

Panasonic

ideas for life

9-Series Professional Plasma Displays



Presenting a New Standard in Plasma Performance

The Beauty of Full HD Images.

The Power of the World's Largest 103-inch Display.

Smooth Motion and Superb Image Rendering.

Simulated pictures on screen.
Specifications are subject to change without notice.

Welcome to the Next Generation

Introducing Panasonic's Full HD Plasma Displays

Panasonic's new series of plasma displays for professionals is highlighted by our long-awaited 103-inch Full HD plasma display model, the largest* of its type in the industry.

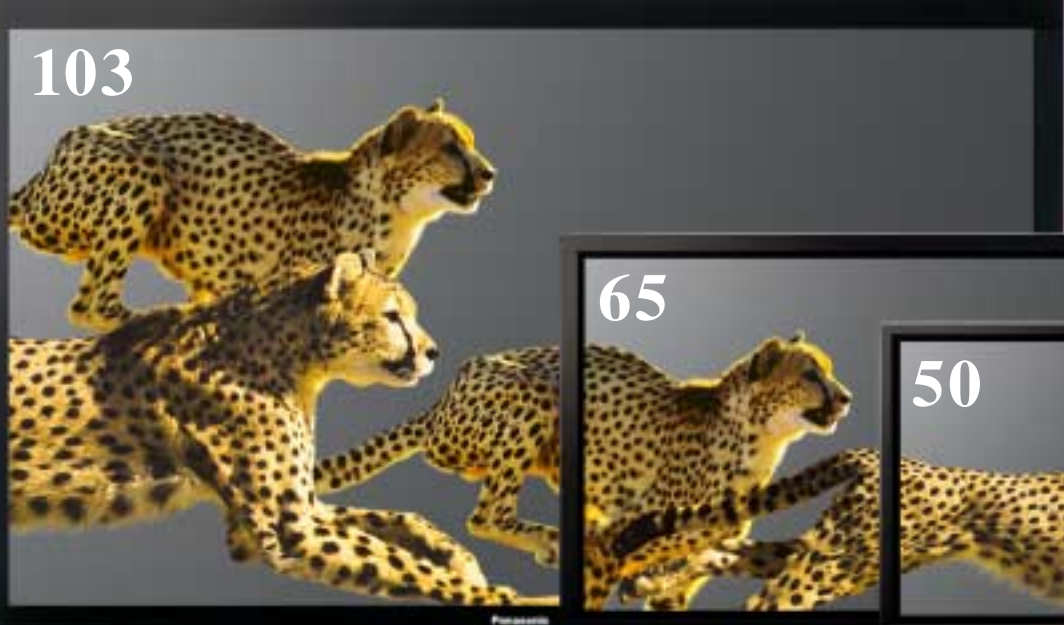
Our new series offers the best in plasma displays in four ways: (1) Superb motion pictures, with the powerful viewing impact of smooth, high-resolution moving images on a large screen. (2) Outstanding expressivity across the entire colour range specified in HDTV standards. (3) Superior tonal expression that produces crisper, richer blacks for true-to-life images. And (4) a full lineup of models to choose from, including a 103-inch Full HD model that debuts as biggest in the industry.

Panasonic plasma displays also give you a host of versatile functions, easy expandability, and the advanced specifications needed in the most demanding applications.

With our new plasma displays, Panasonic has high-performance solutions for all your professional needs.

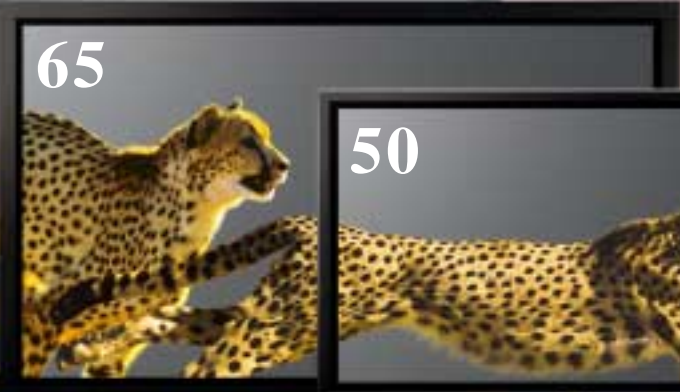
*As of September 15, 2006, according to a Panasonic survey.

103



TH-103PF9EK

65



TH-65PF9EK
TH-65PF9BK

50



TH-50PF9EK

50



TH-50PH9EK
TH-50PH9BK

42



TH-42PH9EK
TH-42PH9BK

TH-50PH9ES
TH-50PH9BS

TH-42PH9ES
TH-42PH9BS

TH-42PS9ES
TH-42PS9BS

42



TH-42PS9EK
TH-42PS9BK

42



TH-42PS9ES
TH-42PS9BS

Full HD

HD

SD



Ultimate Full HD Plasma Displays: Unleashing All the Beauty of Full HD

Panasonic introduces three professional Full HD plasma displays including the world's largest* plasma panel at 103 inches. Simply, the larger your screen size, the more detail you need your display device to deliver. Our new plasma panels incorporate a host of leading-edge technologies to reproduce clear, brilliant images with exceptional detail, true Full HD resolution and outstanding depth perception. The new models also provide smooth, sharp motion images, true-to-life colour and the equivalent of 4,096 gradation steps. With their superior imaging performance, Panasonic's new plasma display panels unleash all the beauty of Full HD.

* As of September 15, 2006



TH-65PF9EK/BK
65-inch (165 cm) diagonal Full High Definition Plasma Display



TH-103PF9EK
103-inch (260 cm) diagonal Full High Definition Plasma Display

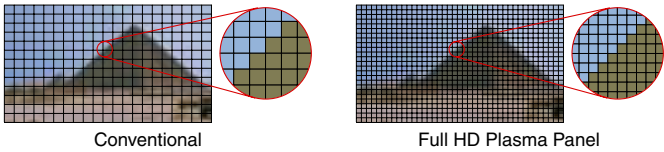


TH-50PF9EK
50-inch (127 cm) diagonal Full High Definition Plasma Display

Advanced Technologies Deliver Superb Full HD Image Quality

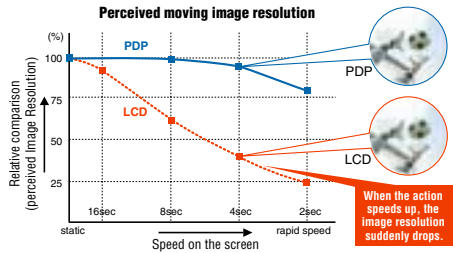
True Full HD Images

A Huge Screen — and Twice as Much Image Information
Our new Full HD plasma models feature about 2 million pixels (1920 horizontal x 1080 vertical) — about twice as many as our conventional HD models. Images are uniformly clear, sharp and super-detailed across the entire screen surface. With our industry-leading 103-inch panel — about four times the size of a 50-inch panel — the viewing impact is nothing less than spectacular.



Superior Moving Image Resolution

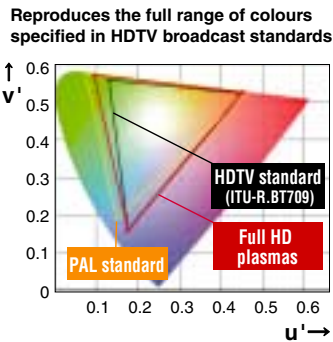
To deliver the full beauty of HD images, the display needs to render moving images in clear detail. Plasma display panels use a self-illuminating system to boost resolution in images with fast motion. Panasonic brings out all the beauty inherent in Full HD, reproducing crisp, sharp images that move smoothly even when viewed on the 103-inch screen.



Superior Colour Reproduction

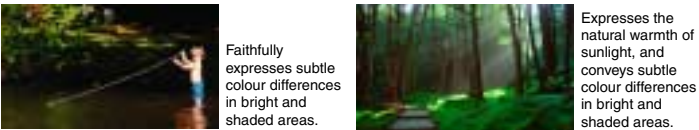
Reproducing the Entire HDTV Colour Range

HD sources are based on the HDTV standard rather than the conventional PAL standard. In our new Full HD models, the panel phosphor characteristics closely match the HDTV-standard colour gamut. This lets our plasmas reproduce the entire colour range specified in the HDTV standard (ITU-R. BT709), so images are natural-looking and faithful to the original HD source.



Digital Colour Reality for Accurate Reproduction of the Ambience in Movies

In Super Cinema mode, Digital Colour Reality boosts precision in the digital control of colour and brightness video data by a factor of four (white chromaticity fluctuation of less than 0.003). By continuously adjusting the white balance and performing gamma correction as scenes change, this technology accurately expresses the warmth of light, and reproduces delicate shading. With movie scenes especially, the new plasma displays create the kind of faithful ambience that were difficult for previous systems to deliver.



4,096 Equivalent Steps of Gradation

4,096 Gradation Steps — Tops in the Industry

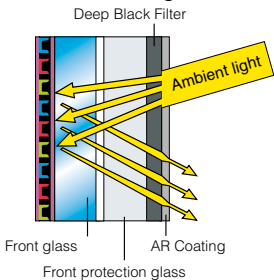
Thanks to Panasonic's advanced 16-bit digital image processing, our new plasma models reproduce crisp, clear motion picture images with the equivalent of 4,096 gradation steps. This industry-leading gradation level not only creates richer, deeper blacks, it also enhances image depth, conveys fine detail, and recreates ambience with the kind of accuracy only a Full HD plasma display can offer.



Deep, Crisp Blacks and the Industry's Highest Contrast

Our New Real Black Creation technology achieves up to 5000:1 contrast — tops in the industry. This combines with our New Deep Black Filter and New AR Coating technologies, which help maintain crisp blacks even in bright image surroundings, to give images superb depth and textural quality.

New Deep Black Filter with AR Coating



Explore a Wider World of Video Applications

For Applications Demanding Extremely Clear, High-Resolution Still and Motion Images

PRESENTATIONS

- All models incorporate a new TY-FB9FDD DVI-D terminal board that supports UXGA and WUXGA signals (simplified display mode). When connected to a PC, Panasonic plasmas provide a big-screen display of data such as CAD images with outstanding clarity, detail and colour accuracy.
- Able to display highly detailed documents and medical images with exceptional clarity and sharpness, Panasonic Full HD models are suitable for use in conferences and presentations with large audiences.



MONITORING

- Our 103-inch model is perfect for control rooms where crystal-clear display of detailed information is essential. The super-size screen makes it easy for everyone to see the information.
- In image quality, Panasonic's extra-large-screen, high-resolution plasma models easily outperform projection displays. They can also be installed in places where bulky conventional direct-viewing displays could not.



For Applications Demanding the Highest Colour Accuracy

TV/VIDEO PRODUCTION

- Digital Colour Reality reproduces colours the way movie makers and colourists meant them to be seen.
- The new PDPs reproduce colours across the entire HDTV-standard range, so colours from HD sources are faithful and natural-looking.
- Now supporting 10-bit input signals, the new TY-FB9HD HD-SDI terminal board achieves precise colour reproduction and rich gradation.
- The Full HD plasmas provide full-digital processing from signal input to display, making them suitable for use as HD studio monitors.



MUSEUMS/EXHIBITS

- Digital Colour Reality technology provides detailed, true-to-life reproduction of colours in all kinds of images, from fine paintings to HD video programmes. Panasonic's Full HD models render artistic images with stunning beauty.
- Biggest in the industry, our 103-inch model is easily visible even in large spaces, so you can deliver more information to a greater number of people.



For Applications Demanding Visible Image Textures

DIGITAL SIGNAGE

- With an industry-leading 4,096 gradation steps, Panasonic's Full HD plasma models realistically convey the texture and surface quality of objects.
- Optional plug-in PC board and CAT5e system with software applications let you schedule and deliver rich, multimedia content to your targeted audience at any time.
- With the 103-inch model in portrait orientation, images of people can be shown in actual life-size to draw attention.



MINI-THEATRES

- Panasonic's Full HD models provide outstanding motion image resolution, so movies are clear and sharp. The 103-inch screen is suitable for mini-theatre applications.
- Digital Colour Reality technology delivers accurate gradation from light to dark.
- The picture is clear and beautiful even when viewed from up close. The viewing angle is 45 degrees at a distance of twice the screen height, providing the kind of dynamism and presence enjoyed in movie theatres.



Industry's Best Picture Quality

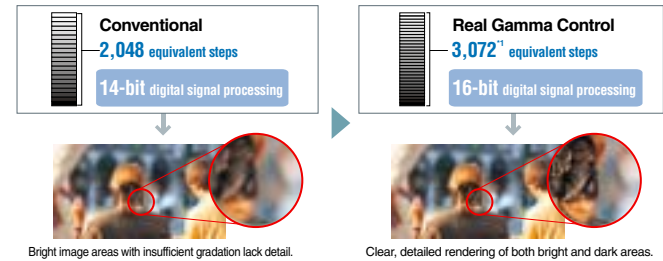
FEATURES COMMON TO ALL MODELS

3,072*1 Equivalent Steps of Gradation for Finely Nuanced Images

Real Gamma Control

Instead of using first-stage, basic processing like other brands, Panasonic plasma displays use maximum 16-bit processing, the highest level in the industry, to process video signals all the way up to the gamma correction stage. While other brands use the number of signal bits for calculation, Real Gamma Control reproduces the actual image that appears on the screen at the world's highest level of 3,072*1 equivalent steps of gradation.

*1: For PH/PS series. 4,096 equivalent steps for PF series.



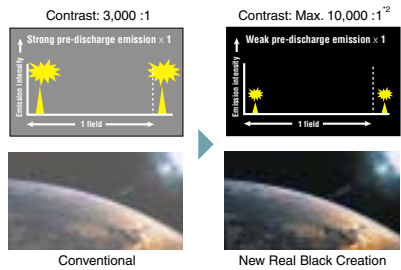
Max.10,000:1*2 Contrast Provides Superb Depth

New Real Black Creation

Panasonic's original New Real Black Creation technology helps achieve the industry's highest level of contrast at a maximum of 10,000:1*2 in dark image areas to reproduce exceptionally deep, rich blacks. This system suppresses unwanted graying by reducing the electrical pre-discharge to about 30% of the level of conventional plasma displays.

*2: For PH/PS series.

Max. 5,000:1 for PF series.

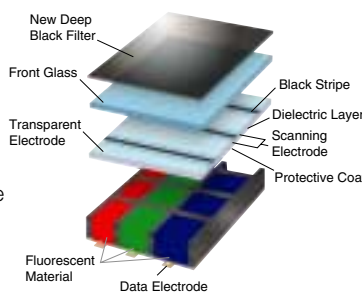


Excellent Brightness Even in Bright Rooms

Advanced Plasma Display Panel

Use of improved panel materials and enhanced rib and electrode shapes have boosted the efficiency of our plasma display panels. We've also attained a stable, high-speed discharge to cope with the light intensity in the finely-controlled discharge. These features combine to increase screen brightness by 20%*3 compared with previous models.

*3: For PH series. 5% for PS series.

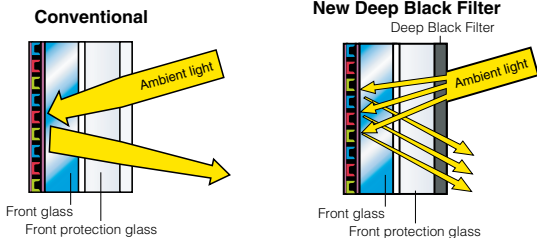


Industry's Best*4 Bright-Area Contrast

New Deep Black Filter

The New Deep Black Filter suppresses light transmittance and slashes the amount of external light reflected. This technology helps these displays achieve the industry's highest contrast ratio of 400:1 when viewed in bright surroundings. Reflection is minimal, so images are clean and distraction-free.

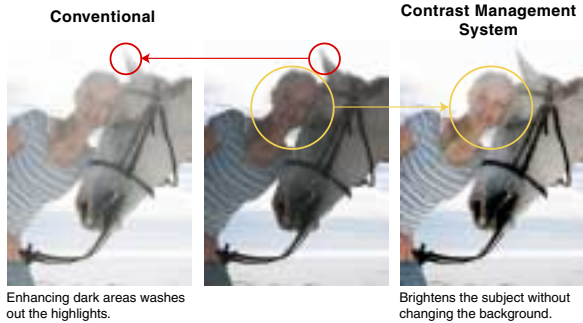
*4: As of April 1, 2006



Superior Expressive Detail

Contrast Management System

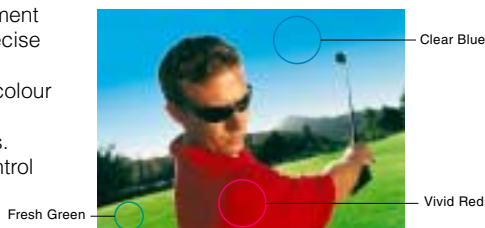
Original Panasonic technology optimises the contrast by matching it to the images in each scene. Instead of losing gradation by making part of the image too bright or too dark, this new technology applies just the right amount of contrast correction for each part of the scene. The result brings natural beauty to all parts of the scene.



Rich, Vibrant Colours

Advanced 3D Colour Management

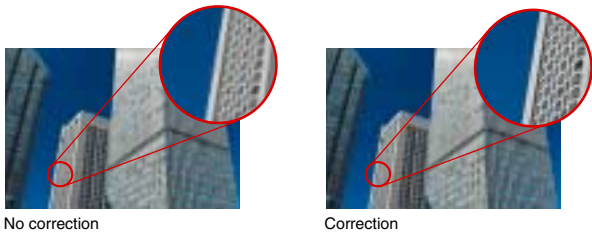
The Colour Management System achieves precise control based on 3D management in the colour difference plane and brightness directions. This finer level of control produces more expressive images.



Smooth Diagonal Lines and Sharp, Clear Images

Sub-Pixel Controller

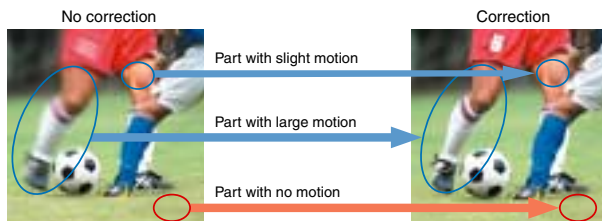
The Sub-Pixel Controller eliminates jagged or blurred diagonal lines and produces smoother edges. Unlike conventional systems in which the three RGB colours are processed together, this advanced system processes each colour separately for crisper, more natural-looking images. Theoretically, this results in a 30% improvement in horizontal resolution compared with conventional systems.



Even Scenes with Lots of Motion are Clear

Motion Pattern Noise Reduction

The Motion Pattern Noise Reduction circuit detects motion patterns that tend to generate noise, and makes adjustments to maximise image quality. It helps produce clean, sharp images with outstanding gradation, even in scenes with considerable motion. The result is a noticeable improvement in moving picture quality.



Panasonic plasma finely divides each scene into numerous parts, then detects the motion in each part and applies noise reduction where required.

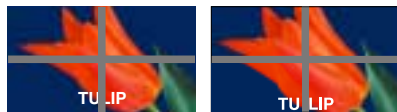
Advanced Usability

FEATURES COMMON TO ALL MODELS

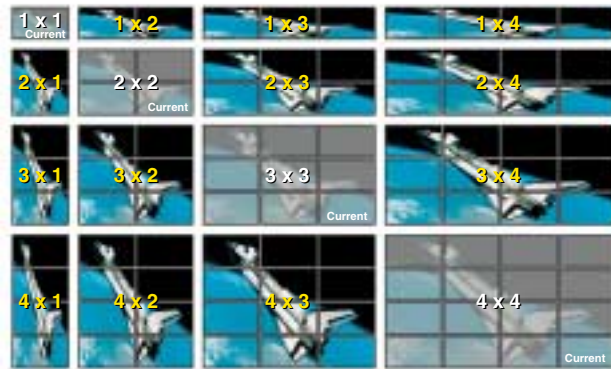
Powerful Multi-Screen Display Systems

Advanced Image-Enlarging Function

This built-in image-enlarging function makes it easier to set up multi-screen systems with as many as 16 displays (4x4 configuration). A new function lets you enlarge the image up to 4x vertically and horizontally independently, making it easy to set up a multi-screen system with up to four displays arranged either vertically or horizontally. For example, expand the image horizontally to 4x and leave it unchanged vertically, and you can create a system with four units side-by-side. This is ideal in bank lobbies, airports and other places where you want a large display system that can be read from a distance. Thanks to the ID control function, you can use the standard remote control unit to control multiple panels individually. There is also a mode that displays a full-screen image, including the edges (the width of the frame) of the display panel. This is especially suitable for displaying text information, since no words are hidden by the frame.



Note: Image-enlarging function does not work in Dual Picture mode. Images of SXGA resolution or higher from a PC or RGB source may not enlarge correctly. Some degradation occurs when images are enlarged. The image-enlarging function of the TH-42PS9 series is not the advanced image-enlarging function. The ambient temperature varies depending on the installation location. Provide sufficient air conditioning for surrounding conditions.



Ultra-Lightweight Cabinet

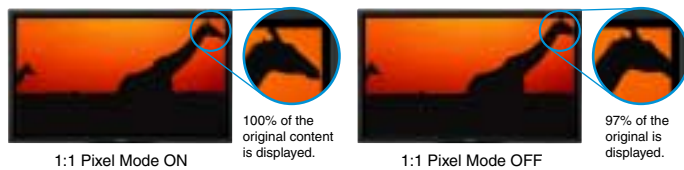
Panasonic's advanced PDP production technology made it possible to reduce the plasma panel glass thickness from 2.8 mm to 1.8 mm. This reduces overall weight by up to 15%*5 compared with previous models, making installation easier than ever. Using less glass benefits the environment, too.

*5: 42-inch HD model.

1:1 Pixel Mode (PF series only)

The 1:1 Pixel mode maps the 1920 x 1080 video content to Full HD panel pixels to display 100% of the original content. By skipping the scaling process, this mode is able to produce high-definition images in their original, 1:1 pixel form. When the 1:1 Pixel mode is switched off, the picture source is scaled for over-scanning and 97% of the original is displayed.

Note: 1920 x 1080 PC signals are always displayed in 1:1 mode.



Advanced Dual Picture Mode

Panasonic plasma displays feature the Advanced Dual Picture Mode in addition to the conventional Dual Picture Mode. This mode lets you overlay a video image onto a full-screen PC image. For example, you can superimpose text information from a PC over a video clip, giving you a more effective way to present information. When displaying two separate images, you can select the audio output from either source. Playing back the audio from the sub-source can be useful in teleconferencing, for example.

Advanced Dual Picture Mode



Note: Dual Picture Mode cannot handle the following combinations of two analog signals: Component - Component, Component - PC (RGB), PC (RGB) - Component, PC (RGB) - PC (RGB). The Advanced Dual Picture Mode may not work properly with some video signals.

Remote System Monitoring

In addition to the conventional display control command and power supply/input selection check command, Panasonic plasma displays feature a monitor command that lets you check the signal from a distant location. In conventional systems, you had to install a monitoring camera to check the images displayed on an advertising display panel or digital signage system. This monitor command, on the other hand, lets you monitor images by simply connecting a PC via a serial cable.

Long Service Life of 60,000 Hours

The inner panel improvements give Panasonic plasma panels a long service life of approximately 60,000 hours* even with their increased brightness.

* The time until panel brightness is reduced to half its initial level, when displaying moving images at standard mode. Excludes afterimages and malfunctions.

Vertical Mounting

Panasonic professional plasma displays can be positioned vertically to display portrait images, allowing them to serve as effective storefront signboards. There's no need to install an optional fan kit.

Note: When using the display vertically, set it so the power button is on top. The TH-50PF9EK cannot be positioned vertically.



Automatic Picture Positioning (PF series only)

This function automatically corrects the horizontal and vertical picture positions, clock phase, and dot clock when an analogue RGB signal is input. The adjustment results in optimal standard values for the horizontal and vertical picture sizes.

Enhanced Screen Saver Functions

A variety of screen saver functions help lower the risk of uneven phosphor aging to the same level as CRT displays. You can also use the timer to set the screen saver operating cycles, operating time, and start and stop times. This lets you make settings that match your application.

- **White Bar Scroll:** White bars move across the screen from left to right at regular intervals. Good for ordinary still-image displays.
- **Screen Reversal:** Displays images with the black and white reversed. Good for text displays.
- **Side Panel Adjustment:** Brightens the black bands on the sides of the screen when displaying images in the 4:3 format.
- **Wobbling:** Shifts the image's position by several pixels at fixed time intervals or according to the detected screen condition.
- **Peak Limit Mode:** Lowers the peak brightness level (image contrast) by 30%.

Energy-Saving Functions

- **DPMS (Display Power Management Signaling)**
Power is automatically turned on or off in response to a sync signal from the PC connected to the built-in PC input terminal.
- **Auto Power Off**
When you're using a device connected to the multi-function slots, the display panel goes into standby mode after about 10 minutes if no sync signal is received.
- **Power Save Mode**
Reduces the display's brightness.
- **Standby Power Save Mode**
Reduces power consumption when on standby. (Start-up may take a few moments once the display is in this mode.)

Sound Menu

The Sound Menu gives you a choice of three sound settings (Standard/Dynamic/Clear) to best match the kind of input source.

Note: The Sound Menu is not offered on the TH-103PF9EK.

Super Quiet Operation

Our "silence engineering" has eliminated the need for a fan on PS series and dramatically suppressed the fan noise on PF/PH series, to give you the kind of quiet operation that makes for a more pleasant viewing experience.

Industry's Best Expandability

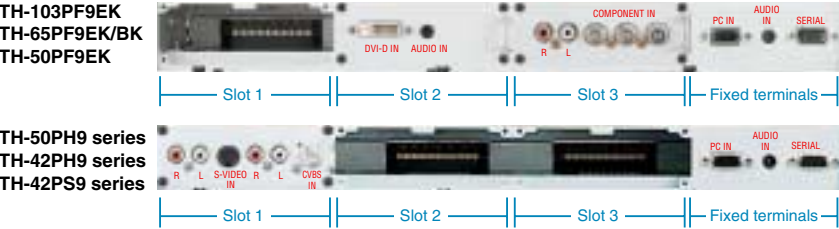
FEATURES COMMON TO ALL MODELS

Multi-Function Slots

In addition to the fixed input interface, the Panasonic plasma display has three interchangeable slots that let you add different combinations of optional terminal boards. This gives you the flexibility to add digital or analogue capabilities, as necessary, and to customise your system for specific needs.

Standard-Equipped Terminals

You can mount optional terminal board in a vacant slot. Or, you can remove the standard terminal boards and mount optional boards.



Optional Terminal Boards

RGB Active Through Terminal Board
(mounts in slots 1 & 2)

TY-42TM6G



- Sends the signal that's input via the PC IN terminal to a second display connected to the PC OUT terminal. This connectability adds convenience when configuring a multi-screen system.

The characters in red are added for explanation.

DVI-D Terminal Board
(mounts in slot 1 or 2)

TY-FB9FDD (for PF series)
TY-42TM6D (for PH/PS series)



- Lets you connect a PC or other compatible digital equipment that outputs digital RGB signals (DVI-D compliant).
- Supports HDCP.
- TY-FB9FDD is compatible with UXGA/WXGA signals (compressed display).

HDMI Terminal Board
(mounts in slot 1 or 2)

TY-FB8HM



- Enables fully digital connection of signals from HDMI-compatible DVD players and other digital equipment for blur-free images with no colour bleeding.

Specifications	
Standards compliance	HDMI ver.1.1
Compatible video format	525/60p, 625/50p, 750/60p, 750/50p, 1125/60i, 1125/50i, VGA60

* High-Definition Multimedia Interface and HDMI are trademarks of HDMI Licensing, LLC.

BNC Dual Video Terminal Board
(mounts in slot 1 or 2)

TY-FB9BD



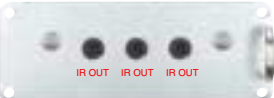
Composite/Component Video Terminal Board
(mounts in slots 1 & 2, or slots 2 & 3)

TY-42TM6Y



Ir Through Terminal Board
(mounts in any slot)

TY-FB9RT



Note: Only one terminal board can be used per display. Also, it can be used to control only Panasonic AV equipments.

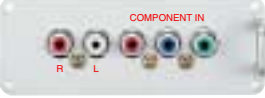
BNC Component Video Terminal Board
(mounts in any slot)

TY-42TM6A



RCA Component Video Terminal Board
(mounts in any slot)

TY-42TM6Z



BNC Composite Video Terminal Board
(mounts in slot 1 or 2)

TY-42TM6B



RCA Composite Video Terminal Board
(mounts in slot 1 or 2)

TY-42TM6V



SCART Terminal Board
(mounts in slot 1 or 2)

TY-FB8SC



PC Input Terminal Board
(mounts in any slot)

TY-42TM6P



- Lets you display images from two or more PCs.

* Does not support the DPMS function.

SDI/HD-SDI Terminal Board (mounts in slot 1 or 2)

SDI Terminal Board **TY-FB7SD**
HD-SDI Terminal Board **TY-FB9HD**



- Supports the serial digital interface (SDI) used in broadcasting.
- Provides fully digital transmission for clear, clean image displays.
- The TY-FB9HD supports HDTV.

Specifications	
	TY-FB7SD
Standards compliance	SMPT259M-C
Compatible video format	525/59.94i, 625/50i, 750/60p, 59.94p, 750/50p, 1125/30p, 625/50i

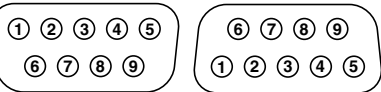
Preset Input Signals

Signal name		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Optional Terminal Board													Fixed Terminal
				Composite Component Video TY-42TM6Y	Component Video TY-42TM6A/Z	PC Input TY-42TM6P	RGB Active Through TY-42TM6G	Composite Video TY-42TM6B/V	BNC Dual Video TY-FB9BD	DVI-D (for PF series) TY-FB9FDD	DVI-D (for P/HPS series) TY-42TM6D	SDI TY-FB7SD	HD-SDI TY-FB9HD	HDMI TY-FB8HM	SCART TY-FB8SC	PC IN (D-Sub 15-pin)	
Composite	NTSC	15.73	59.94	Y				Y	Y						Y		
	PAL	15.63	50.00	Y				Y	Y						Y		
	PAL60	15.73	59.94	Y				Y	Y						Y		
	SECAM	15.63	50.00	Y				Y	Y						Y		
	Modified NTSC	15.73	59.94	Y				Y	Y						Y		
Component/RGB	525 (480)/60i	15.73	59.94	Y	Y	Y	Y					Y	Y			Y	
	525 (480)/60p	31.47	59.94	Y	Y	Y	Y				Y	Y				Y	
	625 (575)/50i	15.63	50.00	Y	Y	Y	Y							Y		Y	
	625 (575)/50p	31.25	50.00	Y	Y	Y	Y					Y				Y	
	625 (576)/50p	31.25	50.00								Y			Y			
	750 (720)/60p	45.00	60.00	Y	Y	Y	Y			Y	Y		Y	Y		Y	
	750 (720)/50p	37.50	50.00	Y	Y	Y	Y			Y	Y		Y	Y		Y	
	1125 (1080)/60i	33.75	60.00	Y	Y	Y	Y			Y	Y		Y	Y		Y	
	1125 (1080)/60p	67.50	60.00	Y ^{*1}	Y ^{*1}	Y ^{*1}	Y ^{*1}			Y	Y			Y		Y ^{*1}	
	1125 (1080)/50i	28.13	50.00	Y	Y	Y	Y			Y	Y		Y	Y		Y	
	1125 (1080)/50p	56.25	50.00	Y ^{*1}	Y ^{*1}	Y ^{*1}	Y ^{*1}			Y						Y ^{*1}	
	1125 (1080)/30p	33.75	30.00	Y	Y	Y	Y						Y			Y	
	1125 (1080)/25p	28.13	25.00	Y	Y	Y	Y						Y			Y	
	1125 (1080)/24p	27.00	24.00	Y	Y	Y	Y						Y			Y	
	1125 (1080)/24sF	27.00	48.00	Y	Y	Y	Y						Y			Y	
	1250 (1080)/50i	31.25	50.00	Y	Y	Y	Y									Y	
	RGB	640 x 400 @70Hz	31.46	70.07	Y	Y	Y	Y									Y
640 x 480 @60Hz		31.47	59.94	Y	Y	Y	Y			Y	Y			Y		Y	
640 x 480 @72Hz		37.86	72.81	Y	Y	Y	Y									Y	
640 x 480 @75Hz		37.50	75.00	Y	Y	Y	Y									Y	
640 x 480 @85Hz		43.27	85.01	Y	Y	Y	Y									Y	
852 x 480 @60Hz		31.47	59.94	Y	Y	Y	Y			Y	Y					Y	
800 x 600 @56Hz		35.16	56.25	Y	Y	Y	Y									Y	
800 x 600 @60Hz		37.88	60.32	Y	Y	Y	Y			Y	Y					Y	
800 x 600 @72Hz		48.08	72.19	Y	Y	Y	Y									Y	
800 x 600 @75Hz		46.88	75.00	Y	Y	Y	Y									Y	
800 x 600 @85Hz		53.67	85.06	Y	Y	Y	Y									Y	
1066 x 600 @60Hz		37.88	60.32	Y	Y	Y	Y			Y	Y					Y	
1024 x 768 @50Hz		39.55	50.00							Y							
1024 x 768 @60Hz		48.36	60.00	Y	Y	Y	Y			Y	Y					Y	
1024 x 768 @70Hz		56.48	70.07	Y	Y	Y	Y									Y	
1024 x 768 @75Hz		60.02	75.03	Y	Y	Y	Y									Y	
1024 x 768 @85Hz		68.68	85.00	Y	Y	Y	Y									Y	
1366 x 768 @50Hz		39.55	50.00							Y							
1366 x 768 @60Hz		48.36	60.00	Y	Y	Y	Y			Y	Y					Y	
1152 x 864 @60Hz		53.70	60.00							Y							
1152 x 864 @75Hz		67.50	75.00	Y	Y	Y	Y									Y	
1280 x 960 @60Hz		60.00	60.00	Y	Y	Y	Y									Y	
1280 x 960 @85Hz		85.94	85.00	Y	Y	Y	Y									Y	
1280 x 1024 @60Hz		63.98	60.02	Y	Y	Y	Y			Y						Y	
1280 x 1024 @75Hz		79.98	75.03	Y	Y	Y	Y									Y	
1280 x 1024 @85Hz		91.15	85.02	Y	Y	Y	Y									Y	
1400 x 1050 @60Hz		65.22	60.00							Y							
1600 x 1200 @60Hz		75.00	60.00	Y	Y	Y	Y			Y						Y	
1600 x 1200 @65Hz		81.25	65.00	Y	Y	Y	Y									Y	
1920 x 1200 @60Hz		74.04	59.95							Y							
Mac 13 (640 x 480)		35.00	66.67	Y	Y	Y	Y									Y	
Mac 16 (832 x 624)		49.72	74.54	Y	Y	Y	Y									Y	
Mac 21 (1152 x 870)		68.68	75.06	Y	Y	Y	Y									Y	

*1: The PH/PS series does not accept these signals.

Note: When a signal having a resolution that exceeds the panel resolution is input, a simplified display will be produced.

Serial RS232C: D-Sub 9-Pin



(Male for PF series) (Female for PH/PS series)

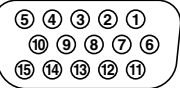
Pin Assignment and Signal Name

Pin No.	Signal name	Descriptions
1	CD	NC
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Not used
5	GND	Ground
6	DSR	Not used
7	RTS	Short Circuit
8	CTS	
9	RI	NC

Communucation Parameters

Signal Level	Complied with RS232C
Synchronization Method	Asynchronous
Baud Rate	9600 bps
Parity	None
Character Length	8 bits
Stop Bit	1 bit
Flow Control	—

PC Input: D-Sub 15-Pin (Female)



Signal Name

Pin No.	Signal name
1	R (PR/Cn)
2	G (Y)
3	B (Pa/Ca)
4	NC (Not connected)
5	GND (Ground)
6	GND (Ground)
7	GND (Ground)
8	GND (Ground)
9	NC (Not connected)
10	GND (Ground)
11	NC (Not connected)
12	SDA
13	HD/SYNC
14	VD
15	SCL

Plasma System Solutions

HD-SDI System for Broadcast Use

Using the HD-SDI Terminal Board

The Full HD plasma model adapts easily to systems that use HD-SDI, the digital interfaces used in broadcasting and video production. Simply plug the HD-SDI terminal board into the function slot, and you get crisp, clear Full HD images for the studio or control room.

- **Suitable as an HD Master Monitor**

With outstanding reproducibility across the entire HDTV-standard (ITU-R, BT709) colour range, Panasonic Full HD panels deliver faithful, natural-looking colours from HD sources. And because they provide full-digital signal processing from input to display, these models are suitable for use as HD master monitors.

- **Adapts Easily to HD-SDI Systems**

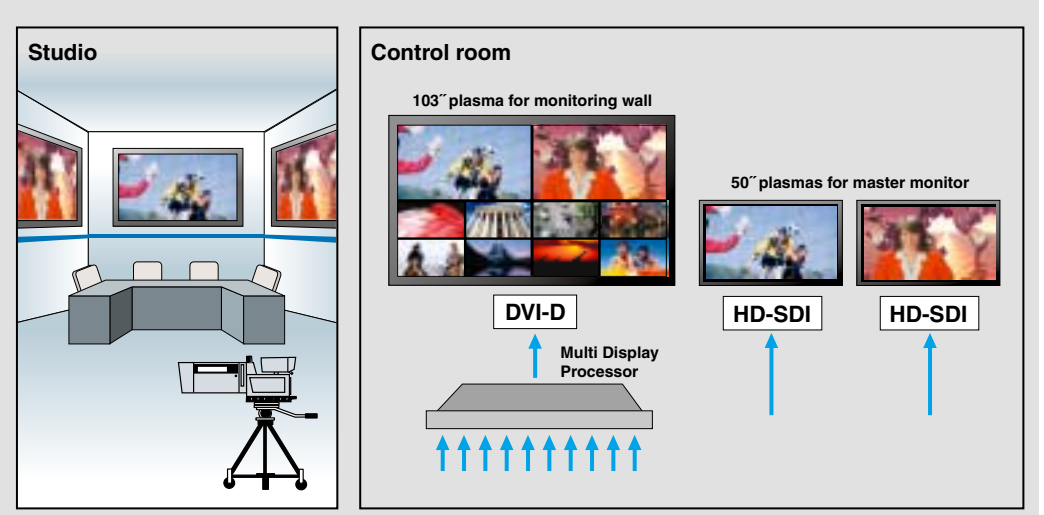
The TY-FB9HD HD-SDI terminal board supports 10-bit input signals, for greater colour reproduction precision and richer gradation.

- **Monitor Multiple Sources on a Single 103-inch Screen**

Connect the 103-inch model to a multi-display processor, and the screen can be divided into sub-screens for monitoring multiple sources. This gives you an efficient way to view different images at once.

- **Ideal as a Studio Monitor**

The 103-inch model makes an ideal display monitor in a large studio. The large screen and wide viewing angle provide big, clear, easy-to-see images for performers and production crew.



Display Systems for Large Lecture Halls

Using Twisted-Pair-Cable Receiver and Twisted-Pair-Cable Transmitter/Active Switcher

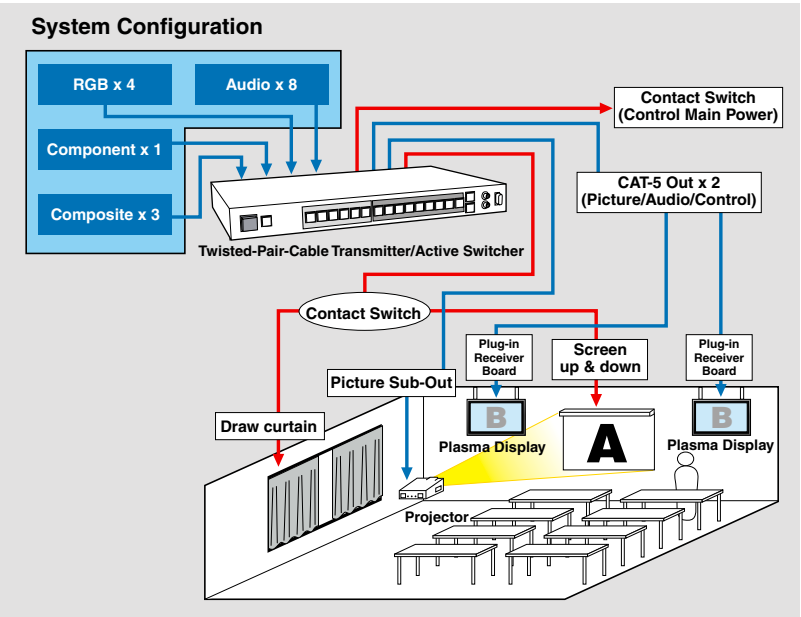
Via CAT5e cable, send the display control signal and video/audio signals from a Twisted-Pair-Cable Transmitter/Active Switcher with 8 input and 2 output terminals, and you can display high-resolution video content at a distant location. This kind of system can be used in large lecture halls, public spaces and medium-size stores.

- **Long-Distance Transmission of High-Quality Video Signals**

High-resolution XGA images, sound and RS232C control signal are transmitted approximately 150 m over a single cable. Plasma control signals can also be sent over the same cable to allow remote operation of power ON/OFF and other functions.

- **Higher Signal Quality, Lower Costs, and Easier Installation**

Thin, lightweight CAT5e twisted-pair cables do a better job of preventing signal degradation than coaxial cables. They also reduce costs and shorten the time needed for installation.



Simple Multi-Screen System

Using the RGB Active Through Terminal Board

You can easily configure a multi-screen system by using the RGB Active Through Terminal Board with the display's advanced image-enlarging function. This lets you disseminate information in a timely manner by updating the content over a network. You can also connect to a Blu Ray player for Full HD playback. This system is ideal for places where many people gather, such as business complexes and event venues.

- **Image Displays with Eye-Catching Impact**

The advanced image-enlarging function, with its variable horizontal and vertical display capability, creates displays that are effective on stages, near entranceways, and virtually anywhere.

- **Simple System Configuration**

Multi-screen systems generally require matrix switchers, image enlargers and other equipment, together with complicated wiring. With the RGB Active Through Terminal, you simply connect each display with a cable to build a large-screen multi-display system. Combined with the light weight of the displays, this makes it super easy to configure a highly effective system.

- **Remote Control Over a Network**

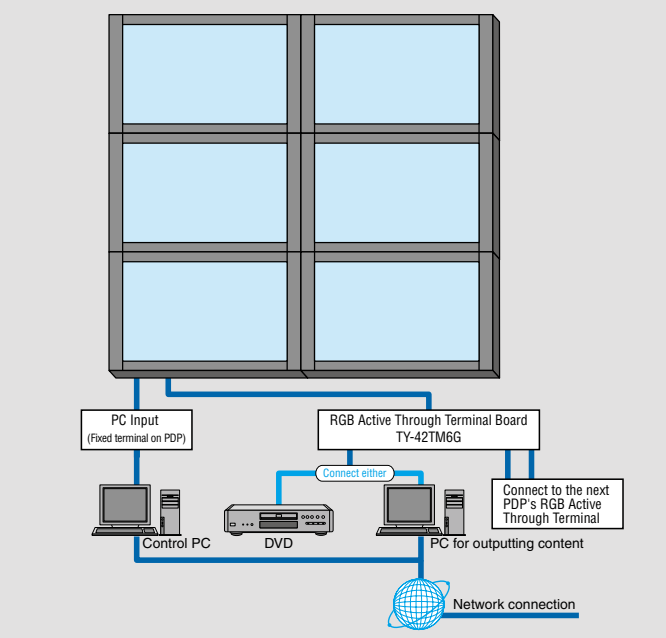
Because the content can be updated by using an existing network, the information being displayed can be quickly and easily updated*1. Monitoring commands also let you check the display status from a remote location.

*1: You will need to procure control software.
Note: The advanced image-enlarging function for N x M multi-screen system is not offered on the TH-42PS9 series.



Total Display Control with a Single Remote
The remote control that comes with the display is equipped with a "Display ID Control" function that allows you to control up to nine displays with the one remote.

System configuration (N x M image-enlarging)



Effective Interactive System

Using the Ir Through Terminal Board, BNC Dual Video Terminal Board, and Touch Panel

Function slots make it possible to combine various types of video equipment into an interactive system capable of reproducing a wide range of visual materials. Using the Ir Through Terminal Board, the video equipment can be operated by remote control while it is stored in racks to keep the room neat and tidy. The touch panel adds to the persuasive power of presentations and explanations. This system is ideal for seminar rooms, meeting rooms, or small lecture halls.

- **Supports a Wide Variety of Video Sources**

The BNC Dual Video Terminal Board and Component Video Terminal Board enable connection to various video devices. You can display images from VCRs, S-VHS VCRs, DVD players, and more.

- **Keeps the Room Neat and Attractive**

The video devices can be connected to the Ir Through Terminal Board and placed out of the way in racks. Each device can then be operated via the remote control sensor on the display. You can even close the rack doors to keep the room interior neat and uncluttered for more comfortable discussions.

- **Clear Visual Communications**

With the touch panel, you can write comments directly onto the screen. Make your meetings more precise by clearly notating the materials displayed on-screen.

The touch panel clearly drives your points across!



Sales dropped like this from March to May, but we also have to consider the increase that you can see here in June and July.

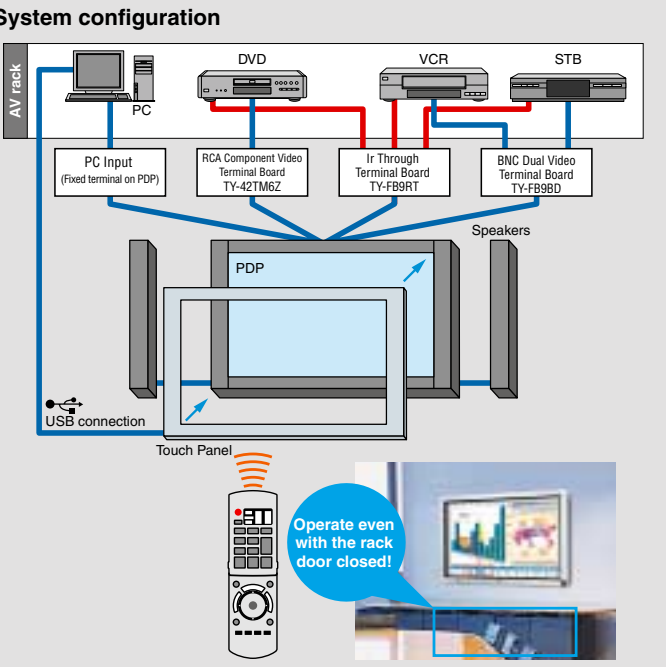
With words alone, it is often difficult for your audience to grasp the main points you are trying to communicate, which sometimes leads to confusion.



Sales dropped like this from March to May, but we also have to consider the increase that you can see here in June and July.

The touch panel lets you emphasise the main points, so your audience is left with a clear and precise explanation.

Note: The touch panel does not include a drawing application.



Un Endless Array of Applications

DIGITAL SIGNAGE



Joe's Best Burger, Queens, New York, USA



Rams Head® Live!, Baltimore, USA



Shopping Mall, Budapest, Hungary

MEDICAL CARE



Ehime University Hospital, Toon, Japan

TV PRODUCTION



Asahi Broadcasting Corporation, Osaka, Japan



103" plasmas in NBC's "Football Night in America" studio, New York, USA

AMUSEMENT



HD Aquarium, Coconut Grove, USA



Admiral Sport-Betting Shop, Austria

EDUCATION



School, Addis Ababa, Ethiopia



Waseda University, Shinjuku, Japan

CONTROL ROOM



Vatican Museum

Full HD Models



TH-103PF9EK

103-inch (260 cm) diagonal
Full High Definition Plasma Display

TH-65PF9EK/BK

65-inch (165 cm) diagonal
Full High Definition Plasma Display

TH-50PF9EK

50-inch (127 cm) diagonal
Full High Definition Plasma Display

HD Models



TH-50PH9E/B

50-inch (127 cm) diagonal
High Definition Plasma Display

TH-42PH9E/B

42-inch (106 cm) diagonal
High Definition Plasma Display

TH-42PS9E/B

42-inch (106 cm) diagonal
Progressive Wide Plasma Display

Specifications

Commodity Name	103" HD Plasma Display	65" HD Plasma Display	50" HD Plasma Display
Continental Model	TH-103PF9EK	TH-65PF9EK	TH-50PF9EK
UK Model		TH-65PF9BK	
Cabinet Colour		Black	
DISPLAY			
Screen Size (Diagonal)	103-inch	65-inch	50-inch
Aspect Ratio	16:9	16:9	16:9
Effective Display Area (W x H)	89.3" x 50.3" (2,269 x 1,277 mm)	56.5" x 31.8" (1,434 x 807 mm)	43.5" x 24.5" (1,106 x 622 mm)
Resolution (H x V)	1,920 x 1,080 pixels	1,920 x 1,080 pixels	1,920 x 1,080 pixels
Pixel Pitch (H x V)	1.182 x 1.182 mm	0.747 x 0.747 mm	0.576 x 0.576 mm
Contrast Ratio (Bright-area*1)	Max. 5,000:1 (400:1)		
Gradation	4,096 steps (equivalent)		
SIGNAL COMPATIBILITY			
Scan Rate	Horizontal frequency: 15 — 110 kHz; Vertical frequency: 48 —120 Hz		
PC Signal Compatibility	VGA, SVGA, WVGA, WSVGA, XGA, SXGA, XGA+, SXGA+, WXGA		
	UXGA, WXGA ... (Compressed)		
Supported Video Standards	NTSC, PAL, PAL 60, SECAM, Modified NTSC		
Video Signal Compatibility	525 (480)/60i, 60p; 625 (575)/50i, 50p; 750 (720)/60p, 50p; 1125 (1080)/60i, 50i, 24p, 24sF, 25p, 30p, 60p, 50p; 1250 (1080)/50i		
INPUT/OUTPUT			
Fixed Terminals			
PC IN	Mini D-sub 15pin x 1; Analogue RGB/Component; Plug & Play (VESA DDC 1/2B)		
AUDIO IN	M3 jack x 1		
SERIAL	D-sub 9-pin x 1, External control, RS-232C compatible		
Interchangeable Terminals			
Slot1	Vacant	Vacant	Vacant
Slot2	DVI-D In (DVI 24-pin x 1), Audio In (M3 jack x 1; L/R: 0.5 Vrms)		
Slot3	Component In (BNC x 3, Analogue RGB/Component), Audio In (L/R) (RCA pin jack x 2)		
ELECTRICAL			
Power Requirements	220 - 240 V AC, 50 Hz/60 Hz	220 - 240 V AC, 50 Hz/60 Hz	220 - 240 V AC, 50 Hz/60 Hz
Power Consumption	1500 W	725 W	595 W
Power off condition	0.5 W	0.3 W	0.3 W
Stand-by condition	Save Off: 1.5 W, Save On: 1.3 W	Save Off: 1.2 W, Save On: 1.0 W	Save Off: 1.2 W, Save On: 1.0 W
SOUND			
Audio Output	Line Out (L/R)	20 W [10 W + 10 W] (10 % THD)	16 W [8 W + 8 W] (10 % THD)
MECHANICAL			
Dimensions (W x H x D*2)	2,414 x 1,421 x 129 mm	1,554 x 925 x 99 mm	1,210 x 724 x 95 mm
Weight (approx.)	220 kg	74 kg	42 kg
OPERATING ENVIRONMENT			
Temperature	0°C — 40°C		
Humidity	20% — 80% (Non condensation)		
Altitude	0 — 2,400 m	0 — 2,800 m	0 — 2,800 m
RADIATION REGULATIONS			
EN55022 Class-B, EN55024, EN61000-3-2, EN61000-3-3			
SAFETY STANDARDS			
EN60065 Ver. 7			

*1: Measured at 100 lux.
*2: Exclusive of protruding portion

Commodity Name	50" HD Plasma Display		42" HD Plasma Display		42" SD Plasma Display	
Continental Model	TH-50PH9EK	TH-50PH9ES	TH-42PH9EK	TH-42PH9ES	TH-42PS9EK	TH-42PS9ES
UK Model	TH-50PH9BK	TH-50PH9BS	TH-42PH9BK	TH-42PH9BS	TH-42PS9BK	TH-42PS9BS
Cabinet Colour	Black	Silver	Black	Silver	Black	Silver
DISPLAY						
Screen Size (Diagonal)	50-inch		42-inch		42-inch	
Aspect Ratio	16:9		16:9		16:9	
Effective Display Area (W x H)	1,106 x 622 mm		920 x 518 mm		920 x 518 mm	
Resolution (H x V)	1,366 x 768 pixels		1,024 x 768 pixels		852 x 480 pixels	
Pixel Pitch (H x V)	0.810 x 0.810 mm		0.900 x 0.675 mm		1.080 x 1.080 mm	
Contrast Ratio (Bright-area*1)	Max. 10,000:1 (400:1)					
Gradation	3,072 steps (equivalent)					
SIGNAL COMPATIBILITY						
Scan Rate	Horizontal frequency: 15 — 110 kHz; Vertical frequency: 48 —120 Hz					
PC Signal Compatibility	VGA, SVGA, XGA		VGA, SVGA, XGA		VGA	
	SXGA, UXGA... (Compressed)		SXGA, UXGA... (Compressed)		SVGA, XGA, SXGA, UXGA... (Compressed)	
Supported Video Standards	NTSC, PAL, PAL 60, SECAM, Modified NTSC					
Video Signal Compatibility	525 (480)/60i, 60p; 625 (575)/50i, 50p; 750 (720)/60p, 50p; 1125 (1080)/60i, 50i, 24p, 24sf, 25p, 30p... SMPTE274M, 1250 (1080)/50i					
INPUT/OUTPUT						
Fixed Terminals						
PC IN	Mini D-sub 15pin x 1; Analogue RGB/Component; Plug & Play (VESA DDC 1/2B)					
AUDIO IN	M3 jack x 1					
SERIAL	D-sub 9-pin x 1, External control, RS-232C compatible					
Interchangeable Terminals						
Slot1	CVBS In (BNC x 1, Composite), Audio In (L/R) (RCA pin jack x 2); S-Video In (S-Video x 1), Audio In (L/R) (RCA pic jack x 2)					
Slot2	Vacant		Vacant		Vacant	
Slot3	Vacant		Vacant		Vacant	
ELECTRICAL						
Power Requirements	220 - 240 V AC, 50 Hz/60 Hz		220 - 240 V AC, 50 Hz/60 Hz		220 - 240 V AC, 50 Hz/60 Hz	
Power Consumption	440 W		330 W		280 W	
Power off condition	0.3 W		0.2 W		0.2 W	
Stand-by condition	Save Off: 0.7 W, Save On: 0.5 W		Save Off: 0.8 W, Save On: 0.6 W		Save Off: 0.8 W, Save On: 0.6 W	
SOUND						
Audio Output	16 W [8 W + 8 W] (10 % THD)					
MECHANICAL						
Dimensions (W x H x D ⁻²)	1,210 x 724 x 95 mm		1,020 x 610 x 89 mm		1,020 x 610 x 89 mm	
Weight (approx.)	37.0 kg		27.0 kg		26.0 kg	
OPERATING ENVIRONMENT						
Temperature	0°C — 40°C					
Humidity	20% — 80% (Non condensation)					
Altitude	0 — 2,800 m			0 — 3,000 m		
RADIATION REGULATIONS						
EN55022 Class-B, EN55024, EN61000-3-2, EN61000-3-3						
SAFETY STANDARDS						
EN60065 Ver. 7						

*1: Measured at 100 lux.
*2: Exclusive of protruding portion

Supplied Remote Control

(Comes with every Panasonic Plasma Display model.)

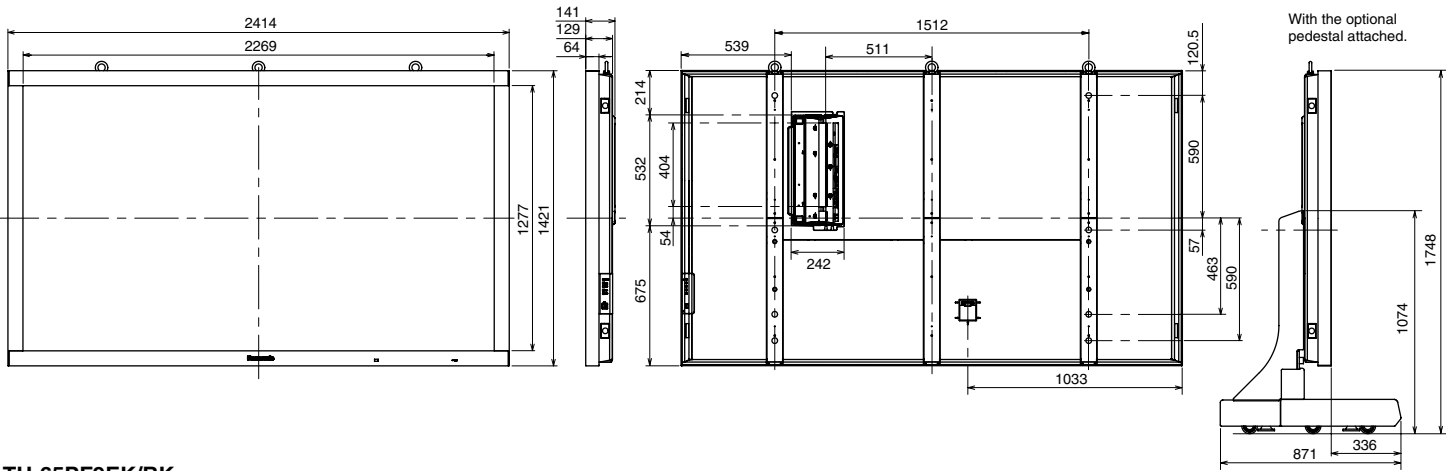


- Remote Control Functions**
- Power On
 - Power Off
 - Direct Input Selection (1/2/3/PC)
 - Input Selection
 - Status
 - Surround On/Off
 - Sound Mute On/Off
 - Volume Up/Down
 - Normalization (N)
 - Exit (R)
 - Position/Action
 - Digital Zoom
 - Dual Picture (MULTI PIP/SWAP/SELECT/MOVE)
 - Picture
 - Sound
 - Set Up
 - Picture Position/Size
 - Aspect
 - PC Mode Selection
 - Off Timer
 - Normal/ID Remote Selection
 - ID Number Set
 - ID All

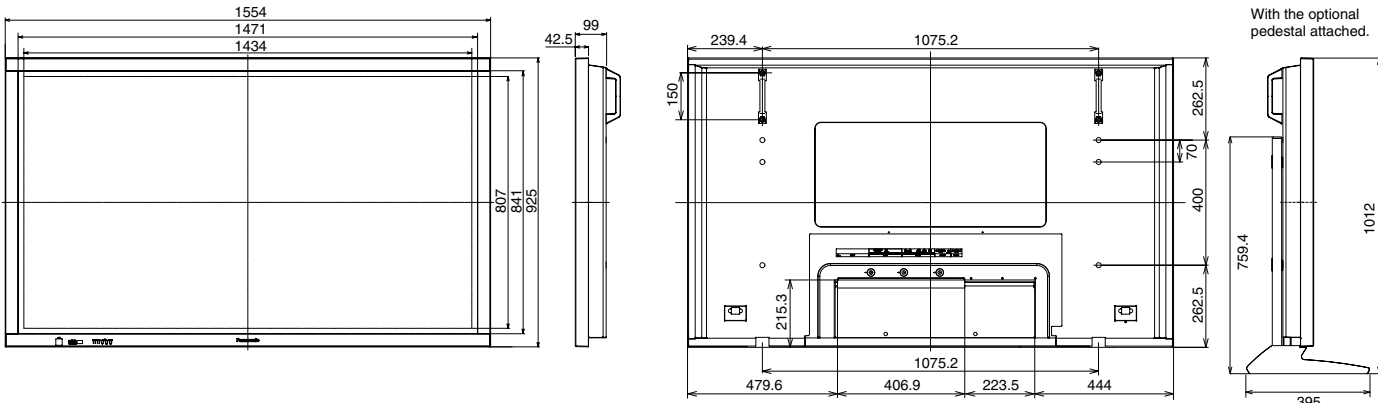
Dimensions

(Unit: mm)

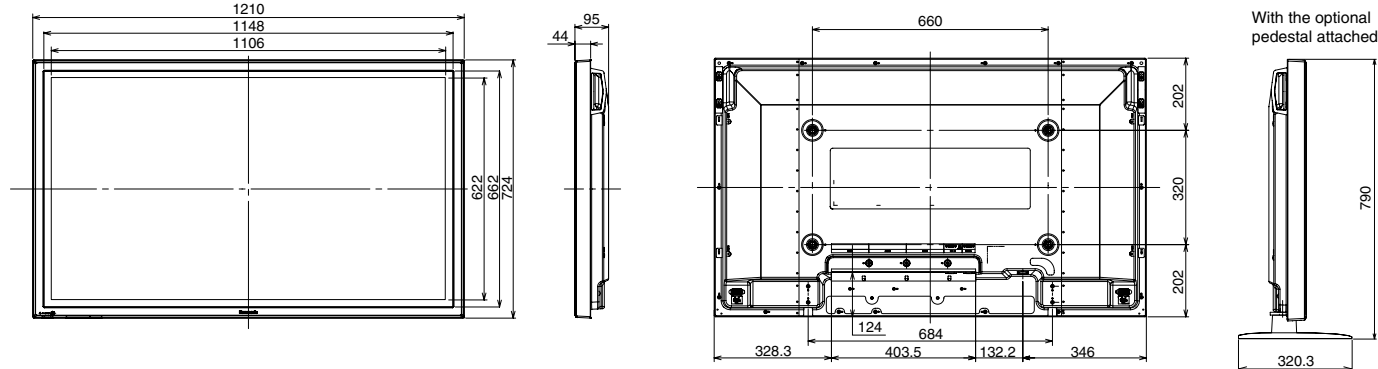
TH-103PF9EK



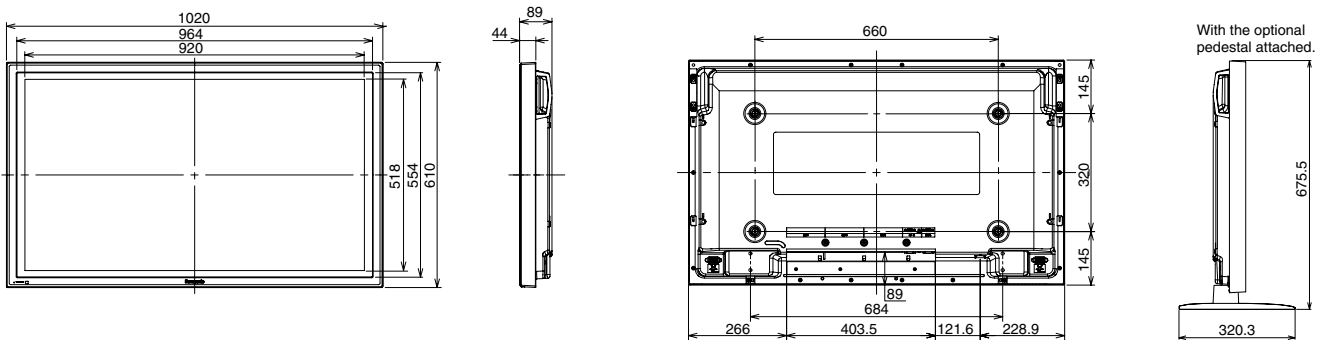
TH-65PF9EK/BK



TH-50PF9EK
TH-50PH9EK/ES/BK/BS



TH-42PH9EK/ES/BK/BS
TH-42PS9EK/ES/BK/BS



Options

Touch Panel



- TY-TP65P8-S** (for TH-65PF9EK/BK)
- TY-TP50P8-S** (for TH-50PF9EK, TH-50PH9 series)
- TY-TP42P8-S** (for TH-42PH9 series, TH-42PS9 series)

This add-on touch panel lets you write directly onto the screen with a light touch. Ideal for adding written comments during a presentation or meeting.

- Highly reliable optical sensor system
- Outstanding resolution, easy operation
- Thin design makes a precise fit with display screen
- Lets you use display as a "whiteboard"

Note: The touch panel does not include a drawing application.

* The photo above shows the TY-TP65P8-S and may differ slightly from the actual final product appearance of TY-TP50P8-S and TY-TP42P8-S.



TY-TPEN6 Touch Pen
also available.

	TY-TP65P8-S	TY-TP50P8-S	TY-TP42P8-S
Applicable display devices	Panasonic 65" plasma display	Panasonic 50" plasma display	Panasonic 42" plasma display
Detection system	Infrared ray interruption		
Panel aperture (W x H)	1455 x 812 mm	1129 x 645 mm	945 x 531 mm
Detection range (W x H)	1440 x 812 mm	1104 x 620 mm	920 x 513 mm
Effective detection range	Above detection range +1.0 mm top, bottom, right, and left		
Operating modes	Input point, Continuous, End point detection ^{*1}		
Resolution	2881 (H) x 1625 (V) ^{*1}	2209 (H) x 1241 (V) ^{*1}	1841 (H) x 1033 (V) ^{*1}
Detection pitch	2.0 x 2.0 mm		
Output system	Coordinate output		
Optical elements	361 (H) x 204 (V)	277 (H) x 156 (V)	231 (H) x 130 (V)
Optical element pitch	4.0 x 4.0 mm		
Minimum stylus	6.0 x 6.0 mm		
Scan speed	First touch: 45 msec/frame max. Moving: 10 msec/frame max.	First touch: 30 msec/frame max. Moving: 8 msec/frame max.	
Interface	USB1.1 compliant; Signal: +DATA, -DATA, VCC, GND; I/F connector: TYPE B		
Panel shape	Flat panel		
Dimensions (W x H x D) ^{*2}	1598 x 951 x 72 mm	1257 x 773 x 69 mm	1073 x 659 x 69 mm
Weight (Except bracket)	5.0 kg	5.8 kg	5.0 kg
Escutcheon (frame)	Aluminum	Aluminum, ABS resin	
Power supply (voltage)	DC + 5 V ±10% (Supplied from USB bus power)		
Electric current	DC + 5 V max. 400 mA		

^{*1}: When using the specific driver software.
^{*2}: Except bracket, inclusive of protruding portion.

Anti-Glare Filter

- TY-AR65P9W** (for TH-65PF9EK/BK)
- TY-AR50P9W** (for TH-50PF9EK, TH-50PH9 series)
- TY-AR42P9W** (for TH-42PH9 series, TH-42PS9 series)

Note: You cannot mount both a Touch Panel and an Anti-Glare Filter at the same time.

Detachable Stereo Speakers



Photo shows TY-SP42P8W-K. Photo shows TY-SP42P8W-S.

- TY-SP65P7W-K** (for TH-65PF9EK/BK)
- Configuration: 2-way, 3-speaker
- Dimensions (W x H x D): 100 x 925 x 90 mm
- Weight: 2.2 kg/each

- TY-SP50P8W-K** (for TH-50PF9EK, TH-50PH9EK/BK)
- TY-SP50P8W-S** (for TH-50PH9ES/BS)
- Configuration: 2-way, 3-speaker
- Dimensions (W x H x D): 107 x 724 x 88 mm
- Weight: 2.0 kg/each

- TY-SP42P8W-K** (for TH-42PH9EK/BK, 42PS9EK/BK)
- TY-SP42P8W-S** (for TH-42PH9ES/BS, 42PS9ES/BS)
- Configuration: 2-way, 3-speaker
- Dimensions (W x H x D): 107 x 610 x 88 mm
- Weight: 2.0 kg/each

