

Panasonic
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BT-3DL2550
LCD Video Monitor



picture simulated



3D

PROFESSIONAL

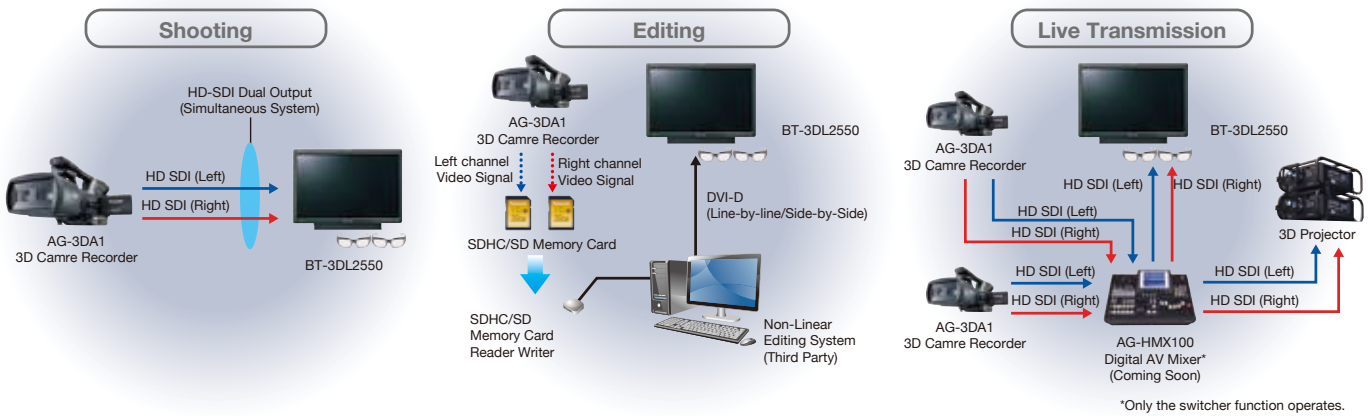
Superb HD Display Performance and 3D Capability

High Quality 64.8 cm/25.5 inches LCD Panel with

Versatile 2D/3D Monitoring Functions for Broadcast and Professional Use



The BT-3DL2550 64.8 cm/25.5 inches 3D LCD Video Monitor is designed specifically for broadcast and other professional applications. Featuring a wide color gamut and 10 bit 3D LUT (Look Up Table) for faithful color reproduction, this HD monitor offers the image display performance that broadcast, movie production and other professional applications demand. It is also capable of displaying 3D images for viewing with 3D Polarized Eyewear. The BT-3DL2550 supports three types of 3D video input: simultaneous, line-by-line and side-by-side. A 3D video system is easily configured by combining the BT-3DL2550 with the AG-3DA1 Integrated Twin-Lens FULL HD 3D Camera Recorder and the AG-HMX100 3D Digital AV Mixer. The BT-3DL2550 also features a special 3D display function for image acquisition with rig-type 3D camera systems. In short, this 3D LCD video monitor responds to a wide range of 2D/3D video production needs.



*** Note Regarding 3D Image Viewing**

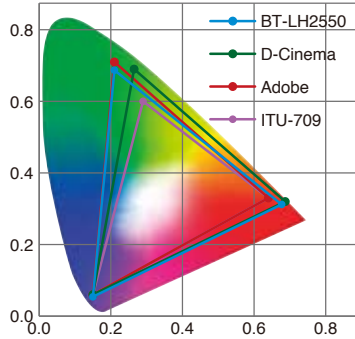
- The perception of 3D effects varies in individuals. Viewing 3D images may cause adverse health effects in rare cases.
- For comfortable 3D viewing, be sure to read the Safety Precautions and Cautions for Use sections in the operation manual.



FAITHFUL COLOR REPRODUCTION MEETS BROADCASTING NEEDS

A Wide Color Space with Six Color Space Modes (3D/2D)

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The color space of the BT-3DL2550 is 102% that of the NTSC standard, so it exceeds the EBU/SMPTE range that can be displayed by ordinary LCDs. It accurately reproduces colors that are not easily reproduced by conventional displays, including CRTs, to meet the needs of both broadcasters and image production companies, and to work in fields such as digital cinema, CG production, printing, publishing, advertising, and research. The BT-3DL2550 offers three wide color space modes of Adobe RGB (=2.2, =1.8) and D-Cinema (=2.6) in addition to the three broadcast modes of SMPTE, EBU and ITU-709.



Color Space Comparison (Simulation): The top part shows the color space when set to the ITU-709 mode. The bottom part shows the color space in the WIDE3 (D-Cinema) mode. This screen image is simulated to show the differences in colors

High-performance Image Processing Engine for Superb Moving Image Quality (3D/2D)

- Precise 10 bit image processing uses a three-dimensional LUT (Look Up Table) for each RGB color to achieve faithful color reproduction from low to high brightness levels.
- The diagonal line compensation circuit minimizes jagged noise on diagonal lines.
- The high-speed, high-performance I/P conversion circuit achieves superb motion response with a delay of less than one field between input and panel display.
- Improved response time in intermediate gradations provides vivid and clear image displays without blurring.

Gamma Compensation for Each Monitor (3D/2D)

In order to match the LCD monitor to professional broadcasting applications, compensation is conducted for each monitor in 256 discrete RGB steps, rated gamma properties ($g = 2.2$) are reproduced, and gradation suitable for broadcasting is achieved. Color temperature of 9300K/6500K/5600K; and 3000K to 9300K can be selected with the variable setting.

Calibration Function (3D/2D)

The BT-3DL2550 comes installed with software that allows it to be calibrated without using a PC, by simply connecting a manufacturer-designated display color analyzer and measurement probe to the monitor.



*Konica Minolta CA-210 Display Color Analyzer with CA-PU12/CA-PU15 Standard Measurement Probe. For more information on the Konica Minolta calibration system, please see the following website. <<http://www.konicaminolta.com/instruments/index.html>>.



DISPLAY FUNCTIONS FOR PROFESSIONAL USE

Cine Gamma Compensation (3D/2D)

The BT-3DL2550 is equipped with a cine-gamma (F-REC) compensation function for compatibility as a monitor for a Varicam camera recorder. This function supports the production of movies, film-like HDTV programs, and TV commercials.

2-Input Split-Screen Function (2D)

This function displays two images on main screen and subscreen sections from two video inputs selected from VIDEO, SDI1, SDI2, YPBPR/RGB or DVI-D. The main screen section displays moving images or still pictures, and settings such as gamma, color gamut, R gain and B gain can be adjusted on the image in the subscreen section. It is also possible to change the sizes of the main screen and subscreen sections to L/S, M/M or S/L. This function is especially useful for combining CGs, adjusting viewing angles of multiple camera images, and matching colors. Since this enables a single BT-3DL2550 to serve as two monitors, it also saves space. *It may not be possible to display both images simultaneously with certain input signal combinations.



Various Markers (3D/2D)

Various markers can be displayed in both 16:9 and 4:3 aspect ratios.

- **Aspect Marker (16:9):** 4:3, 13:9, 14:9, CNSCO or VISTA, with background brightness control of Black (0%), Half (50%) or Normal (100%).
- **Safe Area Marker (16:9/4:3):** 95%, 93%, 90%, 88% or 80%. In 16:9 mode, the BT-3DL2550 can display a superimposed safe area marker of both 16:9 and 4:3 simultaneously.
- **Center Marker (16:9/4:3):** ON/OFF. The center marker can be displayed together with another marker, as shown in the example on the above.



Safe Area Marker/Center Marker

A Diversity of Display Functions

• Cross Hatch Overlay (3D/2D):

Displays grids with 120 pixel intervals. This is useful for horizontal/vertical adjustment.

* Vertical lines are displayed with intervals equaling approximately 6% of the screen width.

• HV Delay Display (2D):

Displays the video blanking period.

• **Audio Level Meter (3D/2D):** Displays a skeleton bar meter showing the SDI embedded audio input level over the video image. The display can be selected from 2 channels, 4 channels, 8 channels or OFF.

• **Mono Mode (3D/2D):** Displays images in black-and-white.

• **Time Code Display (3D/2D):** Displays the time code selected from VITC, LTC or UB when an HD SDI signal is input.

• **Closed Caption Display (2D):** Displays closed captions (32 characters x 15 lines) when a video (NTSC) signal is input.



Cross Hatch ON



8ch Audio Level Meter

DESIGN AND FUNCTIONALITY FOR DIVERSE APPLICATIONS

A Space-Saving 64.8 cm/25.5 inches Full-HD Monitor

(3D/2D)

The BT-3DL2550 is a full-HD WUXGA (1920 x 1200 pixel) high-resolution IPS monitor. The interface section and operation section are integrated into the compact body. Taking advantage of the slim size and light weight of the LCD panel, this integrated design enhances setup flexibility and simplifies operation.

Function Keys

(3D/2D)

Each of the function keys on the front panel can be assigned with a function selected from various display and switchover functions to enable one-touch display ON/OFF or mode change. These function buttons speed operation and customize the functions to the individual user's needs.

Functions Assignable to Function Keys

HV Delay/Autosetup/Blue Only/Gamma Select/Color Space/SD Aspect/Scan/Two Window/Sub Input Sel./Marker/Level Meter/Cross Hatch/Mono/Time Code/Closed Caption/Anamo/3D Input Type/Simul Mode/H Mirror/Undef

(Operable functions vary slightly between 3D and 2D.)

A Wealth of Input Terminals Support Multiple Formats (3D/2D)

- **SDI (HD/SD):** Two SDI inputs with an automatic HD/SD switching function, which can be used for simultaneous 3D input, and one SDI active through output are provided as standard.
- **DVI-D (HDCP supported):** This terminal can be used for 3D line-by-line/side-by-side input as well as connection of a digital device. It connects to an HDMI cable via a commercially available conversion cable.

* DVI-A (analog) and DVI-DL (Dual Link) are not supported.

- **Analog (2D only):** Equipped with composite and component (switchable between YPbPr and RGB) terminals. The RGB input allows the use of the BT-3DL2550 as a PC monitor.

Other Features and Functions

(3D/2D)

- RS-232C (9 pin) and GPI (9 pin) remote input terminals
- Tally lamps (red and green)
- Headphone jack
- Silent design with fanless drive ideal for use in editing studios and MA rooms
- Power Save mode reduces power consumption
- Wall-mountable (BT-WMA26G Wall-Mounting Hardware sold separately)

Signal Format for BT-3DL2550

3D MODE	SIMUL		LINE BY LINE		SIDE BY SIDE		2D MODE (VIDEO)	VIDEO	SDI (1/2)	YPbPr	RGB-VIDEO	DVI-VIDEO	2D MODE (PC)	RGB-COMP	DVI-COMP
	SDI	SDI	DVI-VIDEO	DVI-COMP	SDI	DVI-VIDEO									
720/50p	✓*1	✓*1	✓*1		✓*1	✓*1	NTSC	✓					640×400 (70Hz)	✓	
720/59.94p	✓*1	✓*1	✓*1		✓*1	✓*1	PAL	✓					640×480 (60Hz)	✓	✓
720/60p	✓*1	✓*1	✓*1		✓*1	✓*1	480/59.94i		✓	✓	✓		640×480 (75Hz)	✓	
1035/59.94i	✓*2				✓*2		480/59.94p			✓	✓	✓	640×480 (85Hz)	✓	
1035/60i	✓*2				✓*2		576/50i		✓	✓	✓		800×600 (60Hz)	✓	✓
1080/23.98PsF	✓				✓		576/50p			✓	✓	✓	800×600 (70Hz)	✓	
1080/24PsF	✓				✓		720/50p		✓	✓	✓		800×600 (75Hz)	✓	
1080/25PsF	✓*3				✓*3		720/59.94p		✓	✓	✓	✓	800×600 (85Hz)	✓	
1080/29.97PsF	✓*4				✓*4		720/60p		✓	✓	✓	✓	1024×768 (60Hz)	✓	
1080/30PsF	✓*5				✓*5		1035/59.94i		✓*2	✓*2	✓*2		800×600 (85Hz)	✓	
1080/50i	✓				✓	✓	1035/60i		✓*2	✓*2	✓*2		1024×768 (70Hz)	✓	
1080/59.94i	✓				✓	✓	1080/23.98PsF		✓	✓			1024×768 (75Hz)	✓	
1080/60i	✓				✓	✓	1080/24PsF		✓	✓			1024×768 (85Hz)	✓	
1920×1200 (60Hz)				✓*6			1080/23.98p		✓	✓			1280×768 (50Hz)	✓	✓
							1080/24p		✓	✓			1280×768 (60Hz)	✓	✓
							1080/25p		✓	✓			1280×768 (75Hz)	✓	
							1080/29.97p		✓	✓			1280×768 (85Hz)	✓	
							1080/30p		✓	✓			1600×1200 (60Hz)	✓	✓
							1080/50i		✓	✓	✓	✓	1920×1200 (60Hz)	✓*7	✓
							1080/50i		✓	✓	✓	✓			
							1080/50p			✓	✓				
							1080/59.94i		✓	✓	✓	✓			
							1080/60i		✓	✓	✓	✓			
							1080/59.94p			✓	✓				
							1080/60p			✓	✓				

✓ : Supported

*1: Displays input signal in dot by dot excluding comparison mode.

*2: When 1035/59.94i signal is input, displayed as 1080/59.94i. When 1035/60i signal is input, displayed as 1080/60i. Marker displays will use the 1080 marker.

*3: Displayed as 1080/50i when input is 1080/25PsF.

*4: Displayed as 1080/59.94i when input is 1080/29.97PsF.

*5: Displayed as 1080/60i when input is 1080/30PsF.

*6: Only supported with LINE BY LINE format.

*7: Only compatible with VESA (Video Electronics Standards Association) Reduced Blanking (Clock: 154 MHz, Hsync: positive logic, Vsync: negative logic).

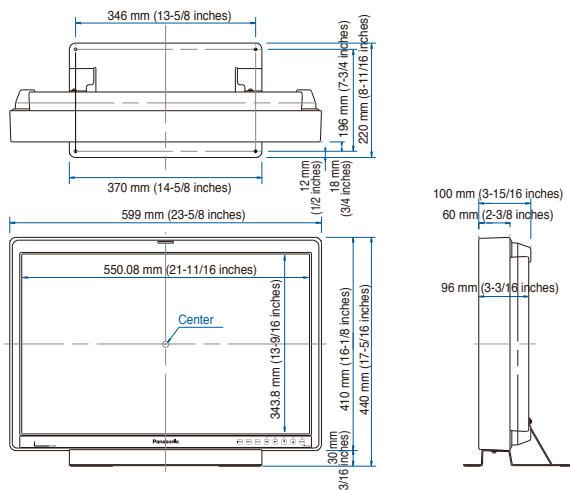
Details and Dimensions of the BT-3DL2550



Front Panel



Rear Panel



*Additional space 232 mm (W) x 50.5 mm (H) x 177 mm (D) (9-1/8 inches x 2 inches x 6-15/16 inches) is necessary for installing the AC adaptor

Xpol®*1 Polarizing Filter and 3D Polarized Eyewear for 3D Monitoring

The Xpol®*1 polarizing filter, which arranges micro-polarizers in a precise array, is bonded to the front surface of the LCD panel. This allows the viewing of 3D images*2 recorded by the line-by-line method using 3D Polarized Eyewear. Two pairs of 3D Polarized Eyewear are supplied with the product. Additional 3D Polarized Eyewear (BT-PGL10G) are available as options.

*1: Xpol® is a registered trademark of Arisawa Mfg. Co., Ltd.

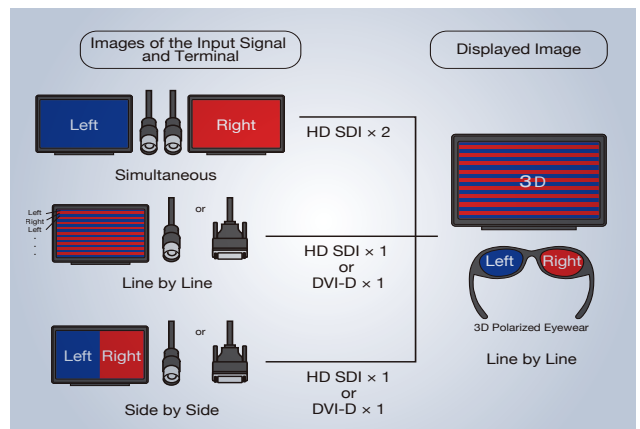
*2: Due to the characteristics of the Xpol®*1 polarizing filter, it is necessary to view 3D images from a position perpendicular to the LCD panel surface in order to properly perceive 3D effects.



Three 3D Video Input Systems Supported (Simultaneous, Line-by-Line and Side-by-Side)

The BT-3DL2550 supports three 3D video input systems: simultaneous, line-by-line and side-by-side. It allows 3D images to be viewed from a line-by-line signal source. It accepts the output from the AG-3DA1 Integrated Twin-Lens 3D Camera Recorder and from existing 3D camera systems such as rig-type 3D camera systems as well as 3DTV broadcast signals, thus meeting virtually all production, editing and transmission needs.

- **Simultaneous:** Outputs left- and right-eye images through separate SDI lines. This system transmits FULL HD 3D video signals.
- **Line-by-line:** Allocates left- and right-eye images to odd-numbered lines and even-numbered lines. Conventional equipment for 2D video can be used with this signal type.
- **Side-by-side:** Splits the screen into left and right halves, and then combines the left and right images for viewing. This system is used mainly for 3DTV broadcasts.

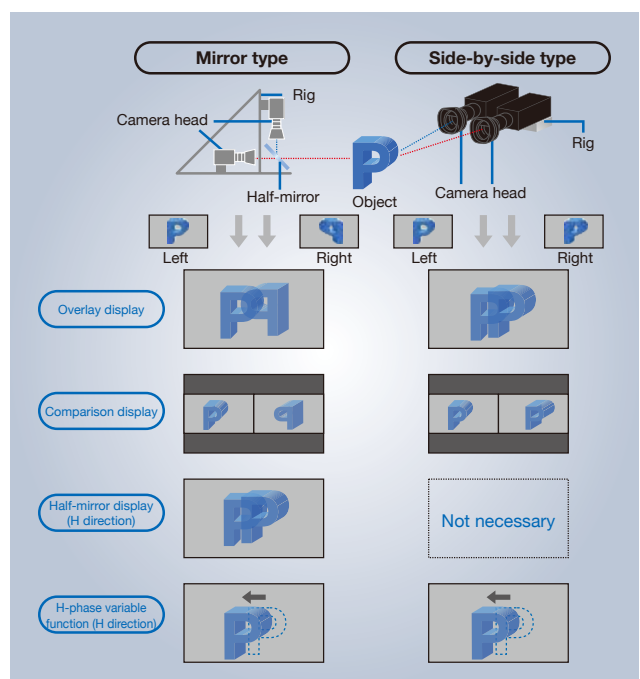


Special 3D Display Function Helps to Use a Rig-Type 3D Camera System

The BT-3DL2550 is equipped with a special display function for adjusting images acquired with a rig-type 3D camera system (mirror type or side-by-side type). The following display/adjustment functions support lens axis adjustment and color matching when receiving simultaneous dual HD SDI inputs from a rig-type 3D camera system. This allows the BT-3DL2550 to respond widely to professional 3D production needs.

- ▶ **Display Selection:** The screen display can be switched to normal 3D image display (line-by-line), overlay display, single-channel (Left/Right) display or comparison display.
- **Overlay Display:** Displays left- and right-eye images together.
- **Single Channel Display:** Displays left- or right-eye images.
- **Comparison Display:** Displays left- and right-eye images next to each other.* This display mode is suitable for color matching and gradation adjustment for left-eye and right-eye cameras.
- ▶ **Half Mirror Function:** Inverts the right-eye image signal to flip the displayed image in the horizontal direction. This allows the 3D viewing of video input from a mirror type 3D camera system.
- ▶ **H Shift Function:** Shifts the image of one channel in the left-right direction while showing an overlay display. This function is convenient for lens axis adjustment.

* The two screen images are the same in size and have an aspect ratio of 16:9. The Marker function cannot be used in this mode.



Specifications

[General]

Power Supply:	24 V DC, 4.5 A 5 V DC, 0.03 A AC Adaptor Input: 100 V – 240 V 50 Hz/60 Hz, 1.6 A – 0.6 A
Dimensions : (W × H × D)	599 mm × 440 mm × 220 mm (23-5/8 inches × 17-5/16 inches × 8-11/16 inches) (including stand) 599 mm × 410 mm × 100 mm (23-5/8 inches × 16-1/8 inches × 3-15/16 inches) (not including stand) AC Adaptor : 232 mm × 50.5 mm × 177 mm (9-1/8 inches × 2 inches × 6-15/16 inches)
Weight:	Approx. 10.3 kg (22.7 lb) (including stand) Approx. 8.8 kg (19.4 lb) (not including stand) AC Adaptor : approx. 1.7 kg (3.5 lb)
Operating Temperature:	5 °C to 35 °C (41 °F to 95 °F)
Operating Humidity:	20% to 80% (no condensation)
Storage Temperature:	-20 °C to 60 °C (-4 °F to 140 °F)

[Display Panel]

Size:	64.8 cm/25.5 inches
Aspect ratio:	16:10
Resolution:	1920 pixels × 1200 pixels (WUXGA)
Display colors:	Approx. 16,770,000 colors
Viewing Angle:	178° (both horizontal and vertical)
Panel surface:	Xpol® polarizing panel

[Connectors]

Video Input	VIDEO: BNC × 1 SDI: BNC × 2, SMPTE274M/296M/259M-C/ ITU-R BT.656-4 standard with embedded audio YPbPr/RGB: BNC × 3 SYNC/HD: BNC × 1, SYNC signal level 0.3 V [p-p] to 4.0 V [p-p] HD signal level: TTL level VD: BNC × 1, VD signal level TTL level DVI-D: DVI-D × 1, HDCP compatible, TMDS single link Vertical frequency: 50.0 Hz to 60.0 Hz Horizontal frequency: 31.5 kHz to 67.5 kHz Dot clock: 25 MHz to 165 MHz
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Video Output:	VIDEO : BNC × 1, through out (automatic, 75 Ω termination) SDI : BNC × 2, active through out YPbPr/RGB: BNC × 3, through out (automatic, 75 Ω termination) SYNC/HD: BNC × 1, through out (automatic, 1 kΩ termination) VD: BNC × 1, through out (automatic, 1 kΩ termination)
AUDIO Input:	Pin jack × 2 (stereo): Signal level 0.5 Vrms
Headphone Output:	Stereo mini-jack M3 × 1, 32 Ω, adjustable level
GPI:	D-SUB 9-pin × 1
RS-232C:	D-SUB 9-pin × 1
External DC Power Input:	XLR 4 pins × 1 (for supplied AC adapter)

[Signal Level]

VIDEO System:	SYNC signal level: 0.3 V [p-p] to 4.0 V [p-p] HD/VD signal level: TTL level
AUDIO System:	AUDIO Input signal level: 0.5 Vrms Headphone output: 32 Ω, Adjustable level
SDI Embedded AUDIO:	HD SDI: SMPTE299M standard, 48 kHz, 8 channels, synchronous/asynchronous SD SDI: SMPTE272M standard, 48 kHz, 4 channels, synchronous

[Accessories]

Standard Accessories:	3D Polarized Eyewear (BT-PGL10G) × 2, AC Adaptor (DC cable attachment), Power cable, Power cable hook, Screw (for securing power cable)
Optional Units:	BT-PGL10G 3D Polarized Eyewear BT-WMA26G Wall Mount Adaptor AG-3DA1 Integrated Twin-Lens 3D Camera Recorder AG-HMX100 Digital AV Mixer (Coming Soon)



BT-PGL10G 3D Polarized Eyewear

Two pairs of BT-PGL10G are supplied with the BT-3DL2550. The BT-PGL10G is not optimized for use with other 3D polarized displays.

* Note Regarding 3D Image Viewing

- The perception of 3D effects varies in individuals. Viewing 3D images may cause adverse health effects in rare cases.
- For comfortable 3D viewing, be sure to read the Safety Precautions and Cautions for Use sections in the operation manual.

Please refer to the latest 3D Product Information on the Panasonic website.



<http://pro-av.panasonic.net/en/3d>

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JQA-0443



Factories of Systems Business Group have received ISO14001:2004-the Environmental Management System certification. (Except for 3rd party's peripherals.)