Color Calibration LCD Monitors for Video
ColorEdge monitors deliver the picture consistency and color reproduction that studio professionals demand. Color management features like hardware calibration and uniformity compensation are standard and select models offer 3D look-up tables and preset color modes for working in common broadcast and digital cinema color spaces. ColorEdge even boasts the unique CG232W, the world’s only video editing and master monitor. With ColorEdge you can be sure that the colors you use during editing and post-production will be the same as those enjoyed by your audience.

**Editing and Master Monitor**

**CG232W**  
This unique monitor offers multiple features that meet the various demands of post-production, including color grading, image evaluation and nonlinear editing for broadcasting. A button on the monitor’s front bezel for switching between PC and SDI signals lets studio professionals do everything from video editing to reference (playback) on a single monitor.

![Editing and Master Monitor Diagram](image)

**Preset Color Modes**

**CG232W**  
This model offers preset color modes that reproduce the color spaces used in broadcasting and digital cinema such as EBU, SMPTE-C, Rec709 and DCI almost in their entirety. To correct color drift that naturally occurs over time with any LCD monitor, the bundled ColorNavigator software comes with a reset function for returning the preset modes to their factory settings.

![Preset Color Modes Chart](image)

<table>
<thead>
<tr>
<th>Color Modes</th>
<th>Reproduced Color Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom</td>
<td>Your preferred color settings.</td>
</tr>
<tr>
<td>sRGB</td>
<td>sRGB color gamut and gamma.</td>
</tr>
<tr>
<td>EBU</td>
<td>EBU (European Broadcasting Union) color gamut and gamma.</td>
</tr>
</tbody>
</table>
| Rec709      | ITU-R Rec.709 color gamut and gamma.  
               HDTV studio standard (international standard). |
| SMPTE-C     | SMPTE-C color gamut and gamma.  
               The standard North American TV broadcast color space. |
| DCI         | DCI color gamut and gamma. |
| CAL         | Calibration using ColorNavigator software. |

**Dual-link SDI Signal Support**

**CG232W**  
Input support includes BNC × 2 (SD-SDI/HD-SDI × 2 or dual-link SDI × 1) for transferring uncompressed video signals, DVI-D, and D-Sub for direct connection to broadcast and studio sources as well as desktop PCs. YCbCr 4:2:2, YCbPr 4:2:2, YPbPr 4:4:4 and RGB 4:4:4 SDI signal formats are all supported.

**Black Frame Insertion and Pseudo-Interlace**

**CG232W**  
A panel display frame rate of 120 Hz allows for black screen insertion (pseudo-impulse), which virtually eliminates motion artifacts and blur when showing moving images. With interlace signals, a pseudo-interlace feature minimizes motion artifacts, giving this LCD monitor smooth motion picture playback akin to that of a CRT.

![Black Frame Insertion Diagram](image)

**Range Extension**

**CG232W**  
A range extension feature gives studio professionals the advantage of using the monitor’s entire 10-bit grayscale range to see more detail when doing fine editing work in very dark and very light tones. Setting the screen to show the entire 10-bit grayscale range reveals either 6% or 14% more gray tones from 0 (true black) to 1023 (true white) compared to common broadcast signal display range capabilities.

**2K × 1K Signal Support**

**CG232W · CG301W**  
These monitors support 2048 × 1080 signals which are compliant with the DCI standard. A left and right screen panning feature operated from the monitor’s on-screen display menu (OSD) allows viewing of all areas of an image on the CG232W.
3D LUT
CG232W · CG242W
All ColorEdge models incorporate a look-up table (LUT) for accurate color and grayscale rendering, but the ColorEdge CG232W and CG242W utilize a new EIZO-developed 3D LUT. While a typical 1D LUT adjusts color on separate tables for each of red, green, and blue, a 3D LUT accomplishes this using a single, mixed-color cubic table. This improves the monitor’s additive color mixture (combination of RGB), a key factor in its ability to display neutral gray tones.

Short- and Long-Term Brightness Stabilization
CG232W · CG242W · CG301W
Stable brightness is a key factor in achieving accurate color. However, fluctuations in backlight brightness normally occur from startup and can last for up to two hours. Furthermore, changes in ambient temperature can cause brightness levels to fluctuate, as can the inevitable deterioration of the backlight’s fluorescent lamp over time. An EIZO patented backlight sensor detects and counteracts these influences so brightness is always stable and product life is extended.

Factory Adjustment of Gamma
CG232W · CG242W · CG301W
Gamma level for each ColorEdge monitor is adjusted at the factory. This is accomplished by measuring the R, G, and B gamma values from 0 – 255, then using the monitor’s 12-bit look-up table (4,091 tones per RGB) to select the 256 most appropriate tones to achieve the desired value. Each monitor comes with an adjustment data sheet that certifies the measurement results of the gamma value.

Accurate Hardware Calibration
CG232W · CG242W · CG301W
There are two kinds of monitor calibration — software and hardware. With software calibration, colors are adjusted by manipulating the graphics board’s color output, which results in fewer displayable colors. With hardware calibration, colors are adjusted within the monitor itself, so there is no loss of displayable colors. These ColorEdge monitors and the bundled ColorNavigator software offer hardware calibration for accurate and consistent color.

16-Bit Internal Processing
CG232W · CG242W · CG301W
In any color-critical work, the monitor’s ability to produce black is a great differentiator. With most LCD monitors, the darkest area of the screen — or black level — is usually too bright. This leads to banding and washing out of dark grays and dark colors. With 16-bit internal processing, these ColorEdge monitors not only come very close to producing a true black, but the lowest grayscale tones can be distinguished from one another for a greater level of detail in dark areas.

With 10-bit processing, the error rate is high in low tonal areas during calculation. With 16-bit processing, accuracy is significantly improved resulting in fewer conversion errors.

Brightness and Color Uniformity with DUE
CG232W · CG242W · CG301W
Brightness and chroma uniformity errors are characteristic of all LCD panels. To counteract this, EIZO has equipped these ColorEdge monitors with its latest integrated circuit. This circuit features a Digital Uniformity Equalizer (DUE) function. DUE compensates brightness and chroma based on data measured at our factory so that the entire screen will be almost uniform at each gray level from 0 to 255. A certificate indicating the uniformity compensation results is packaged with each monitor.
**S P E C I F I C A T I O N S**

### ColorEdge CG232W
- **Panel Size and Type:** 57 cm (22.5") TFT color LCD panel
- **Viewing Angles (H, V):** 170°, 170° (at contrast ratio of 10:1)
- **Brightness:** 380 cd/m² (maximum)
- **Contrast:** 720:1 (typical)
- **On/Off Response Time:** 12 ms (typical)
- **Native Resolution:** 1920 x 1200
- **Active Display Size (H x V):** 483.8 x 302.4 mm
- **Viewable Image Size:** Diagonal: 570 mm
- **Pixel Pitch:** 0.252 x 0.252 mm
- **Gamma Coverage:** sRGB: 97%; Rec709: 97%; EBU: 97%; SMPTE-C: 96%; Adobe RGB: 97%; DIC: 88%
- **Display Colors:** 1.07 billion from a palette of 68 billion
- **Look-Up Table:** 12-bits per color
- **Internal Processing:** Analog: RGB Analog, Digital: DVI Standard 1.0
- **Output Terminals:** DVI-D × 1, D-sub × 1, BNC × 2 (single link × 2 or dual link × 1)
- **Output Signal:** SDI: SD / HD-SDI (loop-through)
- **HDCP Support:** DVI-D, DVI-I
- **Power Requirements:** AC 100 – 120 V, 200 – 240 V: 50 / 60 Hz
- **Power Consumption:** 110 W (maximum)
- **Height Adjustment Range:** 118 mm
- **Dimensions (W x H x D):** With Stand: 567 x 389 x 113 mm
- **Net Weight:** With Stand: 13.4 kg; Without Stand: 8.8 kg
- **Color Modes:** Custom, sRGB, EBU, Rec709, SMPTE-C, DIC, Calibration
- **Supplied Accessories:** AC power cord, signal cables (DVI-D – DVI-D, DVI-I – DVI-I – D sub mini 15 pin), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user’s manual, ICC Profile), adjustment certificate, ScreenCleaner, quick-reference, 4 screws for mount option, warranty card
- **Warranty:** Five Years

### ColorEdge CG242W
- **Panel Size and Type:** 61 cm (24.1") TFT color LCD panel
- **Viewing Angles (H, V):** 178°, 178° (at contrast ratio of 10:1)
- **Brightness:** 270 cd/m² (maximum)
- **Contrast:** 1100:1 (typical)
- **On/Off Response Time:** 12 ms (typical)
- **Native Resolution:** 1920 x 1200
- **Active Display Size (H x V):** 581.4 x 324 mm
- **Viewable Image Size:** Diagonal: 611 mm
- **Pixel Pitch:** 0.270 x 0.270 mm
- **Gamma Coverage:** sRGB: 99%; Rec709: 99%; EBU: 99%; SMPTE-C: 100%; Adobe RGB: 91%; DIC: 91%
- **Display Colors:** 16.77 million from a palette of 68 billion
- **Look-Up Table:** 12-bits per color
- **Internal Processing:** Analog: RGB Analog, Digital: DVI Standard 1.0
- **Output Terminals:** DVI-D × 1, D-sub × 1, BNC × 2 (dual link × 1)
- **Output Signal:** SDI: SD / HD-SDI (loop-through)
- **HDCP Support:** DVI-D, DVI-I
- **Power Requirements:** AC 100 – 120 V, 200 – 240 V: 50 / 60 Hz
- **Power Consumption:** 105 W (maximum)
- **Height Adjustment Range:** 82 mm
- **Dimensions (W x H x D):** With Stand: 566 x 367 x 85 mm
- **Net Weight:** With Stand: 566 × 456 – 538 × 230 mm
- **Color Modes:** Custom, sRGB, Calibration, Emulation
- **Supplied Accessories:** AC power cord, signal cables (DVI-D – DVI-D, DVI-I – DVI-D), Sub-mini 15 pin, USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user’s manual, ICC Profile), adjustment certificate, ScreenCleaner, quick-reference, 4 screws for mount option, warranty card
- **Warranty:** Five Years

### ColorEdge CG301W
- **Panel Size and Type:** 76 cm (29.8") TFT color LCD panel
- **Viewing Angles (H, V):** 178°, 178° (at contrast ratio of 10:1)
- **Brightness:** 260 cd/m² (maximum)
- **Contrast:** 850:1 (typical)
- **On/Off Response Time:** 12 ms (typical)
- **Native Resolution:** 1920 x 1200
- **Active Display Size (H x V):** 641.2 x 400.8 mm
- **Viewable Image Size:** Diagonal: 756 mm
- **Pixel Pitch:** 0.2505 x 0.2505 mm
- **Gamma Coverage:** sRGB: 99%; Rec709: 99%; EBU: 99%; SMPTE-C: 100%; Adobe RGB: 98%; DIC: 90%
- **Display Colors:** 16.77 million from a palette of 68 billion
- **Look-Up Table:** 12-bits per color
- **Internal Processing:** Analog: RGB Analog, Digital: DVI Standard 1.0
- **Output Terminals:** DVI-D × 2, D-sub × 1, BNC × 2 (single link × 2 or dual link × 1)
- **Output Signal:** SDI: SD / HD-SDI (loop-through)
- **HDCP Support:** DVI-D, DVI-I
- **Power Requirements:** AC 100 – 120 V, 200 – 240 V: 50 / 60 Hz
- **Power Consumption:** 170 W (maximum)
- **Height Adjustment Range:** 90°
- **Dimensions (W x H x D):** With Stand: 689 x 450 × 254.7 mm
- **Net Weight:** With Stand: 10.7 kg; Without Stand: 7.1 kg
- **Color Modes:** Custom, sRGB, Calibration, Emulation
- **Supplied Accessories:** AC power cord, signal cables (DVI-D – DVI-D, DVI-D – DVI-D), Sub-mini 15 pin, USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user’s manual, ICC Profile), adjustment certificate, ScreenCleaner, monitor hood, quick-reference, 4 screws for mount option, warranty card
- **Warranty:** Five Years

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**ACCESSORIES**

### Monitor Hood
A bundled monitor hood with the CG242W and CG301W prevents ambient light from reflecting off the screen. It also features a sliding top cover so it does not have to be removed during calibration and an interior made of anti-glare material.

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**WARRANTY**

**Brightness and Color Temperature Warranty**

EIZO offers a five-year warranty for the ColorEdge series that covers parts and labor. The backlight is warranted for three years at a brightness of up to 100 cd/m² on the CG232W and 120 cd/m² on the CG242W and CG301W and color temperature between 5,000 – 6,500 K depending on model with the usage time a maximum of 10,000 hours.

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Published on chlorine-free paper.

(O93002) Printed in Japan, 3, 2009, 5K