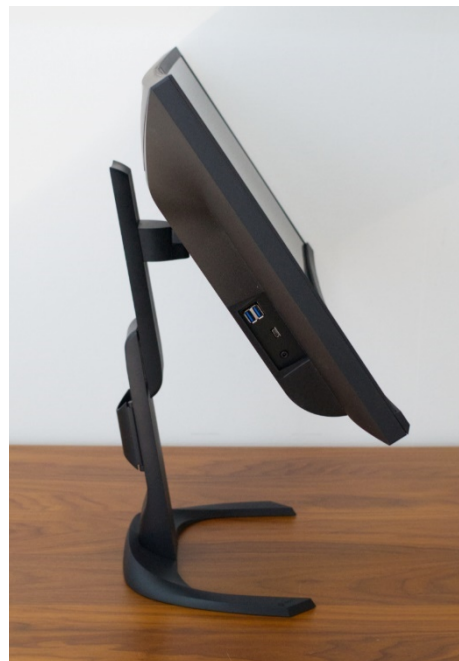
Joint for tilting and lateral rotation

Otherwise, EIZO shows an exemplary implementation of the other ergonomic functions, both in terms of scope and mechanics. The tilt is flexibly adjustable from -5 to +35 degrees. The screen can be rotated sideways by 90° to the right and left. A 90° rotation into portrait format (pivot) is not possible, which would not make sense for a curved monitor anyway.



Maximum tilt angle to the front

Maximum tilt angle to the rear



The EIZO EV3450XC has been equipped with a cable holder so that the cables don't hang down in an untidy manner. It is already connected to the stand and can be opened

with a little sideways pressure. When closing, the plastic latch snaps back into place. There is sufficient space for bundling the cables.



Cable management: cover open

Cable management: cover closed

On the EIZO EV3450XC, the power supply unit is integrated into the housing and has a separate power switch so that the device can be completely disconnected from the mains. Ventilation slots are located on the rear below the EIZO logo. The rear only heats up slightly.

Technology

Operating noise

With the EIZO EV3450XC, we were able to detect a very quiet operating noise during operation, which can still be heard minimally even at a distance of 60 cm, at least when the room is absolutely quiet. We were able to localize the noise at the bottom left of the rear, where the USB-C ports are located.

However, it should be noted that the noise development may be subject to a certain series variation. Therefore, this assessment does not necessarily apply equally to all appliances in the same series.

Power consumption

	Manufacturer	Measured
Maximum operation	222 W	38,7 W
Operation minimum	k. A.	12,8 W
Typical operation	23 W	-
140 cd/m ² (77 %)	k. A.	23,9 W
Energy-saving mode (standby)	0,4 W	0,5 W
Switched off (soft-off)	k. A.	0,4 W
Switched off (mains switch)	0 W	0 W

Measured values without additional consumers (loudspeaker and USB)

EIZO states a maximum power consumption of 222 watts in the data sheet, which seems enormous at first glance. However, the value is put into perspective as it refers to the requirement at maximum brightness and the operation of all signal and USB connections.

According to our measurements, the power consumption at maximum brightness is only 38.7 watts. The effect of the soft-off button is small. Even in standby mode, we measured a consumption of around 0.5 watts. The power consumption can also be completely cut with the dedicated power switch.

At 140 cd/m² at the workstation, the measuring device displays 23.9 watts, which roughly corresponds to the typical consumption specified by EIZO. The efficiency at this brightness is an excellent 1.8 cd/W.

Connections

In terms of signal inputs, the EIZO EV3450XC has two HDMI ports, a DisplayPort and a USB-C interface (with DisplayPort alternate mode). All interfaces support HDCP 2.3. The USB-C port also serves as a data upstream and for powering external devices with 94 watts. There is also a LAN (RJ-45) and a USB-B socket (upstream) on the connection panel.



Connections left

A special feature is the positioning of the connections, which are not arranged horizontally at the bottom as usual, but vertically on the right and left sides. There is a cable cover so that the rear also looks tidy, which benefits the appearance if the monitor is to stand freely in the room.



Power and mains switch on the right

Another USB-C port (downstream and charging function with 15 watts), two USB-A sockets (downstream) with 5 Gbit/s and a headphone output (3.5 mm stereo jack plug) are located on the left-hand side.



Further connections on the left-hand side of the bay window

Operation

The EIZO EV3450XC has six electrostatic control elements, which are located to the left of the centrally positioned power button. The speakers and the brightness sensor are also integrated into the lower frame. Operation with the touch buttons is very well done. They are very responsive and can be operated comfortably and reliably. There is no acoustic feedback. The small, line-like protrusions are barely recognizable. However, it is sufficient to touch any control element and the individual functions are displayed on

the screen surface. EIZO remains true to the proven operating concept and dispenses with a 5-way joystick. However, we don't miss it as long as the operation works perfectly.



Electrostatic controls

The very discreet operating LED is located on the right-hand side of the lower frame, next to the light sensor. When the monitor is in operation, the LED lights up white; in idle mode, the color changes to orange. If you find the LED lighting annoying, you can deactivate it completely in the OSD or dim it to your own preference.



White illuminated LED in operating mode



In idle mode, the color changes to orange

OSD

A quick selection can be called up by pressing any button. Signal source, display modes, EcoView, volume and brightness can be selected without having to go through the menu. The "Menu" button takes you directly to the main menu, which only has six levels.

Unfortunately, the display duration of the OSD cannot be adjusted. It closes automatically after about 45 seconds.



Menu entry and quick selection

The functions offered are clearly and simply structured for a business monitor and are equally professional and user-friendly. With many manufacturers, the functions that are available as direct buttons can also be found in the actual main menu. EIZO goes its own way here. Only the brightness and color modes can also be set in the main menu under "Color". This makes sense because otherwise you would always have to go back to the quick selection.

All important settings for software calibration, including the color temperature and gamma controls, are available.

Signal source: Here you can choose between USB-C, DisplayPort, HDMI 1, HDMI 2 and PbP.

Color modes: User1, User2, sRGB, Paper, Movie and DICOM are available. The User modes are used to set a user-specific screen mode and DICOM can display digital images for medical purposes based on DICOM Part 14. However, the EIZO EV3450XC is not intended for diagnostic purposes.

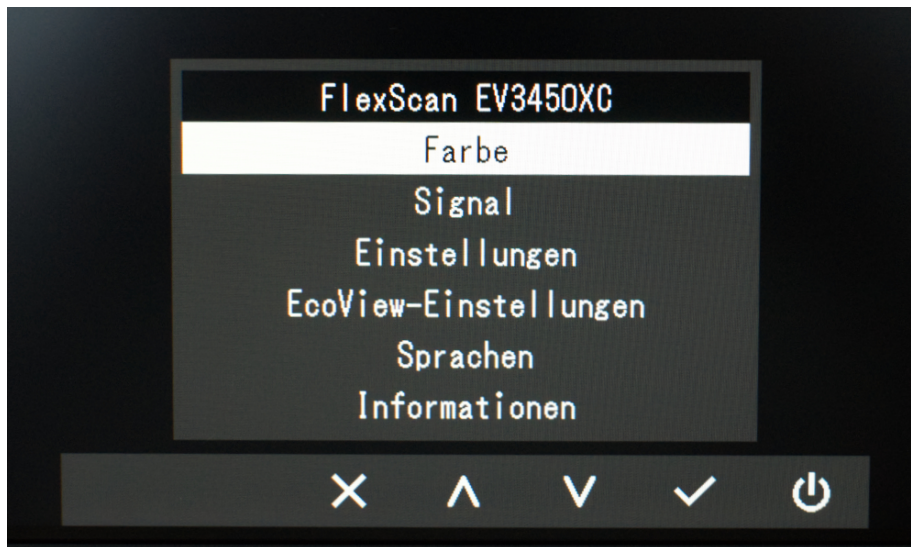
EcoView settings: The power saving option, CO2 reduction and eco performance level are checked here. Auto EcoView can be switched on and off. The ambient light sensor automatically detects the ambient brightness and adjusts the screen brightness automatically. EcoView Optimizer 2 can be switched on and off. Here the monitor automatically optimizes the screen brightness - according to the white value of the input signal.

The ergonomics of the EIZO EV3450XC are not only enhanced by the mechanics, but also by the electronic components. A sensor continuously measures the changes in ambient light and optimizes the screen brightness accordingly. It also takes into account the user preference, which is available in the form of the set brightness value. This serves as a starting point to adjust the luminance almost unnoticed when the ambient light changes. This offers the double advantage of relieving strain on the eyes and saving energy and costs at the same time.

Volume: The volume of the speakers or headphones can be adjusted from 0 to 30.

Brightness: The brightness can be adjusted from 0 to 100 under this menu item.

Menu: The button takes you to the main menu, which contains six levels.



OSD: Main menu

Color: Under this menu item, the color modes ("User1", "User2", "sRGB", "Paper", "Movie" and "DICOM") can be selected as well as adjustments to brightness (0 to 100), contrast (0 to 100), color temperature ("Off" or from 4000 K to 10,000 K in steps of 500 K, including 9300 K), gamma (1.8, 2.0, 2.2 and 2.4), overdrive ("Enhanced", "Standard" and "Off"), hue (-50 to 50), saturation (-50 to 50) and gain (RGB values from 0 to 100). It is also possible to reset the saved values for each mode. Not all menu items are available for every mode. For example, nothing can be changed at all in "DICOM" and only the brightness value can be set in "sRGB". In the two modes "User1" and "User2", however, all values can be adjusted.

Signal: "Window selection" refers to the page on which the signal is to be displayed with PbP. The scaling ("Automatic", "Full screen", "Aspect ratio" and "Dot by dot") can be set under "Picture enhancement", whereby the automatic function only works on the HDMI inputs. With "Sharpness" (0 to 2), it is possible to optimize the font sharpness, which also works in the native resolution. In addition, the input color space ("Automatic", "YUV 4:2:2" (HDMI only), "YUV 4:4:4" (HDMI only), "YUV" (DisplayPort and USB-C only) or "RGB") and the input range ("Automatic", "Total" and "Limited") can be set.

Settings: This item offers options for saving energy ("On" and "Off") - it should be set to "On" because otherwise the monitor will not switch to standby mode and will remain switched on. A message is then displayed in the top right-hand corner indicating that there is no signal. There is also the "Indicator" ("Off", "1 to 7") item, which can be used to switch off the operating LED or dim the brightness. If two PCs are connected to one monitor, the input signal can be linked to the USB upstream connection. USB selection is possible for DisplayPort as well as HDMI 1 and HDMI 2 (USB-C or USB-B). Furthermore, the EIZO EV3450XC can be reset to the factory settings here.

EcoView settings: In the "EcoView settings" menu, the power saving, CO2 reduction and eco power level can be checked. The more indicator lamps that represent the eco performance level, the higher the energy saving level achieved. Otherwise, only Auto EcoView and EcoView Optimizer 2 can be switched on or off.

Languages: A total of nine languages are available (English, German, French, Spanish, Italian, Swedish, Japanese, Simplified Chinese and Traditional Chinese).

Information: Under this menu item you can check the model name, serial number, firmware version, usage time and input signal information.

Administrator Settings

Pressing the power button and the left button simultaneously for two seconds when switching on opens the "Administrator Settings" menu. Further settings are available here. This menu is only available in English, regardless of the language setting selected in the OSD.

Auto Input Detection: If the monitor is connected to multiple PCs and a specific computer switches to power saving mode or no signals are received by the EIZO EV3450XC, it will automatically switch to the port that is receiving signals. The function can be switched on or off. It is switched off by default and does not work in PbP mode.

Compatibility mode: This can be switched on or off. It is deactivated by default and can be activated, for example, when the positions of windows and icons change, when the monitor is switched on or off or after exiting energy-saving mode. Compatibility mode should also be activated if the mouse or keyboard does not activate the PC from sleep mode.

Ethernet: The LAN socket can be activated or deactivated here.

Signal format (USB-C): The type of signal that can be displayed on the monitor can be changed. The default setting is "USB 5Gbps". Alternatively, the setting "USB 2.0 (480 Mbps)" can be selected.

On-screen logo: Here you can select whether the EIZO logo should be displayed at startup.

Key Lock: To prevent changes to the settings, the operating switches on the front of the monitor can be locked. The options are "Off", "Menu" and "All".

Factory Reset: Resets the settings to the default settings.

Apply: The settings are applied and the "Administrator Settings" menu is closed.

Picture quality

The panel frame and the surface of the panel are matt and effectively anti-reflective. Light coming in from the side or a viewer wearing light-colored clothing produces only subtle reflections on the screen when the screen content is very dark. However, they increase from an extremely lateral position.

When resetting (factory settings), the EIZO EV3450XC sets the following values:

Picture mode:	User1
Brightness:	87
Contrast:	50
Gamma:	2,2
Color temperature:	6500 K
RGB:	96/100/90

The energy saving options Auto EcoView and EcoView Optimizer 2 have been deactivated. These values were used for the following assessment with factory settings.

Resolution

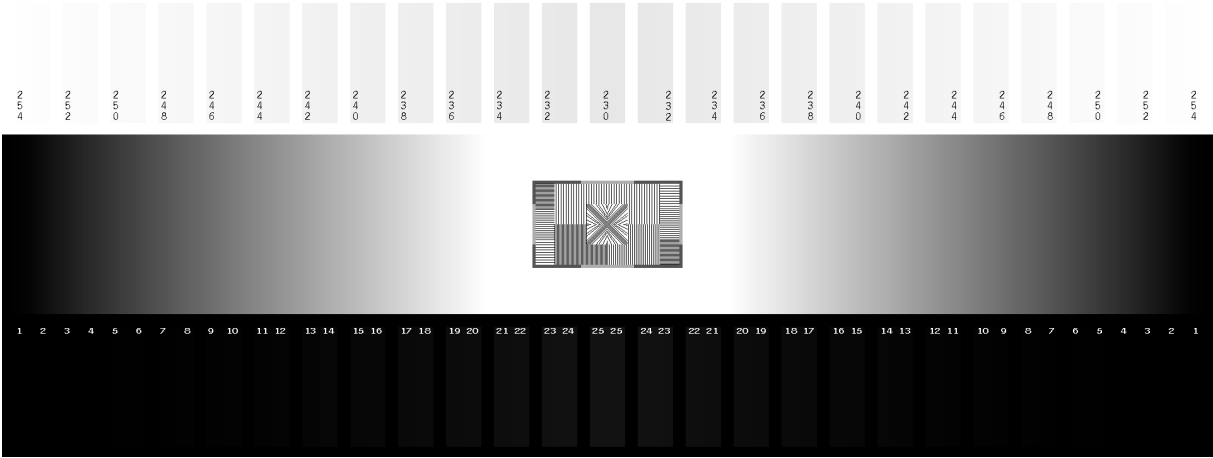
The 21:9 ultrawide resolution (3440 x 1440 pixels) is spread over 34 inches and therefore offers 109 ppi. The term ppi stands for "pixels per inch". This unit of measurement describes the resolution of an image, but does not specify the output size.

In the native resolution, the font display is the same as on a 27-inch WQHD monitor (2560 x 1440). If the font is too small for you, you can go to 125% with 87 ppi. The font display is sharp and can be adjusted to your own needs via ClearType under Windows if required.

Grayscale

The gray balance of the EIZO EV3450XC makes an excellent impression right out of the box. The gray levels appear completely neutral. The brightest levels can be distinguished

completely and the darkest up to and including level 4. Both halves of the screen appear completely identical.



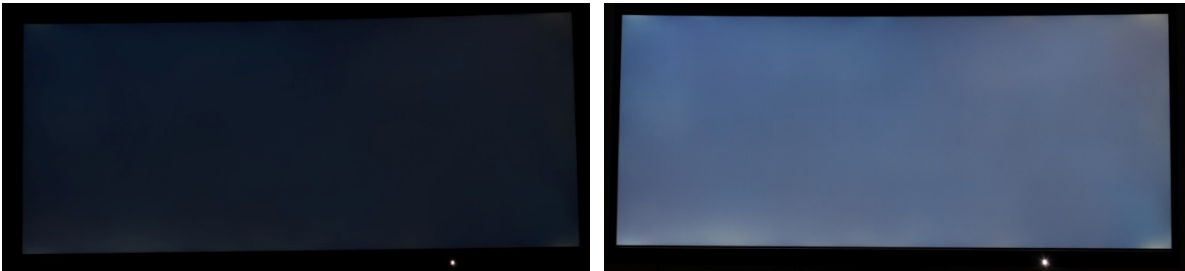
Test image Grayscale display

Even the finest gray gradients are reproduced extremely precisely and seamlessly. No color distortions or banding effects are visible. The EIZO EV3450XC certainly owes this remarkable result to the use of a 14-bit LUT (look-up table) for internal processing. This corresponds to an actual display of 1.06 billion color gradations. With other screens, the specification is often based on an 8-bit calculation, which is enhanced by FRC ("Frame Rate Control").

In contrast to the monitors in EIZO's CG series, the EV3450XC can only be set to an 8-bit signal on the output side in the graphics card driver. Nevertheless, the higher internal precision proves to be advantageous when processing fine gray and color gradients.

Illumination

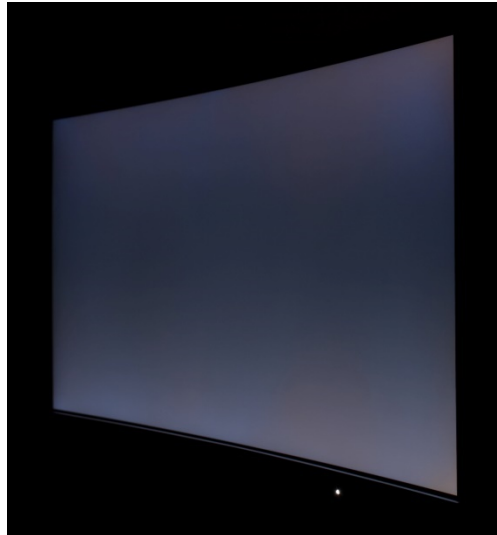
The photo on the left shows a completely black image approximately as seen with the naked eye in a completely darkened room; the conspicuous weaknesses are visible here. The photo on the right with a longer exposure time, on the other hand, emphasizes the problem areas and only serves to make them clearer.



Illumination with normal exposure

Illumination with extended exposure

When viewed from the center, brightening can be seen in the corners, but this is purely due to the viewing angle and is caused by the glow. They disappear when the relevant areas are viewed vertically. Overall, the illumination can be rated as good.



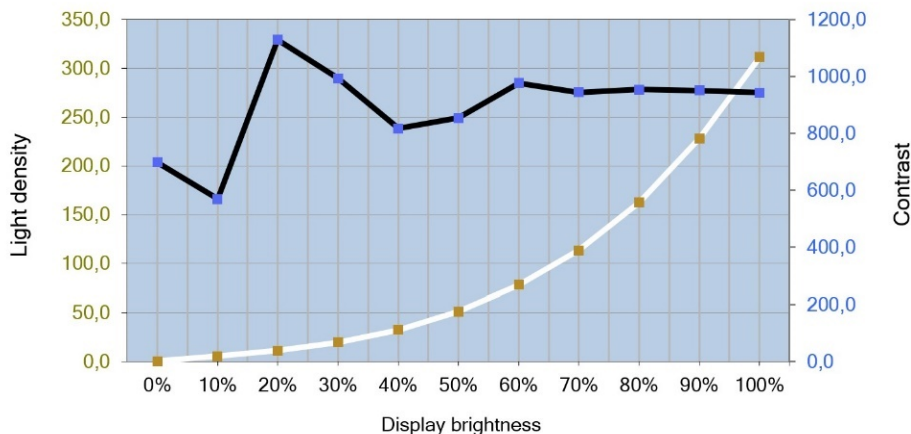
Glow

If you move further away from the central sitting position, the usual effect of the IPS glow becomes visible, whereby it is most noticeable at diagonal viewing angles. This is a typical behavior of an IPS panel.

Brightness, black level and contrast

The measurements are carried out 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 carrying out the test series with a native white point.

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



Brightness and contrast gradient

With a native white point, we achieve a maximum brightness of 312 cd/m², which is slightly above the manufacturer's specified mark of 300 cd/m². However, the luminance can be reduced to such an extent that you can no longer see anything on the monitor and the contrast values determined are not very meaningful. Sensible use of the brightness control generally only starts at a value of 30% (20 cd/m²). The graph shows the entire brightness range. In the average calculation, we have only taken into account the contrast values from 20 %.

As with practically all devices in the EV series, the brightness increase on the EIZO EV3450XC is not linear as usual, but progressive. In any case, the maximum brightness is completely sufficient. However, normal working brightness levels are only achieved at settings above the 70 percent mark.

The manufacturer specifies the contrast ratio of the IPS panel as 1000:1. According to our measurements, it is a good 922:1 after calibration. The average value of our measurements is 952:1 and the maximum value is 1130:1.

Image homogeneity

We examine the image homogeneity using 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 centrally measured value in each case. The perception threshold for differences in brightness is around 10 %.

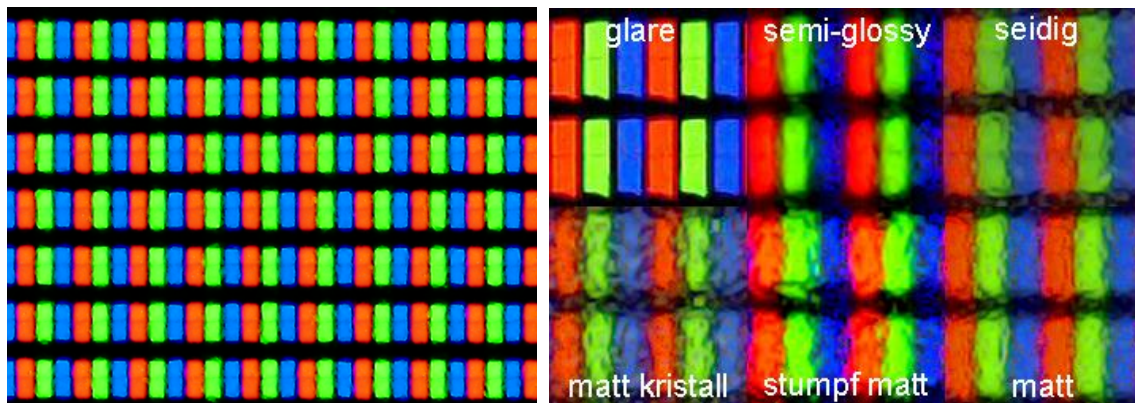
-15.69%	-10.64%	-9.22%	-4.32%	-5.92%	2.47	1.52	0.83	1.34	1.81
-13.6%	-10.57%	0.0%	-4.9%	-7.21%	1.7	0.84	0.0	0.67	1.3
-11.77%	-8.09%	-4.27%	-2.89%	-8.82%	2.42	1.26	1.26	0.45	1.34

Brightness distribution in %
Color homogeneity in Delta C

In terms of color homogeneity, the EIZO EV3450XC performs well both in terms of the average value and the maximum deviation (Delta-C average: 1.37; Delta-C maximum: 2.47). The brightness distribution shows a maximum deviation of 15.69% and an average of 8.42%, which is a satisfactory result in both cases.

Coating

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



Coating of the EIZO EV2740X
Coating reference image

Microscopic view of the subpixels, with focus on the screen surface: The EIZO EV3450XC has a matte surface with subtle microscopically visible indentations for diffusion.

Point of view

The manufacturer's specification for the maximum viewing angle is 178 degrees horizontally and vertically. These are the typical values for modern IPS and VA panels. The photo shows the screen of the EIZO EV3450XC with horizontal viewing angles of approximately ± 60 degrees and vertical viewing angles of $+45$ and -30 degrees.



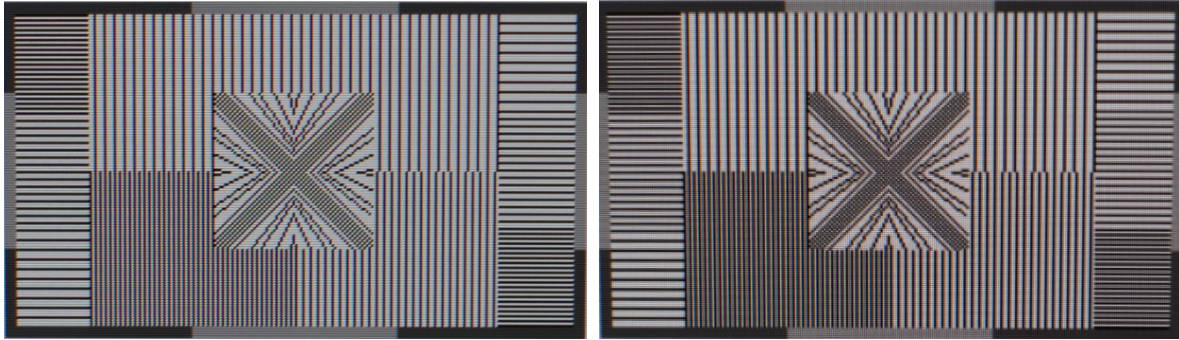
Horizontal and vertical viewing angles

IPS panels are generally characterized by excellent viewing angle stability. The EIZO EV3450XC shows a very good performance. Even the unavoidable loss of brightness and contrast is only slight at extreme viewing angles. The color temperature also remains almost unchanged. The same applies to the colors and color saturation.

Interpolation

In the OSD menu under "Signal" there is an option to adjust the sharpness, which is also active in the native resolution. The sharpness (0 to 2) can be adjusted to optimize the text display. The sharpening is discreetly visible and both level 1 and level 2 can be used depending on taste. Ultimately, this only makes sense if the resolution does not correspond to the native resolution.

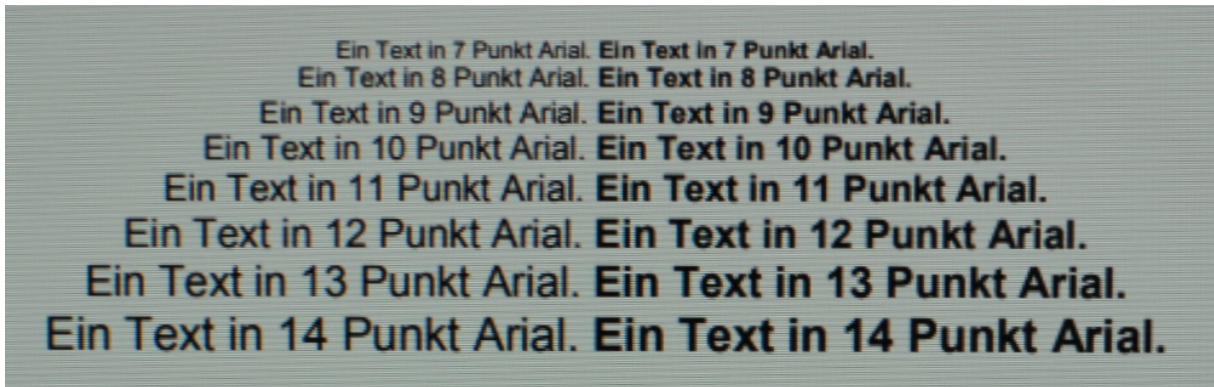
The EIZO EV3450XC offers the options "Full screen" (possibly distorted), "Aspect ratio" (undistorted) and a pixel-perfect 1:1 display for input signals that deviate from the native resolution. However, "Automatic" is only available for the HDMI inputs.



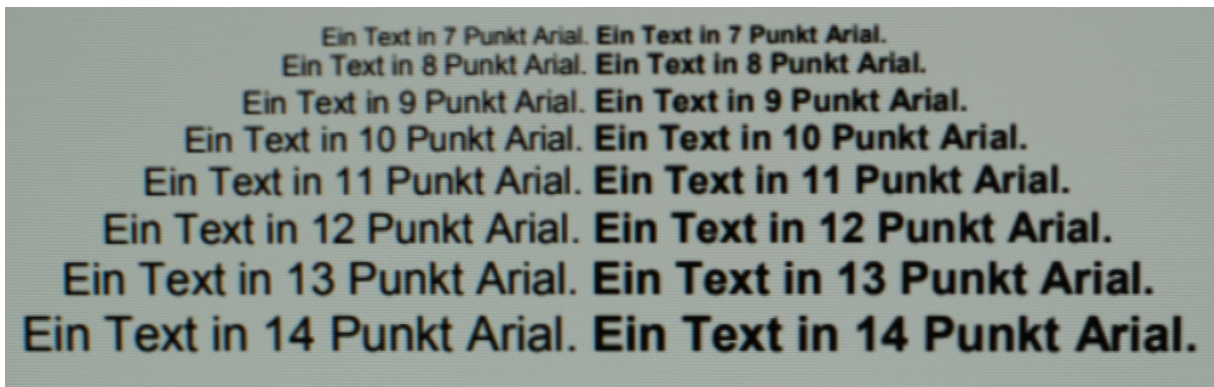
Test graphics native, full screen

Test graphics 1920 x 1080, aspect ratio

The interpolation capabilities of the EIZO EV3450X are first class. This applies to both the scaling options and the conversion. As expected, the sharpness in the native resolution is very good. In the 1920 x 1080 resolution, it is noticeable that text is displayed somewhat bolder. Color fringing does not occur.



Native text reproduction, full screen



Test graphics 1920 x 1080, aspect ratio

In all interpolated resolutions, the legibility of the texts and the presentation of the test graphics are - depending on the scale - good to very good. The unavoidable interpolation artefacts are minimal. Even texts in bold are still easy to read.

In PC operation, scaling should be left to the graphics card, which can display the image signal as full screen, aspect ratio or 1:1. Unfortunately, the interpolation options of

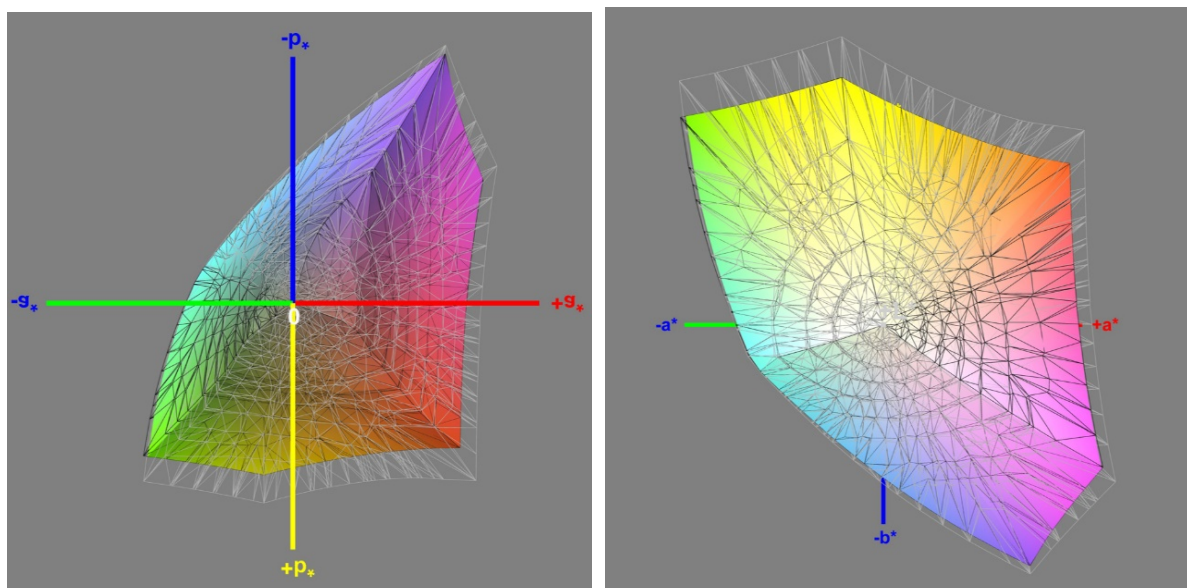
monitors are becoming increasingly limited in this area. However, since we wanted to test what the EIZO EV3450XC can do, we specified in the graphics card settings that the display device should take over the scaling and a 1:1 image should be output by the graphics card.

The scaling of the EIZO EV3450XC is exemplary, only in the 1920 x 1200 (16:10) format can the monitor not display an aspect ratio and instead displays a 1:1 image. The aspect ratio display under Chromecast shows minimal distortion at 576p.

Signal	Distortion-free, maximum area-filling reproduction	Unscaled playback
SD (480p)	Yes	Yes
SD (576p)	Yes (partially)	Yes
HD (720p)	Yes	Yes
HD (1080p)	Yes	Yes
Ultra HD, 4K	No	No
PC (5:4)	Yes	Yes
PC (4:3)	Yes	Yes
PC (16:10)	Yes (partially)	Yes
PC (16:9)	Yes	Yes

Color rendering

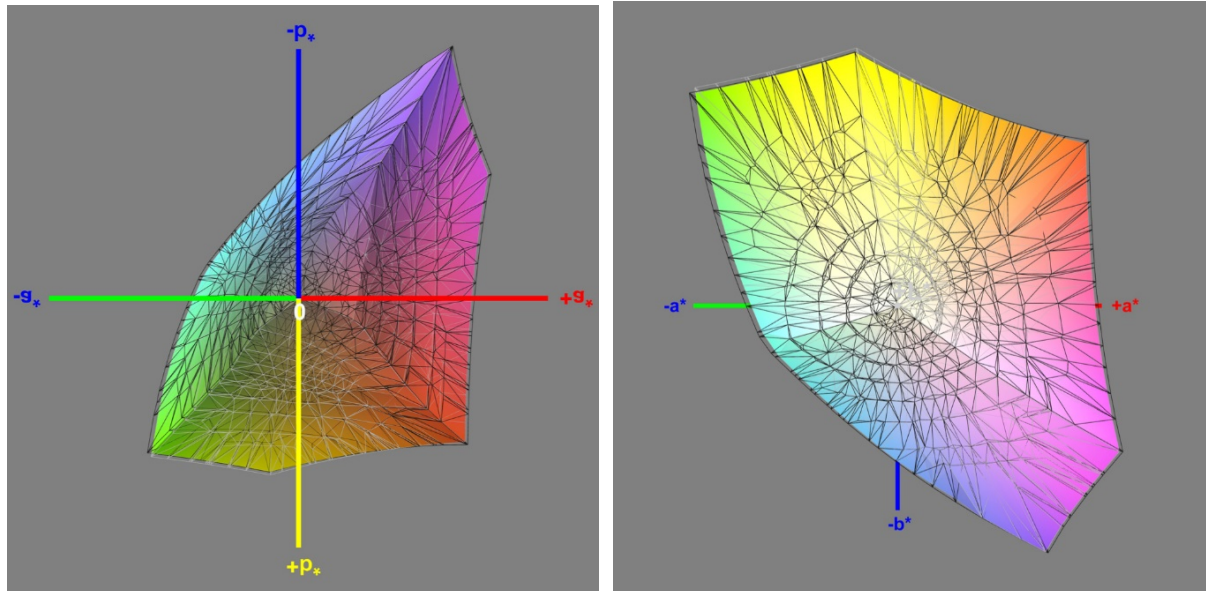
EIZO does not provide any further details on the color space coverage of the EV3450XC. The following graphics show the color space coverage in User1 mode (6500 K) after the software calibration. It is clearly visible that 99% of the sRGB color space is covered. However, the color gamut goes far beyond the sRGB color space. A lack of color gamut is indicated by a black grid, greater coverage by a light grey grid.



Coverage of the sRGB color space after calibration, 3D slice 1

Coverage of the sRGB color space after calibration, 3D slice 2

The EIZO EV3450XC also has an sRGB mode, which should ideally limit the slightly extended color space accordingly. As can be seen from the following graphics, this works extremely well. The sRGB color space coverage is 97%. The black grid is therefore not completely filled.



Coverage of the sRGB color space in the sRGB preset, 3D slice 1

Coverage of the sRGB color space in the sRGB preset, 3D slice 2

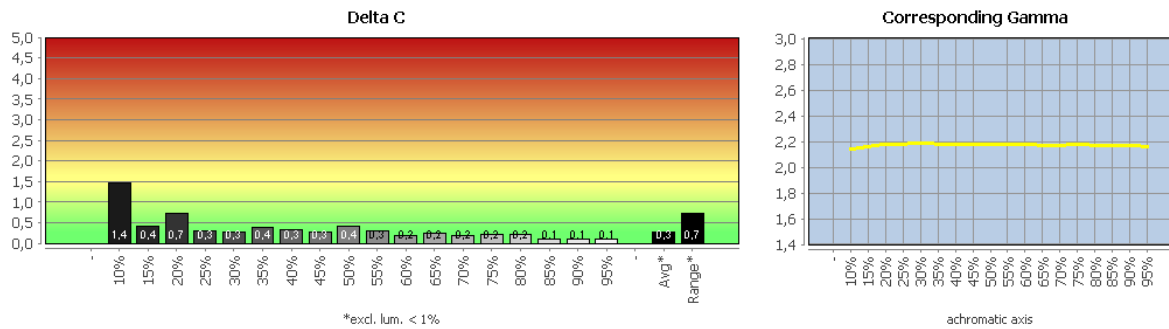
The following table summarizes the results for the factory preset and after software calibration.

Color space	Cover in factory preset	Coverage after calibration
sRGB	97 %	99 %
Adobe RGB	-	73 %
ECI-RGB v2	-	66 %
DCI-P3 RGB	-	77 %
ISO Coated v2 (FOGRA39L)	-	90 %

Measurements before calibration and profiling

Color mode: Custom (factory setting)

We have summarized the explanations for the following charts for you: Delta-E deviation for color values and white point, Delta-C deviation for gray values, and gradation.

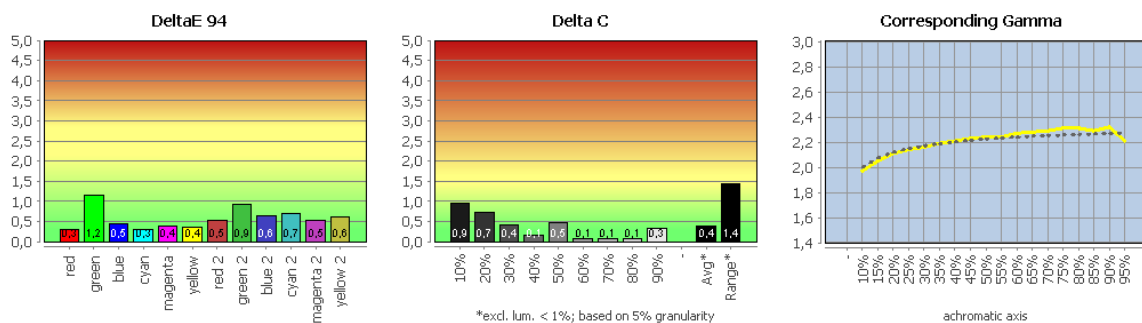


Gray balance in the factory setting, picture mode "User1"

This result is excellent and impressive for a business monitor. The gray balance (Delta-C-Average: 0.28; Delta-C-Range: 0.72) of the EIZO EV3450XC is already very good by factory standards. The gamma (average: 2.17) is just about on target.

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

Comparison of sRGB mode with the sRGB working color space



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

The results for the gray balance (Delta-C-Average: 0.28; Delta-C-Range: 1.44) and for the color values (Delta-E94-Average: 0.58) are good to very good. However, this is only due to the slightly higher range. The gamma curve averages 2.21 and is largely standardized. The gamma value of 6520 K is a precision landing and the brightness can also be adjusted in sRGB mode.

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

Measurements after calibration and profiling

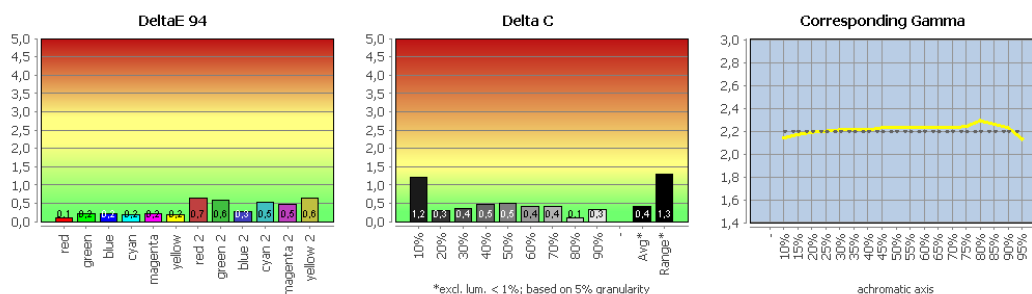
For the following measurements, the device was calibrated and profiled from DisplayCal 3. The target brightness was 140 cd/m². D65 was selected as the white point. Neither is a generally valid recommendation. This also applies to the choice of gradation, especially as the current characteristics are taken into account anyway as part of the color management.

The following values were set for the calibration in the OSD:

Picture mode:	User1
Brightness:	76
Contrast:	50
Gamma:	2.2
Color temperature:	From
RGB:	96/100/89

Profile

validation



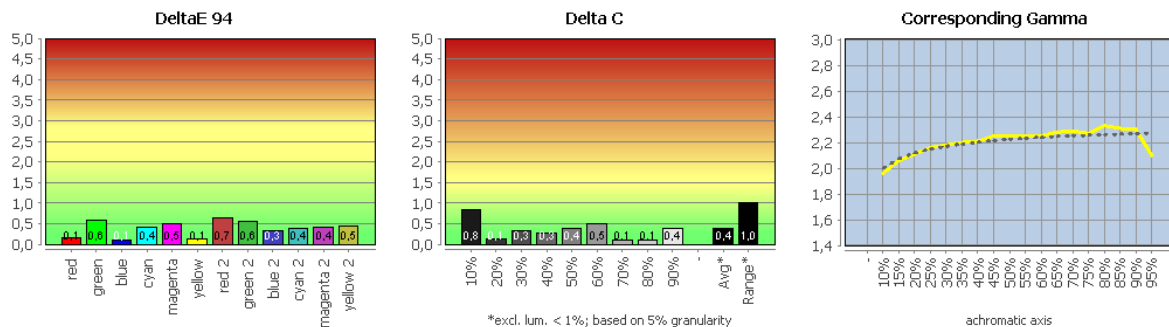
Profile validation

The EIZO EV3450XC shows no noticeable drifts or unsightly non-linearities. The matrix profile describes its condition very accurately. A repeat of the profile validation after 24 hours showed no significantly increased deviations. All calibration targets were achieved. The gray balance is very good (delta C average: 0.40), only the range is slightly increased at 1.30 delta C, which is sufficient for a good to very good overall grade. The color values are very good (Delta-E94-Average: 0.51; Delta-E94-Maximum: 1.47).

The range in Delta C (ΔC) refers to the range or span of color differences between two colors or color values. Delta C is a metric used in color measurement and analysis to quantify the color difference between two color samples. It measures how much the colors differ from each other.

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

Comparison with sRGB (color-transformed)



Comparison with sRGB (color-transformed)

Our CMM takes the working color space and screen profile into account and performs the necessary color space transformations with colorimetric rendering intent on this basis. The gray balance is very good (Delta C average: 0.37, Delta C range: 1.02), which also applies to the color values (Delta E94 average: 0.47). The maximum color deviation is 1.38 Delta C.

We carried out the software calibration to get the best out of the EIZO EV3240X and found that the sRGB mode is already excellently tuned and that only marginally better values are achieved with a calibration. In sRGB mode, the color space is "only" covered by 97% instead of 99%, but this does not play a significant role.

If you want to edit images in the sRGB color space on your EIZO EV3450XC, select the sRGB mode and you're done.

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

Reaction behavior

We examined the response behavior 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 behavior

We determine the image build-up time for the black-to-white change and the best gray-to-grey change. We also state the average value for our 15 measuring points.

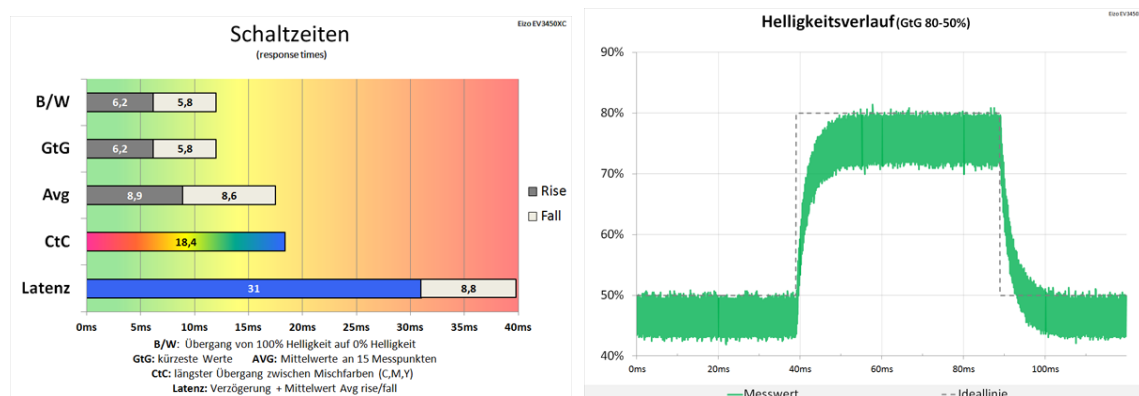
The measured value CtC (Color to Color) goes beyond the conventional measurements of pure brightness jumps - after all, you usually see a colored image on the screen. This measurement therefore measures the longest period of time required by the monitor to change from one mixed color to another and stabilize its brightness. The mixed colors cyan, magenta and yellow are used - each with 50 % signal brightness. During the CtC color change, not all three sub-pixels of a pixel switch at the same time, but different rise and fall times are combined.

An acceleration option (overdrive) is available. The settings here are "Off", "Standard" and "Improved". The factory setting is "Off". The overdrive function can only be switched in the two modes "User1" and "User2". The data sheet specifies a response time of 5 ms for GtG (Overdrive: Enhanced), 8 ms (Overdrive: Standard) and 14 ms (Overdrive: Off).

Overdrive, 60 Hz

60 Hz, overdrive "Off"

In the factory setting "Off", we measure the black/white change at 12 ms and the fastest gray change also at 12 ms. The average value for our 15 measuring points is 17.5 ms, and the CtC value is determined to be 18.4 ms. Overall, the measured values can be described as satisfactory.



60 Hz (overdrive "Off"): Moderate switching times

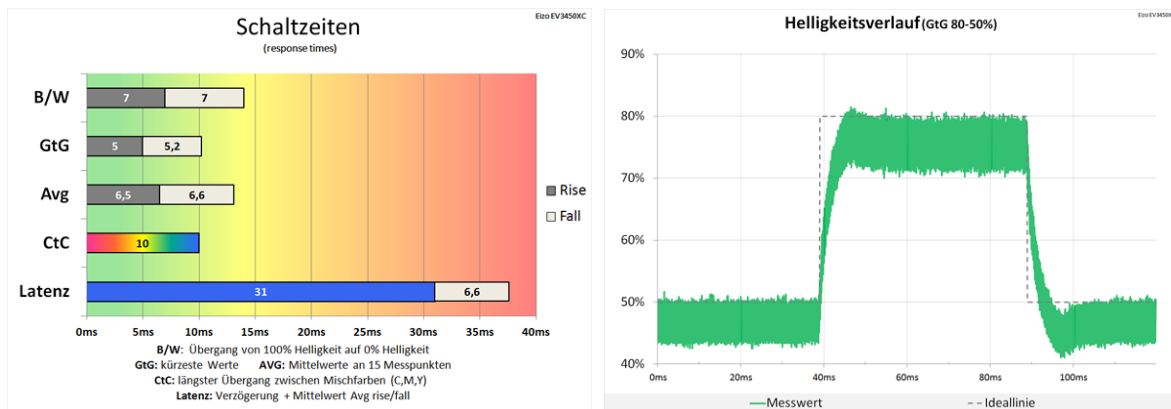
60 Hz (overdrive "Off"): No overshoot

There are no overshoots to be observed, the tuning is very neutral. The switching time diagram shows, among other things, how different brightness jumps add up, how quickly

the monitor reacts in the factory setting in the best case and what average response time can be assumed.

60 Hz, overdrive "Standard"

At the "Standard" overdrive level, the switching times are already visibly shortened - without producing annoying overshoots. However, the black/white change increases to 14 ms. The fastest gray change is reduced to 10.2 ms. The average value for our 15 measuring points is reduced to 13.1 ms. The CtC value of 10 ms is suitable for practical use. The "Standard" overdrive level is the optimum choice for everyday use.

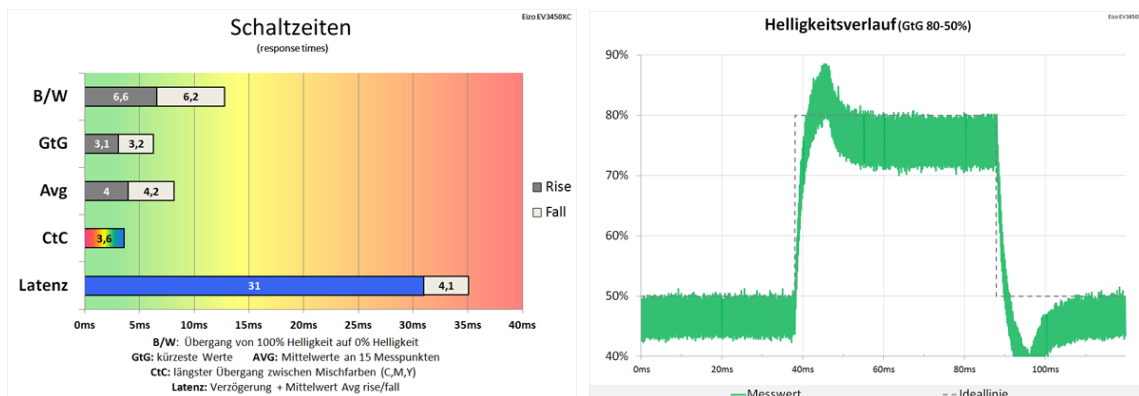


60 Hz (Overdrive "Standard"): Good switching times

60 Hz (Overdrive "Standard"): Still a very neutral tuning

60 Hz, overdrive "improved"

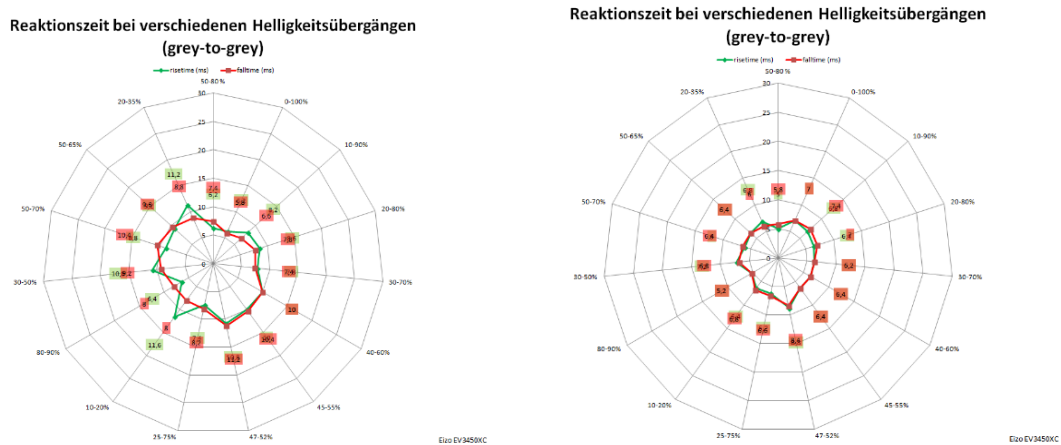
In the highest "Enhanced" setting, the EIZO EV3450X C can improve once again. The black/white change drops to 12.8 ms and is therefore still slightly slower than with deactivated overdrive. We can't complain about the fastest gray change at 6.3 ms, but we couldn't quite reach the value of 5 ms specified by the manufacturer. The average value for our 15 measuring points is 8.2 ms. The CtC value of 3.6 ms is now excellent. However, the overshoots are clearly visible in this overdrive position. This is where the panel simply reaches its limits.



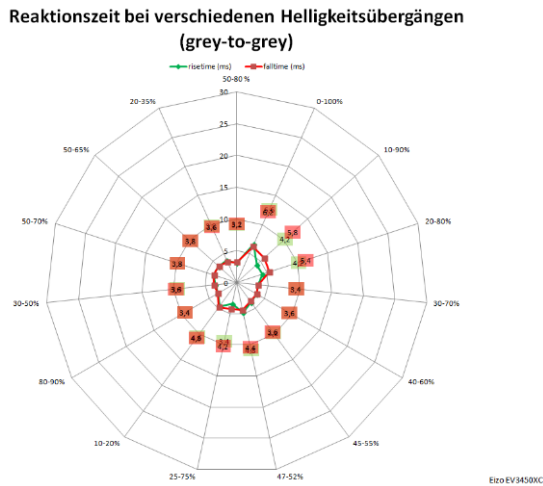
60 Hz (Overdrive "Improved"): Fast switching times
 60 Hz (Overdrive "Improved"): Significant overshoots

Network diagrams

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



60 Hz, overdrive "Off"
 60 Hz, overdrive "Standard"



60 Hz, overdrive "improved"

Latency time

Latency is very important for gamers as it determines the total delay between input and output. To calculate the latency, we add the signal delay time to half the average frame transition time. With a refresh rate of 60 Hz and the "Standard" overdrive mode, we

achieve a total latency of 37.6 ms (31 ms signal delay plus half the GtG time of 6.6 ms). In "Enhanced" overdrive mode, the minimum total latency is 35.1 ms (31 ms signal delay plus half the GtG time of 4.1 ms).

It should be noted that a display with a refresh rate of 60 Hz is not technically capable of achieving a signal delay of 1 ms, as is the case with monitors with a refresh rate of 144 Hz or higher. However, a signal delay of 31 ms is about three times longer than usual for business monitors in general. A latency of 35.1 ms is high for a 60 Hz screen. However, we did not notice any negative effects in everyday use.

Gaming

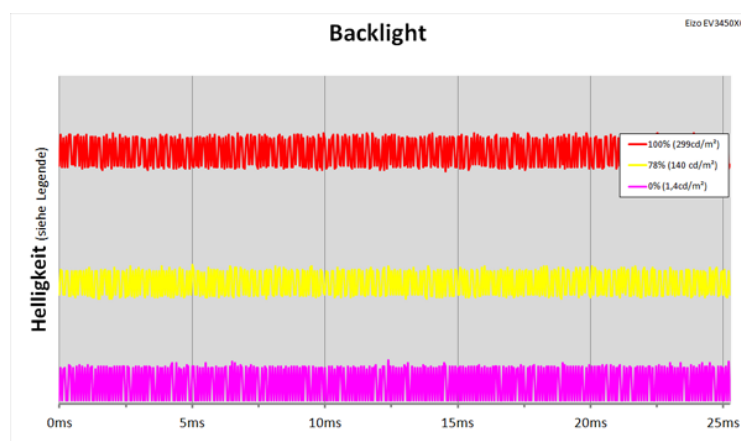
The EIZO EV3450XC is a classic business monitor with 60 Hz and has two overdrive levels ("Standard" and "Enhanced"). However, sync technology has not been implemented. For the sake of completeness, we carried out some tests via Blur Busters in order to be able to make at least a brief statement about the occurrence of ghosting. However, the screen was obviously not designed for gaming.

In our opinion, the "Standard" overdrive level is the optimum setting and confirms our measurements. Subjectively, ghosting is barely noticeable at this level. The highest level "Enhanced", on the other hand, shows very clear ghosting.

If you want to play a strategy game with the EIZO EV3450XC, you will certainly enjoy it. And although the switching times are good, it doesn't come close to a classic gaming monitor. On the other hand, it is not suitable for first-person shooters or racing games.

Backlight

The EIZO EV3450XC has a continuous backlight. The diagram shows that the luminous flux remains constant at full and reduced brightness - in contrast to PWM backlighting, where interruptions can occur. This makes the screen ideal for longer working hours, as the flickering of the backlight does not tire the eyes even at lower brightness levels.



LED backlight with continuous brightness control

Webcam with Windows Hello

To our knowledge, the EV3450XC is the first EIZO monitor with an integrated 5 MP webcam, and we are curious to see how this has been implemented. After all, it is an important feature of the video conferencing docking monitor that we had to wait a long time for in the EV series. In conjunction with the additional loudspeakers and two microphones, this enables video conferencing without additional equipment.



Webcam ready for operation at the top, switched off at the bottom by white privacy screen

The camera and microphone modules are located in the upper frame of the EIZO EV3450XC. When the camera is transmitting an image, this is indicated by a small green LED.

There is a slider in the top frame that can be used to cover the camera lens and stop image transmission. The green LED remains lit if, for example, there is a connection to a webcam app.



Slider for switching the privacy screen on and off

It is not necessary to install drivers for the webcam and microphone under Windows 10/11, as they are set up automatically by Windows and are practically ready to use

immediately. It is only important that the EIZO EV3450XC is connected to the PC or notebook via USB.

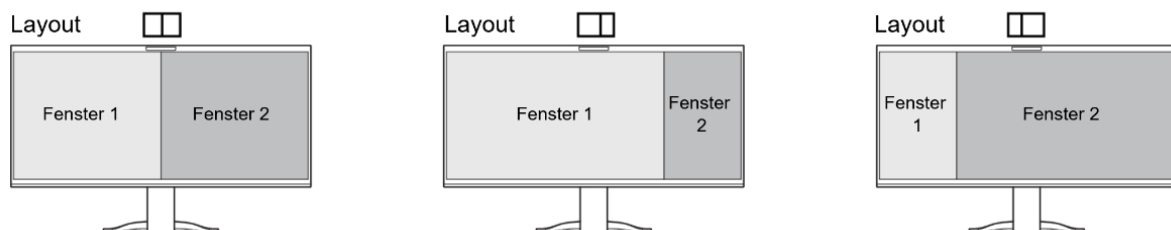
The 5 MP camera offers a maximum resolution of 2592 x 1944 pixels at 30 frames per second. The quality is extremely good and no noise can be seen in good lighting conditions. The display in full-screen mode is also impressive. Image noise occurs in low ambient light, but is still acceptable. This solution is well suited for video conferencing and is the best quality integrated monitor webcam we have tested in recent months.

You should bear in mind that you pay between 150 and 200 euros (or more) for a high-quality webcam. Of course, this camera can't do that, but EIZO's implementation is absolutely practical.

If you want to log in to your Windows computer using facial recognition, you can do so as the webcam supports Windows Hello - at least as long as privacy protection is not activated. However, we were unable to set up Windows Hello, as Windows displays the error message that the camera cannot be switched on. However, the infrared sensor lights up red and the camera also signals via the green LED that it is at least briefly active. In the device manager, a "Facial Recognition (Windows Hello) Software Device" could be found under "Biometric Devices" and "EIZO Monitor IR Camera" and "EIZO Monitor RGB Camera" under "Cameras". All devices were ready for use, at least according to the device manager. We were unable to find newer drivers at EIZO Global. Unfortunately, the cause could not be clarified during our test.

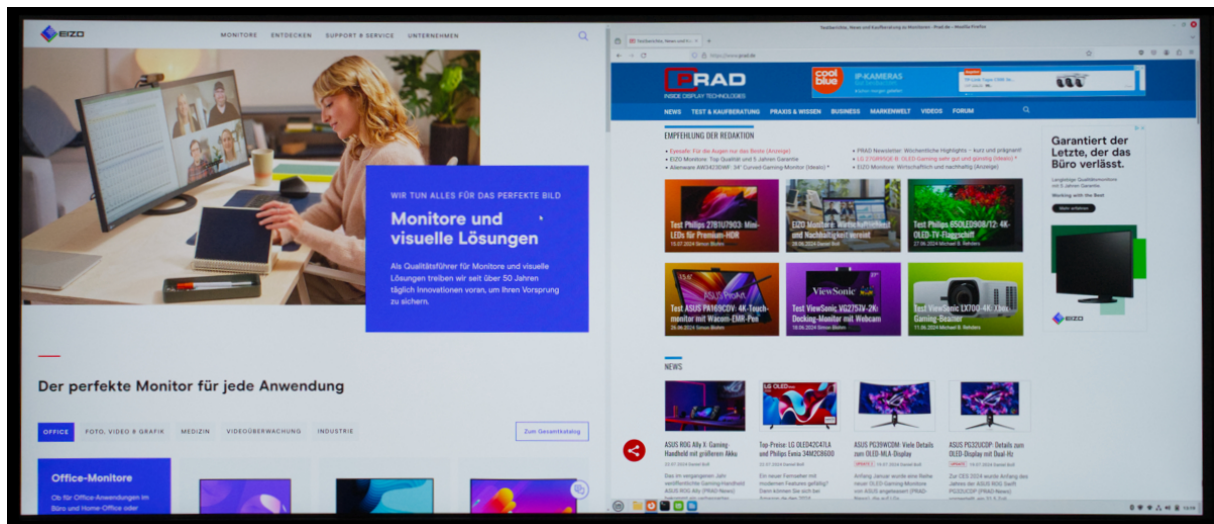
PbP and KVM switch

PbP stands for "Picture by Picture" and refers to a function that makes it possible to display several sources simultaneously on one screen. When using PbP, the device divides the available screen space into individual sections and displays the content of the various input sources side by side at the same time.



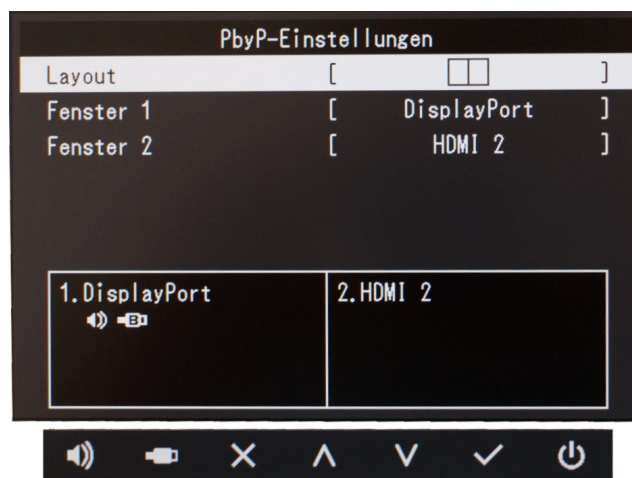
PbP: Available layouts (Screenshot: EIZO manual)

This function is particularly useful if you connect several devices - such as a second computer or notebook - to the EIZO EV3450XC and want to keep an eye on the content of each source at the same time. Each part of the screen then displays the content of a specific source.



PbP: Windows on the left, Linux on the right

The EIZO EV3450XC offers the options "Layout 1 to 3", which can only be selected via an icon in the OSD. This means that two sources can be displayed simultaneously. All four signal inputs can be defined in the OSD as main or sub-inputs (windows 1 and 2). The sound is assigned to the respective source with a single click. Each signal source is assigned "aspect ratio" as scaling, which makes sense.



OSD: PbP settings

In our example, the picture area is split 50:50 so that 1720 x 1440 pixels are available for each source, which seems to make the most sense from our point of view. If, for example, a 1080p signal is fed in, black bars appear at the top and bottom and a lot of space is lost for the image display.

A KVM switch allows you to connect a keyboard, monitor and mouse to several computers at the same time. KVM stands for "Keyboard, Video, Mouse". A KVM switch is particularly useful if you use more than one computer but do not have enough space for several keyboards, displays and mice. With a KVM switch, you can easily switch between the different PCs without having to reconnect input devices and screens each time.

In our test, we connected computer A (Linux) via USB-C and HDMI and computer B (Windows) via USB-B (upload) and DisplayPort. The control works as desired - you need a total of three clicks before you can operate the second PC.

For the test, a Logitech Unifying receiver was used in combination with an MX Master 3 mouse and an MX Keys keyboard.

Ethernet LAN (RJ-45)

The EIZO EV3450XC connects devices connected via USB-C to the network at a speed of 1 Gbit/s. We connected an LG gram (Windows 11) to the monitor via USB-C cable and the network connection was established immediately. The measured transfer data corresponded to 1 Gbit/s.

EcoView functions

The Eizo EV3450XC has two energy saving functions. Auto EcoView is based on an ambient light sensor and automatically adjusts the brightness of the backlight. An individual setting is not possible, you can only switch Auto EcoView on or off.

EcoView Optimizer 2 is a dynamic contrast control that works depending on the image content. The monitor automatically adjusts the screen brightness to the white value of the input signal. Despite the rather restrained implementation, unsightly fluctuations cannot be avoided.

Earlier models also had EcoView Sense, which uses an infrared sensor to detect when the user is absent and switches to energy-saving mode after a defined period of time. When the user returns, the device is immediately ready for use again. The sensitivity of the detection was adjustable in five stages.

A corresponding infrared sensor is still present and is located to the left of the camera. However, no reference is made to it in the manual. This only works in conjunction with Windows Hello.

Loudspeaker

The two built-in speakers have an output power of 4 watts each. There are 9 cm narrow slots in the corners of the lower frame. The sound quality is fine. Even at 100% volume, they do not boom or rattle. In our opinion, the sound is best at medium volume, but it is not a real alternative to external sound systems. We would have liked a little more bass

and volume for music. On the other hand, the output of voices such as in a video conference or in movies is good.



Openings for the speakers in the lower frame

The sound generators are at least better than many devices available on the market. We were definitely pleasantly surprised by the quality.

The EIZO EV3450XC processes audio signals at all inputs that also accept video signals. Output is possible via the integrated speakers or via the headphone output.

Audiovisual media playback

The test device has two HDMI interfaces for HD players. The sound is output via the speakers or the headphone socket if it is occupied. A Google Chromecast was connected via HDMI cable for the following tests.

Scaling and frame rates

For the assessment, we play image signals in 480p, 576p, 720p and 1080p. If you select "Aspect ratio" for scaling in the OSD, all signals can be displayed correctly, except for 576p with minimal distortion. Playback was possible in 1080p and 720p at 50 and 60 Hz, but not at 24 Hz.

Color models and signal level

Three settings are available for the video level. You can select a content-controlled, i.e. automatic display, or alternatively choose between "Total" and "Limited". The color space can also be adjusted manually. The options "Automatic", "YUV 4:2:2", "YUV 4:4:4", "YUV" and "RGB" are available, whereby "YUV 4:2:2" and "YUV 4:4:4" can only be selected under HDMI and only "YUV" under DisplayPort and USB-C.

Overscan

Overscan means that the edges of the image are hidden beyond the edges of the screen, as if the image were enlarged. The EIZO EV3450XC does not offer such an option.

Rating

Housing processing/mechanics:	4
Ergonomics:	4
Operation/OSD:	5
Energy consumption:	5
Noise development:	4
Subjective image impression:	5
Viewing angle dependence:	5
Contrast:	4,5
Illumination (black image):	4
Image homogeneity (brightness distribution):	3
Image homogeneity (color purity):	4
Color space volume (sRGB)	5
Before calibration (grayscale factory mode):	5
Before calibration (sRGB):	4,5
After calibration (sRGB):	5
After calibration (profile validation):	4,5
Interpolated image:	4
Gaming:	2
Media playback (PC):	4
Media playback (external feed):	4
Price-performance ratio:	4
Overall ranking:	4.3 out of 5 (VERY GOOD)

Conclusion

It was worth the wait! The first monitor in the EV series with an integrated webcam impresses in video conferencing use. The 5 MP camera is the best quality we have seen in our monitor tests in recent months. The two built-in microphones and the output via the 4 watt stereo speakers are also impressive. Those who prefer to use headphones can connect them conveniently at the side.

The 34-inch EIZO EV3450XC only has a slight curvature of 3800 R, which makes working comfortable. The ergonomic functions are complete with the exception of pivot,

whereby turning to portrait mode would not make sense with a curved display. The height adjustment is a little stiff. A new feature is the vertical instead of horizontal arrangement of the numerous ports. They can be covered with a panel for a better look.

In terms of image display, the business monitor draws on the full potential. Subjectively, the display is good to very good, whether it's the color representation, illumination, contrast or viewing angle characteristics. The gray balance and color values are excellent - even in the factory settings. If you want to work in the sRGB color space, you can set this mode in the OSD and don't have to worry about anything else.

The docking functions such as KVM switch or LAN connection, also in combination with the PbP mode, are convincing and work in practice.

The EIZO EV3450XC offers good response times for a business monitor, but with a high latency. It is not suitable for fast games and was not developed for this purpose. The product was designed for office applications and can show its strengths there. The energy-saving functions, which are of great importance in today's world, are particularly noteworthy. The power consumption is low and delivers a very good result.

The EIZO EV3450XC will be available from mid-August for around 1,100 euros and is therefore in the upper price segment. While many manufacturers only offer a two to three-year warranty, EIZO offers a five-year warranty including on-site replacement service. The company also offers an additional zero pixel error guarantee for six months from the date of purchase for sub-pixels that are not fully illuminated (partial picture elements ISO 9241-307).

Overall, and taking into account the intended use as a business monitor, we still give it a very good overall rating. Those expecting good to very good features and quality will unfortunately have to dig a little deeper into their pockets. But it's worth it!



Note on our own behalf: PRAD received the EV3450XC 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 a non-disclosure agreement.

Link to the original test report: <https://www.prad.de/testberichte/test-eizo-ev3450xc-ev-serie-jetzt-mit-5-mp-webcam/>



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