

# SHARP®

## High Performance Professional LCD Monitors

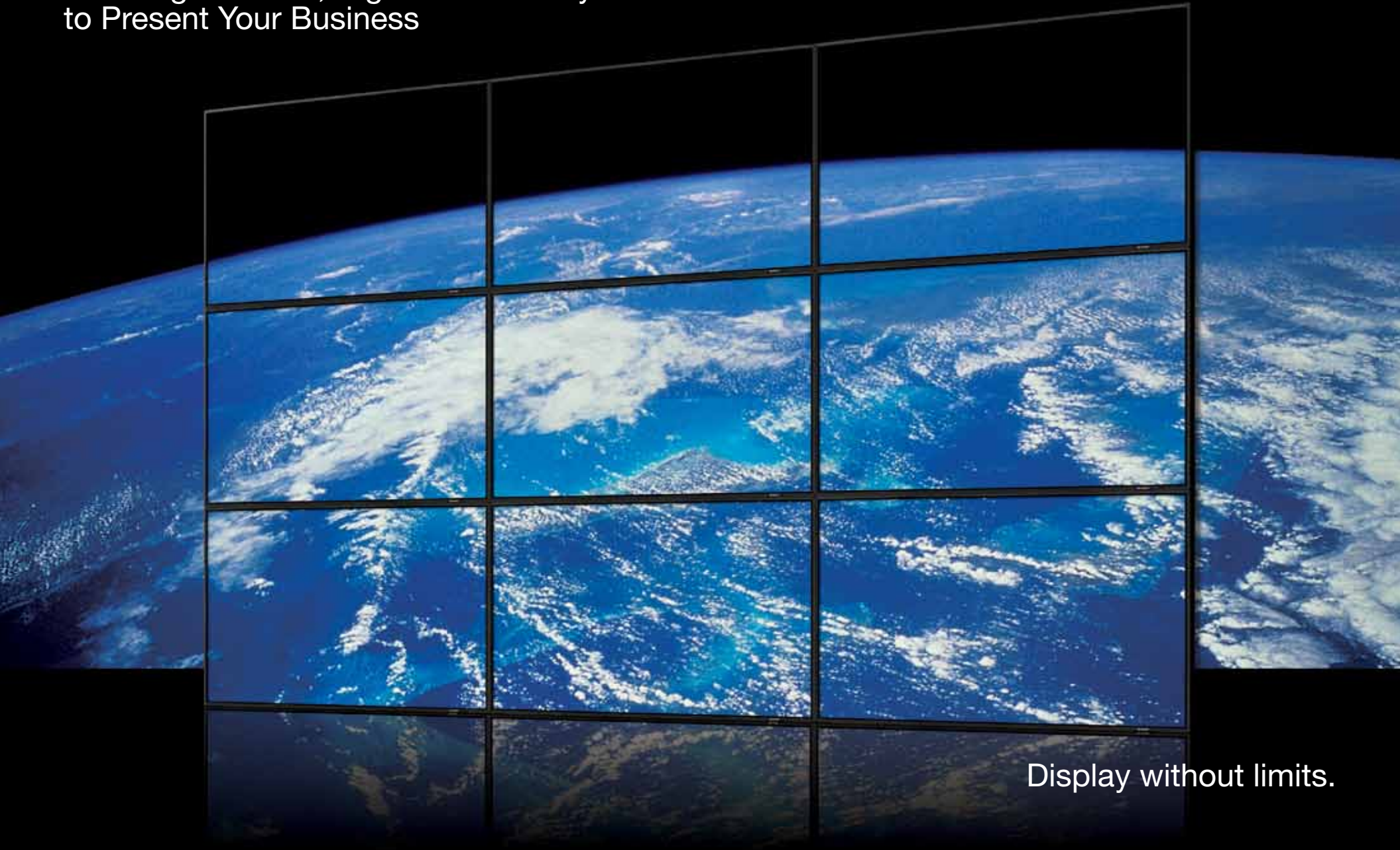
**PN-E601** – 60" Class (60 1/16" Diagonal)

**PN-E521** – 52" Class (52 1/16" Diagonal)

**PN-E471R** – 47" Class (46 15/16" Diagonal)

**PN-E421** – 42" Class (42 1/16" Diagonal)

The Large-Screen, High Content Way  
to Present Your Business

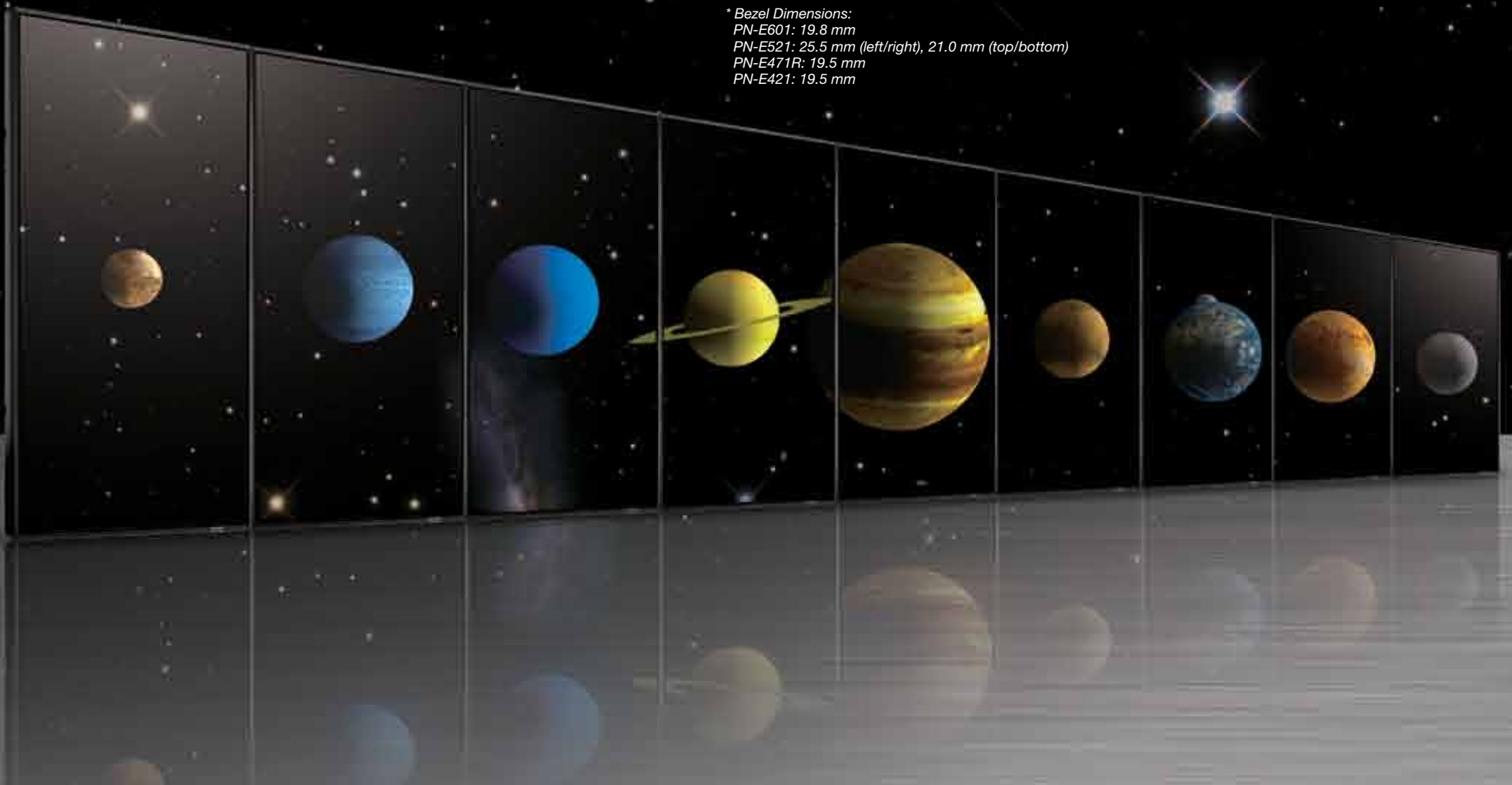


Display without limits.

# Sharp Large Format Professional LCD Monitors Offer Proven Performance and Quality

Sharp high resolution, high performance PN-E™ Series thin-bezel\* LCD monitors – designed to meet the diverse needs of commercial users – offer solid reliability, superb durability and easy operation. They come in a wide range of screen sizes, are certified for use in demanding 24/7 applications and are available with options including input/output expansion board, signage controller and integrated protective overlays. All models additionally are compatible for use in both portrait and landscape modes. This permits customers to choose the Sharp monitor best suited for every location and end-user requirement. In addition to offering a dynamic and effective way to convey information, these Sharp displays add visual impact to offices and public displays. Plus, being ENERGY STAR® qualified, the Sharp PN-E series offers exceptionally low power consumption. Utilizing Sharp UV<sup>2</sup>A technology, the PN-E601 and PN-E521 further deliver extremely high contrast (5000:1), with exceptionally deep blacks and bright vivid colors, while offering additional energy savings through efficient use of the backlight.

\* Bezel Dimensions:  
PN-E601: 19.8 mm  
PN-E521: 25.5 mm (left/right), 21.0 mm (top/bottom)  
PN-E471R: 19.5 mm  
PN-E421: 19.5 mm



## High Image Quality

With full 1920 x 1080 resolution from analog RGB, digital RGB and HD video sources, these monitors ensure that none of the detail or visual impact is lost. Fine text and intricate graphics are stunningly crisp and clear. And, with their high brightness and wide viewing angles, Sharp cutting edge PN-E series displays can be seen from almost any point in the room – even in brightly lit environments.



## User-Friendly Expandability

The PN-ZB01 expansion board option enables easy connection with a wider array of input/output sources. The PN-TPC1 optional signage controller permits an all-in-one digital signage package. And optional SDSS™ Sharp Digital Signage Software provides virtually total support for the development of creative digital signage – including program editing, distribution and display.

## Versatile Installation

Freedom of installation is another benefit of these LCD monitors. Thin and light-weight, they are easy to mount. All models additionally offer the choice of portrait or landscape installation to suit content and application. And with their Enlarge (Zoom) Display mode, installations of up to 5 x 5 Sharp PN Series monitors\* can be placed together to provide exceptionally large video-wall displays.

*\* Some installations may require additional 3rd party hardware.*

## Superior Durability

Built solid and certified for 24/7 use, Sharp PN-E series displays are ideal for use in demanding environments that require around-the clock\* operation. And, because these monitors utilize an advanced fanless architecture that doesn't require mechanical air ventilation fans, they operate silently with maximum reliability and minimal dust intake. Versions of all screen sizes are also available with integrated protective overlays, offering enhanced durability in high-traffic applications. To further attest to their quality and reliability, these displays are supported by a 3-year on-site limited warranty covering parts, labor and backlight.

*\* If the same static image is continuously displayed for an extended period of time, image persistence may occur. Image persistence may be gradually removed by displaying a moving video image or video graphics.*



**PN-E601**  
60" Class (60<sup>1</sup>/<sub>16</sub>" Diagonal)  
UV<sup>2</sup>A LCD



**PN-E521**  
52" Class (52<sup>1</sup>/<sub>16</sub>" Diagonal)  
UV<sup>2</sup>A LCD



**PN-E471R**  
47" Class (46<sup>15</sup>/<sub>16</sub>" Diagonal)  
TFT LCD



**PN-E421**  
42" Class (42<sup>1</sup>/<sub>16</sub>" Diagonal)  
TFT LCD

# From Retail to Entertainment to Business and Education – Sharp PN-E Series LCD Monitors Meet a Wide Range of Settings – Displaying a Wide Range of Content.



## Retail Establishments

Sharp large-format professional LCD monitors will catch the attention of your customers. Product displays are vivid and clear, and with screen class sizes up to 60" (60-1/16" diagonal), Sharp LCD monitors make powerful impressions, even in large and brightly lit settings.

- Shopping Malls
- Retail Stores
- Supermarkets

## Hospitality

With high quality Sharp LCD monitors, restaurants can display their most savory menu selections with realistic detail, and hotels can announce events and special offers in a visually attractive format that effectively gets the message across.

- Cafeterias
- Restaurants and Bars
- Hotel Lobbies



# Education, Arts and Entertainment Centers

The full 1920 x 1080 HD resolution of these large-format displays combined with their high image quality, brightness and clarity make them a perfect choice for most any entertainment or education center.

- Movie Theaters
- Amusement Parks
- Museums and Galleries
- Universities and Libraries



# Public Spaces

Large highly visible Sharp LCD monitors are the ideal platform for public information displays. They offer 24/7 reliability, high image brightness and clarity. And with versions available with integrated protective overlays, these displays are excellent for most any high traffic public display.

- Information Centers
- Kiosks
- Stadiums



# Transportation Facilities

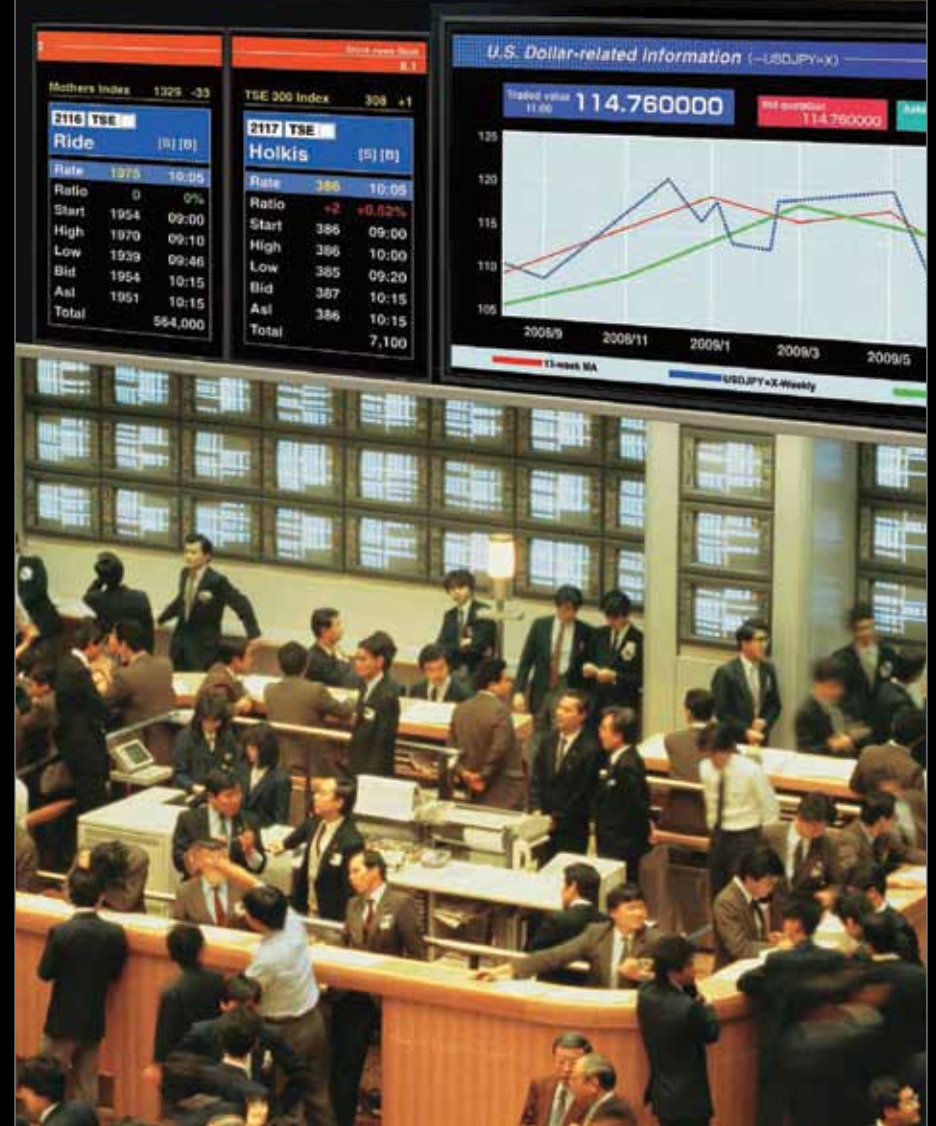
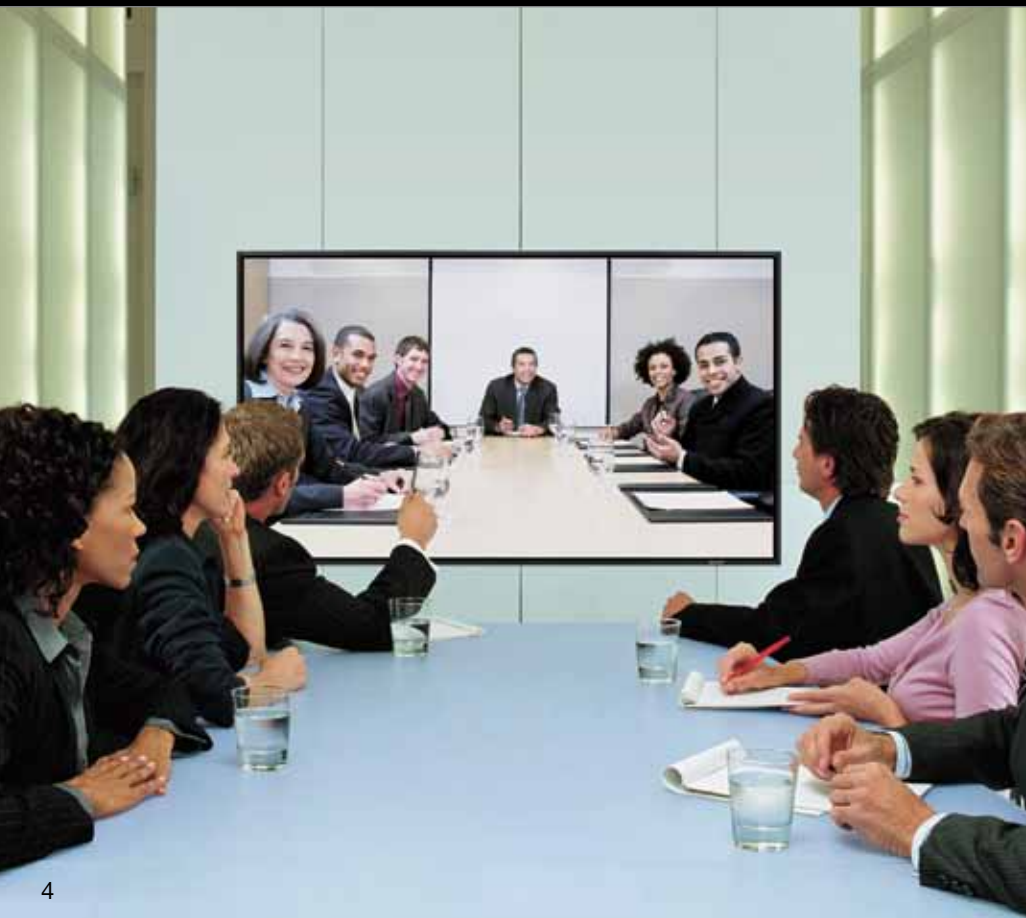
Sharp large-format displays, with their wide viewing angle, high contrast and brightness are superb for use in transportation facilities for the display of detailed arrival and departure information, news, weather reports and digital advertising.

- Airports
- Train / Bus terminals
- Car Rental Offices, Travel Agencies

# Corporate and Government Offices

For showrooms, Sharp high resolution full color professional LCD monitors add impact to product displays and presentations. For video conferencing, these large format displays capture detail and clarity to enable participants to share the true sense of "being there".

- Video Conferences
- Presentations
- Boardrooms
- Showrooms



# Financial Institutions

With full 1920 x 1080 resolution and their high brightness and image quality, Sharp PN-E series monitors, when used with appropriate software, are capable of simultaneously displaying multiple windows of complex diagrams, small text and video – making it easy to view at a glance stock prices, interest rates, available services and news updates.

- Banks
- Brokerage Firms

# Surveillance / Monitoring / Control Rooms

Designed for 24/7 use, Sharp PN-E series LCD monitors are durable, reliable and energy efficient. When used with the optional PN-ZB01 interface expansion board, these 1920 x 1080 (2-megapixel) displays offer compatibility with a wide range of sources. Backed by a 3-year on-site limited warranty (covering parts, labor and backlight) you are further assured of long-term trouble-free performance.



# Educational Institutions

With their vivid display of detailed text, color graphics and video, Sharp high resolution LCD monitors bring lessons to life, captivating the attention of students. The available large screen sizes ensure important course work is visible by everyone in the room, and the wide compatibility of these displays helps guarantee a perfect screen image with most any source.



# Medical Institutions

Sharp LCD monitors enable the clear display of detailed medical information. This may include test results, treatment options and administrative policies. Using these displays in waiting rooms to post important information as well as for patient entertainment is both a convenience and a comfort for patients and visitors.

*Note: These displays are not designed for use in diagnostic medical applications where an extremely high level of reliability or safety are required.*

## Image Quality and Advanced Functions

### Crisp, Clear High-Definition Detail

Full HD 1080p resolution (1920 x 1080) brings images to life with vivid, true-to-life detail. Everything from fine print text to intricate graphics are stunningly crisp and clear.



Standard HD (WXGA) Panel  
(1366 x 768 resolution)

Full HD (1080p) Panel  
(1920 x 1080 resolution)

### Next Generation UV<sup>2</sup>A Technology

The LCD component panels used in the PN-E601 and PN-E521 incorporate next-generation UX<sup>2</sup>A technology\*.

In addition to eliminating light leakage from the backlight, these displays are able to deliver exceptionally deep blacks and bright vivid colors, while offering additional energy savings through efficient use of the backlight.

\* UV<sup>2</sup>A stands for "Ultraviolet-induced multi-domain Vertical Alignment," a photo-alignment technology that ensures uniform alignment of liquid crystal molecules in a certain direction.

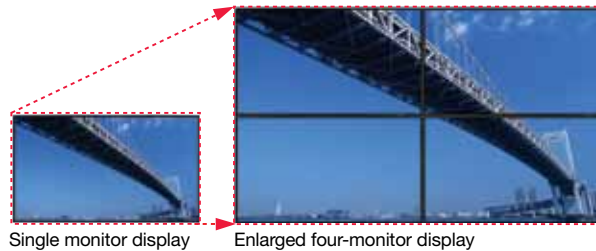
### Multi-Monitor Displays

With Mirror Display Mode, the same image can be displayed on a daisy chain of Sharp PN-E series LCD monitors, for powerful impact. Multiple monitors also can be grouped together to display one enlarged image from a PC utilizing the Enlarge (Zoom) Display mode, which offers framing correction to eliminate image misalignment between the monitors.

#### • Mirror Display Mode (Daisy Chain Connection)

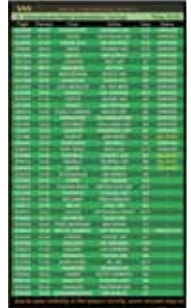


#### • Enlarge (Zoom) Display Mode



### Choice of Landscape or Portrait Mode

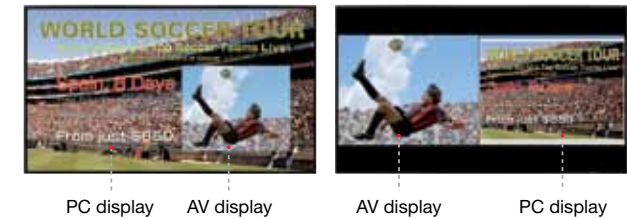
All models offer the choice of landscape or portrait installation, enabling customers to select the mode that best suits their display content and application. Designed for commercial use, regardless of whether installed in landscape or portrait orientation, these models are backed by Sharp's 3-year on-site limited warranty.



### Dual Screen Display

Picture-in-Picture (PIP) mode allows an image from an AV source to be displayed as a picture within the image from a PC source (or vice-versa). Picture-by-Picture (PbyP) mode permits images from an AV and PC source to be displayed side by side for split-screen viewing.

#### • Picture-in-Picture Mode • Picture-by-Picture Mode



### Hardware Functionality Guide

	Full High Definition	UV <sup>2</sup> A Technology	Multi-Monitor (mirror image)	Dual Screen Display (PIP, PbyP)	Expansion Board Option (PN-ZB01)	Signage Controller Option PN-TPC1	Built-in Speakers (10W + 10W)	Carrying Handles**	VESA Compliant Mounting Configuration	Compatible for Portrait and Landscape Modes	Fanless Architecture	Slim Bezel	24/7 Operation	Power On Delay
PN-E601	●	●	● <sup>*1*</sup> ● <sup>*2*</sup> ● <sup>*3*</sup>	●	●	●	●	●	●	●	●	●	●	●
PN-E521	●	●	● <sup>*1*</sup> ● <sup>*2*</sup> ● <sup>*3*</sup>	●	●	●	●	●	●	●	●	●	●	●
PN-E471	●		● <sup>*1*</sup> ● <sup>*2*</sup> ● <sup>*3*</sup>	●	●	●	●	●	●	●	●	●	●	●
PN-E421	●		● <sup>*1*</sup> ● <sup>*2*</sup> ● <sup>*3*</sup>	●	●	●	●	●	●	●	●	●	●	●

\*1 Up to five monitors (using DVI daisy chain connection). \*2 Up to 25x enlargement (5 x 5 monitors). Up to 2 x 2 monitors can be daisy-chained (digital) together; however, more monitors require commercially available picture signal divider.  
\*3 Daisy chain connection requires optional PN-ZB01 Interface Expansion Board. \*4 Pre-assembled with main unit. \*5 Reduces screen brightness when internal temperature reaches a certain level. \*6 When using optional PN-ZB01 Interface Expansion Board.

## Slim Bezel (as thin as 19.5 mm)

The slim bezel and thin profile of these displays combined with a brushed metal finish provide a sleek appearance. These design elements ensure that Sharp PN-E series LCD monitors fit in with the aesthetic design of corporate board rooms, hotel lobbies and other high profile settings. The slim bezel additionally makes these displays ideal for video wall use.



## Outstanding Durability and Reliability

Sharp PN-E series LCD monitors are designed for continuous use in demanding 24/7\* applications. Additionally, the fanless architecture ensures quiet operation with minimal dust intake ensuring further enhanced reliability.

\* Image persistence may occur when a static image on the screen is displayed for an extended period of time. In the event this occurs, by displaying a moving video or graphics image, the image persistence may gradually be removed.

## Carrying Handles for Safe Setup

Heavy duty carrying handles are included with each monitor to ensure safe handling. These handles may be detached when the display is installed. All models additionally incorporate a VESA compliant mounting hole configuration to help ensure safe and secure installation with compatible third-party mounting hardware.

## Built-In Speakers

Built-in 10 watt per channel stereo speakers eliminate the need for an external audio system for many installations. These space saving rear-mounted speakers are ideal for conveying audio content along with background music. Audio line-out terminals are also provided for easy connection with external audio components, and when used with the optional PN-ZB01 input/output expansion board, stereo speaker terminals (10W + 10W, 6-ohm) are available.

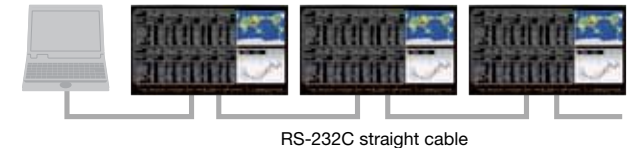


## Environmentally Friendly

Built in an ISO 9001 certified factory and offering low power consumption, these ENERGY STAR® qualified displays are exceptionally environmentally friendly. In addition, the internal LCD components utilized in the PN-E601 and PN-E521 are manufactured at one of the world's most environmentally conscious manufacturing complexes, Sharp Green Front Sakai in Japan.

## ID Coding

Using the RS-232C interface, each Sharp LCD monitor can be easily controlled and monitored from a central location via a PC. Each monitor can be assigned an individual ID code to specify various settings including on/off, input change and various screen adjustments and settings.



## SNMP Support

Display Status, continuous operating time and other parameters can be monitored over a local area network using Simple Network Management Protocol (SNMP).

## PN-ZB01 Interface Expansion Board (option)

Standard interfaces included on Sharp PN-E series monitors include HDMI® input, D-Sub 15-pin RGB input, stereo audio input, stereo audio line-output and RS-232C input/output. The PN-ZB01 interface expansion board option adds DVI-D input/output, 5-BNC analog RGB input, component video input, S-video input, composite video input (BNC), stereo audio (RCA) input x 2, RJ-45 LAN display control and stereo speaker output (10W x 2)



## PN-TPC1 Signage Controller (option)

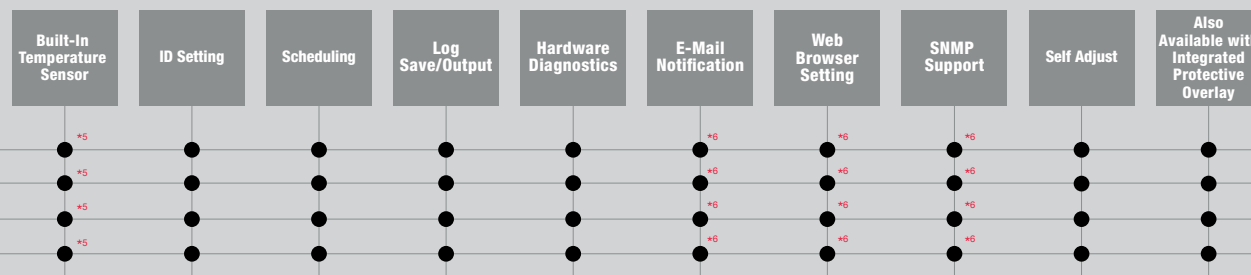
The PN-TPC1 is a compact signage controller PC that easily attaches to the rear of the display, permitting an all-in-one digital signage package. Utilizing a powerful dual core Intel® Atom™ N330 CPU, it is capable of supporting multiple monitors and video streams. The PN-TPC1 comes pre-loaded with a 60 day trial version of SDSS™ Sharp Digital Signage Software and is certified to run many third party digital signage software packages including Scala® and BroadSign™

## Scheduling

For total ease of operation, the Schedule function allows programming of up to eight settings for automatic monitor turn on/off, input change and various screen adjustments and settings.

## Web Browser

Sharp PN-E series LCD monitors can be easily operated through a Web browser and optional monitor control software.



## Other Key Features

### Fanless Architecture

Sharp LCD monitors are designed to maintain airflow and dissipate heat without the use of mechanical air-ventilation fans, which can attract dust and create noise.

### Built-In Temperature Sensor

A built-in sensor detects when the temperature inside a monitor rises, and the backlight system automatically adjusts to keep the temperature within operational level\*.

\* in the event the internal temperature remains constant at a temperature above safe operational level, the monitor will automatically go into standby mode.

### Power On Delay

To reduce the load placed on the power supply when a number of monitors are turned on at the same time, the PN-E Series allows a time delay between the startup of each monitor when configured in video walls and multi-monitor installations.

### Log Saving

The Log Save/Output function saves operating logs, signal changes, and information on operational irregularities which boosts the troubleshooting efficiency of service technicians.

### Hardware Diagnosis

The Hardware Diagnosis function detects any irregularities in power supply voltage and indicates those irregularities on the monitor.

### E-Mail Notification

The E-Mail Notification function allows regular display status updates and malfunctions to be sent to a specified e-mail address.

### Automatic Adjustment

When using an analog RGB connection, if a change occurs with the input signal timing, the clock phase will adjust automatically.

## PN-TPC1

### Optional Signage Controller



The PN-TPC1 is a full-featured High Definition PC based upon NVIDIA® ION™ architecture. Targeted for Commercial applications including Digital Signage, the PN-TPC1 has been optimized for reliable 1080p video playback. The PN-TPC1 includes a 60 day trial version of the Sharp® SDSS™ Digital Signage Software pre-loaded on the hard disk. It also has the flexibility to run most third party software and custom applications.

The PN-TPC1 supports true 1080p video with hardware assisted support for formats such as MPEG2, H.264, and WM9. The PN-TPC1 was designed with display integration in mind and features a full complement of video outputs including HDMI®, DVI, and VGA. The unit also includes an RS232 port for display control and a custom mounting bracket specially designed to attach behind a Sharp PN-E™ series professional monitor. The PN-TPC1's all metal chassis and small form factor make it ideal for commercial applications requiring a powerful yet compact PC.

### Specifications

**Chipset:** NVIDIA® MCP7A-ION™ Series

**Size:** Mini-ITX form factor. Case: 7.5" x 7.4" x 1.75"

**Microprocessor support:** Intel® ATOM™ N330 CPU (onboard). Support for 533 MT/s (533MHz FSB)

**Operating systems:** Supports Windows® XP® 32bit/64bit and Windows Vista® 32bit/64bit; Supports Linux®, Windows XP Pro SP3 installed

**Software Installed:** Sharp Digital Signage Software (SDSS) – 60 day evaluation; Microsoft Internet Explorer; Microsoft PowerPoint Viewer; Windows Media Player; QuickTime Player; Adobe Flash Player Plug-in

**System Memory support:** Supports DDRII667/800. Supports up to 4GB (2GB installed – both slots occupied and need to remove the current memory modules to upgrade.)

**USB 2.0 Ports:** Supports hot plug and play. Six USB 2.0 ports (rear panel ports); four from onboard USB headers. Supports USB 2.0 protocol up to 480 Mbps transmission rate

**Hard Disk Drive:** 2.5" 160GB

**Onboard Serial ATA II:** Independent DMA operation on four ports; onboard SATA header; rear panel e-SATA. Data transfer rates of 3GB/s

**On board RTL8211 CL Gigabit LAN:** Supports 10/100/1000M bps operation

**Onboard Audio:** Azalia High-Definition audio; supports 6-channel; supports jack sensing function (under Windows)

**Green Function:** Supports ACPI (Advanced Configuration and Power Interface). RTC timer to power-on the system; AC power failure recovery.

**Onboard Graphics Support:** Integrated 300MHz DAC for analog displays with resolutions up to 1920x1440 at 75Hz. Integrated GeForce® 9400m GPU, Supports DX10. VGA / DVI / HDMI® output support (Dual Header capable)

**Integrated HDMI Interface with HDCP:** Supports DVI or HDMI 1.3 interfaces. Secure digital audio merged from integrated HDA codec with no external audio signals required. Support for HDCP 1.3 using soft or hard HDCP keys. HDCP encryption support when configured as DVI or HDMI link without the need for external HDCP key crypto ROM.

**Dual Head Display Controller:** Full NVIDIA nView™ multi-display technology capability with independent display controllers. Each controller can drive same or different display contents to different resolutions and refresh rates.

**Expansion Slots:** One Mini PCI Express slot. (Optional WiFi module must occupy this slot if ordered.)

**Environmental:** Operating Temperature: 0° to 40°C. Operating Humidity: 80% maximum relative humidity, non-condensing

**Power:** Input Voltage: 19V 4.7A. Power Dissipation: 30 Watts.

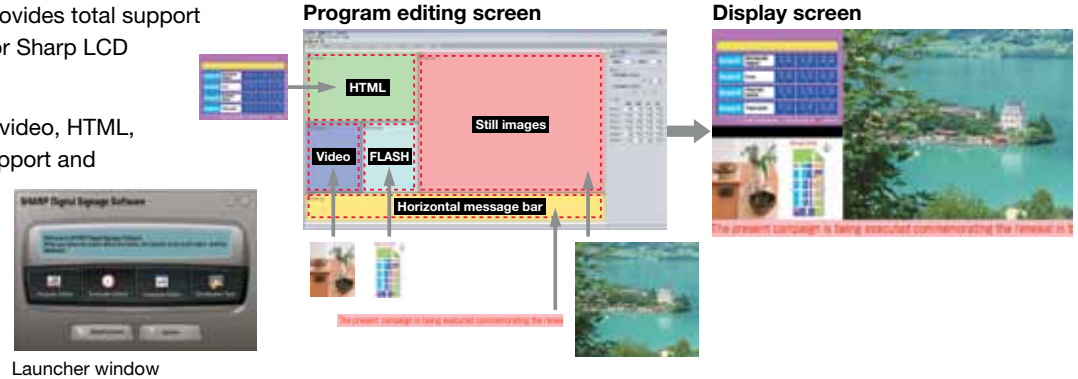
**Package Contents:** Technovare PN-TPC1PC, AC Power Adapter, Mounting Kit, User's Guide

**Limited Warranty:** 3 Years Parts and Labor. Please refer to warranty statement included with product, or as PDF download at [www.sharppusa.com](http://www.sharppusa.com)

# Sharp Digital Signage Software

Sharp Digital Signage Software is a versatile management software package that provides total support for the creation, scheduling, distribution, and display of a wide range of programs for Sharp LCD monitors installed in offices, commercial establishments, and public spaces.

- To facilitate program **editing**, four frames for such diverse content as still images, video, HTML, and Flash can be freely arranged, and two message bars—with multi-language support and a variety of fonts and backgrounds to choose from—can be displayed horizontally or vertically.
- To ensure easy setup of program **distribution** schedules, Sharp Digital Signage Software features a user-friendly interface.
- To smoothly manage program **display**, power and input can be remotely controlled, and displays can be remotely monitored.

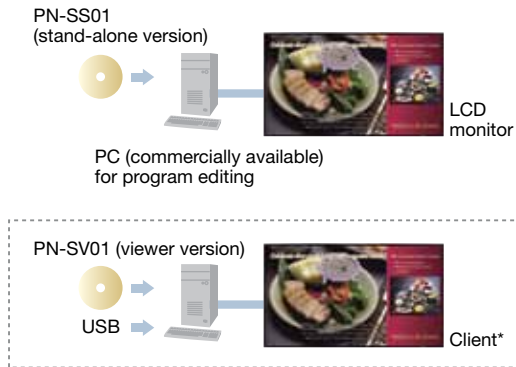


## For Use in Stand-Alone or Network Systems

### • PN-SS01 Stand-Alone Version

In stand-alone systems, PN-SS01 software enables programs to be edited on a single PC for display on a single LCD monitor according to a set schedule. Programs can be transferred to another client\* via a USB flash drive.

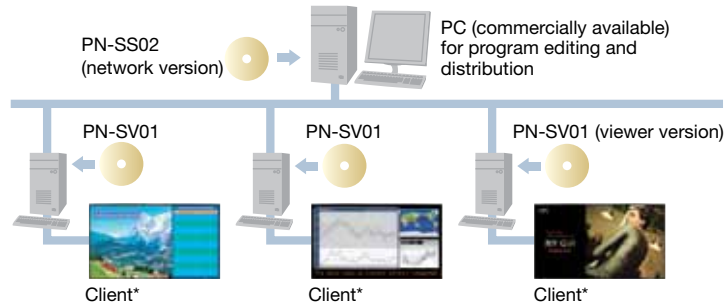
#### Stand-Alone System Configuration



### • PN-SS02 Network Version

In network systems, PN-SS02 software enables programs to be edited and stored on a networked PC then distributed via the network to up to 100 clients\* according to a set schedule.

#### Network System Configuration



#### Sharp Digital Signage Software Configuration

Version name	Number of software installations required
<b>PN-SS02</b> network version	1
<b>PN-SV01</b> viewer version	Same as the number of clients*

### • PN-SV01 Viewer Version

Used on the client\* side, PN-SV01 viewer software allows programs edited with PN-SS01 or PN-SS02 software to be displayed on the client's LCD monitor according to a set schedule.

\* Each client represents a separate PC and Sharp LCD monitor

### Sharp Digital Signage Software Operating Environment

Personal Computer	CPU-Celeron® M1.3GHz or faster (Pentium® 4 processor is recommended. A high-performance CPU, such as Pentium® 4 2GHz or faster, is required for programs that include a large volume of videos or other content* <sup>1</sup> )
OS	Microsoft® Windows® 2000/XP, Microsoft® Windows Vista®, Microsoft® Windows 7, Microsoft® Windows Server® 2003/2008 (English version)
Memory	256MB or more (512MB or more is recommended)* <sup>1</sup>
Hard Disk	20MB or more of free space (required for data)
Display (PC use)* <sup>2</sup>	Full-color display with a resolution of 1,024 x 768 or higher
Panel (PC use)* <sup>3</sup>	PN-E Series LCD monitors
Interface	USB port (only for use with USB memory) LAN port (only network versions that enable TCP/IP communications)
Miscellaneous	Microsoft® Internet Explorer® 6.0 or later Microsoft® PowerPoint® Viewer 2003/2007 Microsoft® Windows Media® Player 9 or later* <sup>4</sup> Adobe® Flash® Player QuickTime Player 7 or later (for playback of QuickTime content)

\*<sup>1</sup> This operating environment must be available when using Microsoft® Windows Vista® or Microsoft® Windows 7. \*<sup>2</sup> For creating and editing programs and schedules. \*<sup>3</sup> Display used for displaying programs on the Stand-alone and Viewer Versions. \*<sup>4</sup> A codec (sold separately) might be required in some cases to play back video files.

#### Supported Files

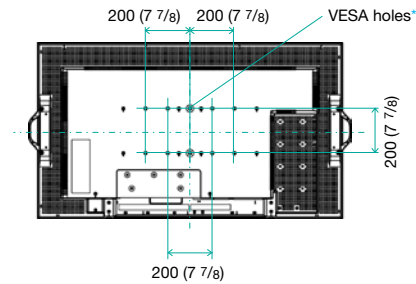
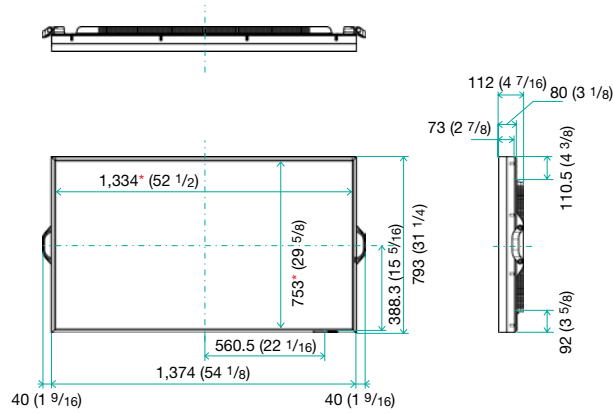
Background and Display Frames 1 to 4	MPEG, MPEG1, MPEG2, MPEG4, WMV (format for playing back on Windows Media® VIDEO - Windows Media® Player), MOV (format for playing back on QuickTime Player), Adobe® Flash® (format for playing back on Adobe® Flash® Player), PowerPoint®, HTML, JPEG, BMP, GIF, PNG
Audio	WAVE, MP3, AU, AIFF, WMA (format for playing back on Windows Media® Audio - Windows Media® Player), MIDI, MOV (format for playing back on QuickTime Player)

Depending on CPU speed, memory, and other factors, it may not be possible to use some video, subtitles, and other content.

# Dimensions & Connections

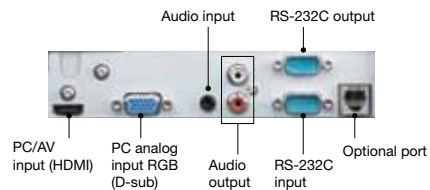
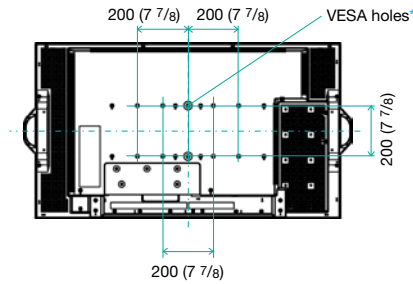
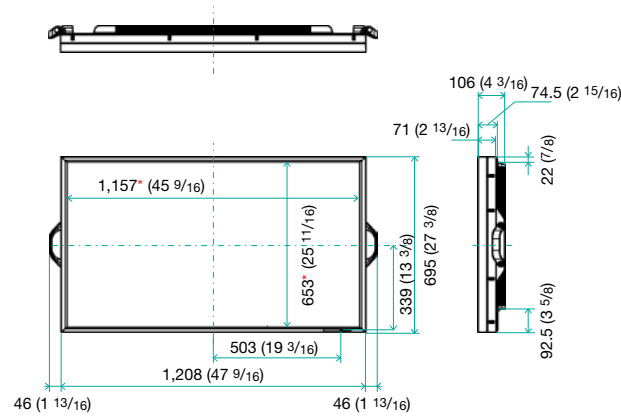
## PN-E601 LANDSCAPE / PORTRAIT

60" Class (60<sup>1</sup>/<sub>16</sub>" Diagonal) Full HD LCD Monitor



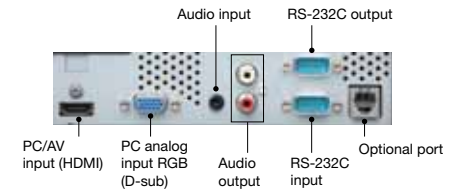
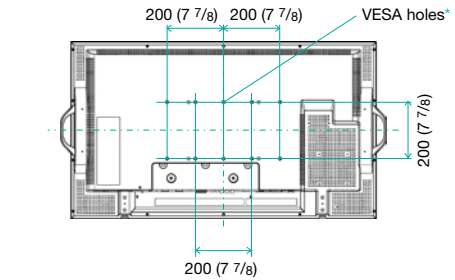
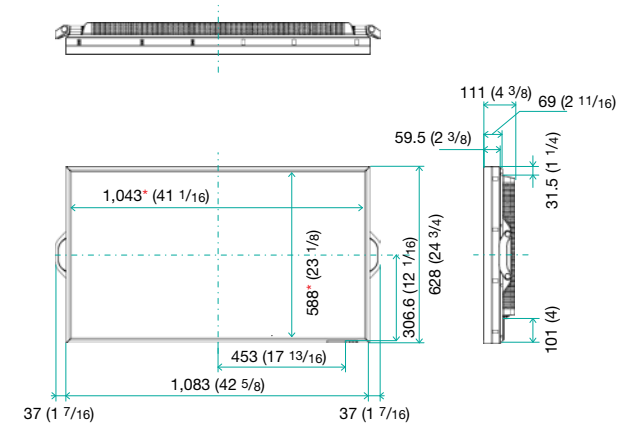
## PN-E521 LANDSCAPE / PORTRAIT

52" Class (52<sup>1</sup>/<sub>16</sub>" Diagonal) Full HD LCD Monitor



## PN-E471R LANDSCAPE / PORTRAIT

47" Class (46<sup>15</sup>/<sub>16</sub>" Diagonal) Full HD LCD Monitor

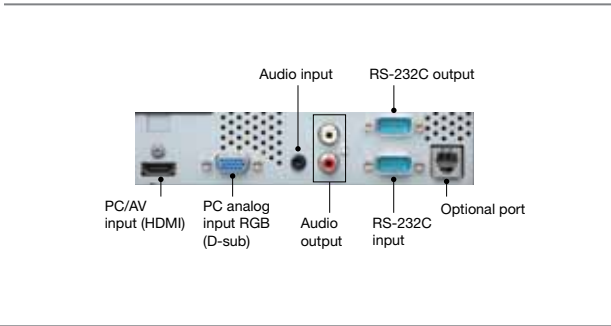
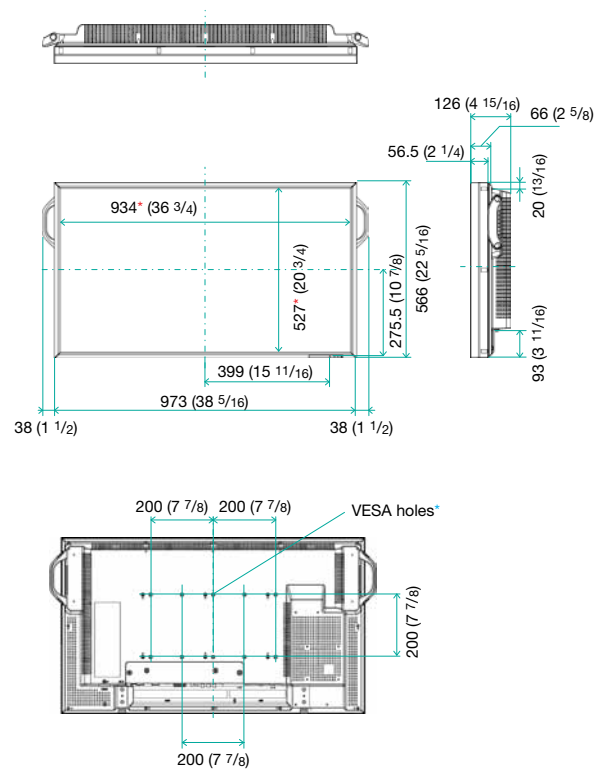


Unit: mm (inch)

\* Screen dimensions

\* To use the VESA-standard mounting bracket, use M6 screws that are 8 to 10 mm plus the thickness of the bracket.

**PN-E421** LANDSCAPE / PORTRAIT  
42" Class (42 1/16" Diagonal) Full HD LCD Monitor

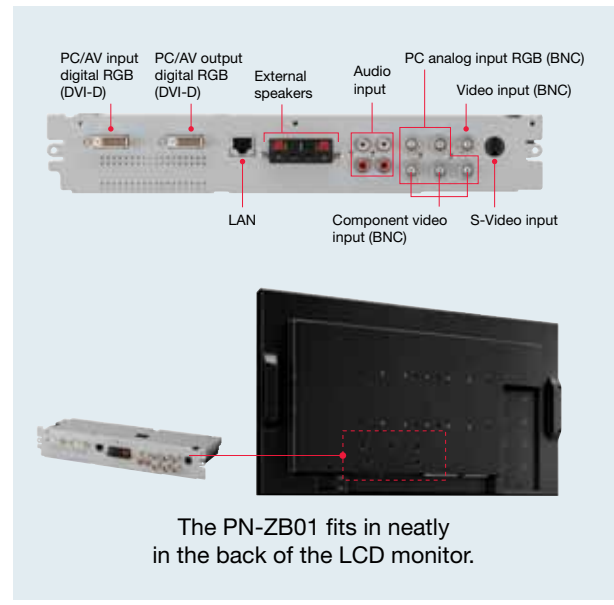


**PN-E Series**  
Supported Display Modes

Display Mode <sup>3</sup>	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Dot Frequency (MHz)	PN-E601/E521/E471/E421			
				Analog Signals	DVI <sup>5</sup>	HDMI	
VESA	640 x 480	31.5 kHz	60 Hz	25.175 MHz	○	○	○
		37.9 kHz	72 Hz	31.5 MHz	○	○	○
	800 x 600	37.5 kHz	75 Hz	31.5 MHz	○	○	○
		35.1 kHz	56 Hz	36.0 MHz	○	—	—
		37.9 kHz	60 Hz	40.0 MHz	○	○	○
		48.1 kHz	72 Hz	50.0 MHz	○	○	○
	848 x 480	46.9 kHz	75 Hz	49.5 MHz	○	○	○
		31.0 kHz	60 Hz	33.75 MHz	○	○	—
	1,024 x 768	48.4 kHz	60 Hz	65.0 MHz	○	○	○
		56.5 kHz	70 Hz	75.0 MHz	○	○	○
	1,152 x 864	60.0 kHz	75 Hz	78.75 MHz	○	○	○
		67.5 kHz	75 Hz	108.0 MHz	○	○	○
1,280 x 768	47.8 kHz	60 Hz	79.5 MHz	○	○	—	
	60.3 kHz	75 Hz	102.25 MHz	○	○	—	
1,280 x 800	49.7 kHz	60 Hz	83.5 MHz	○	○	○	
	60.0 kHz	60 Hz	108.0 MHz	○	○	○	
1,280 x 960	64.0 kHz	60 Hz	108.0 MHz	○	○	○	
	80.0 kHz	75 Hz	135.0 MHz	○	○	○	
1,360 x 768	47.7 kHz	60 Hz	85.5 MHz	○	○	○	
	1,400 x 1,050	65.3 kHz	60 Hz	121.75 MHz	○	○	○
1,600 x 1,200 <sup>4</sup>	75.0 kHz	60 Hz	162.0 MHz	○	○	○	
	1,680 x 1,050	65.3 kHz	60 Hz	146.25 MHz	○	○	○
1,920 x 1,200 <sup>4</sup>	74.0 kHz	60 Hz	154.0 MHz	○	○	○	
	1,280 x 720	44.7 kHz	60 Hz	74.4 MHz	○	○	○
Wide	1,920 x 1,080	66.3 kHz	60 Hz	148.5 MHz	○ <sup>6</sup>	○	○
	67.5 kHz	60 Hz	148.5 MHz	○ <sup>6</sup>	○	○	
US TEXT	720 x 400	31.5 kHz	70 Hz	28.3 MHz	○	○	○
	1,024 x 768	48.3 kHz	60 Hz	64.13 MHz	○	—	—
Sun		53.6 kHz	66 Hz	70.4 MHz	○	—	—
	1,152 x 900	56.6 kHz	70 Hz	74.25 MHz	○	—	—
1,280 x 1,024		61.8 kHz	66 Hz	94.88 MHz	○	—	—
	1,600 x 1,000	71.8 kHz	76.2 Hz	108.23 MHz	○	—	—
1,600 x 1,000		71.7 kHz	67.2 Hz	117.01 MHz	○	—	—
	1,600 x 1,000	81.1 kHz	76 Hz	134.99 MHz	○	—	—
1,600 x 1,000		68.6 kHz	66 Hz	135.76 MHz	○	—	—

<sup>1</sup> Depending on the computer in use, there may be instances where images are not displayed properly even if the display mode is within the range supported by the monitor.  
<sup>2</sup> All figures are estimates.  
<sup>3</sup> If the PC output is in interlaced format, no image will be displayed.  
<sup>4</sup> Reduced display.  
<sup>5</sup> Requires optional PN-ZB01 Interface Expansion Board.  
<sup>6</sup> An optional dedicated graphics board is required to use the BNC analog terminal.

**PN-ZB01**  
Optional Interface Expansion Board



**Versions Available with Integrated Protective Overlays**

For use in high traffic settings, versions of all screen sizes are available with integrated protective acrylic overlays:

- PN-E601P** – 60" Class (60 1/16" Diagonal)
- PN-E521P** – 52" Class (52 1/16" Diagonal)
- PN-E471RP** – 47" Class (46 15/16" Diagonal)
- PN-E421P** – 42" Class (42 1/16" Diagonal)

# Specifications

Model	PN-E601	PN-E521	PN-E471R	
Installation	Landscape/portrait	Landscape/portrait	Landscape/portrait	
LCD Panel	60" class (60 <sup>1</sup> / <sub>16</sub> " diagonal), widescreen UV <sup>A</sup> LCD	52" class (52 <sup>1</sup> / <sub>16</sub> " diagonal), widescreen UV <sup>A</sup> LCD	47" class (46 <sup>1</sup> / <sub>16</sub> " diagonal), widescreen TFT LCD	
	Maximum Resolution	1,920 x 1,080 pixels	1,920 x 1,080 pixels	1,920 x 1,080 pixels
	Max. Display Colors (approx.)	1,064 million colors	1,064 million colors	1,064 million colors
	Pixel Pitch (H x V)	0.692 x 0.692 mm	0.600 x 0.600 mm	0.542 x 0.542 mm
	Max. Brightness**	500 cd/m <sup>2</sup>	500 cd/m <sup>2</sup>	700 cd/m <sup>2</sup>
	Contrast Ratio	5000:1	5000:1	1200:1
	Viewing Angle (H/V)	176°/176° (CR ≥ 10)	176°/176° (CR ≥ 10)	178°/178° (CR ≥ 10)
	Active Screen Area (W x H)	1,329.1 x 747.6 mm (52 <sup>3</sup> / <sub>16</sub> " x 29 <sup>7</sup> / <sub>16</sub> "	1,152.0 x 648.0 mm (45 <sup>3</sup> / <sub>16</sub> " x 25 <sup>1</sup> / <sub>2</sub> "	1,039.7 x 584.8 mm (40 <sup>1</sup> / <sub>16</sub> " x 23")
Response Time	6 ms (gray to gray, avg.)	6 ms (gray to gray, avg.)	9 ms (gray to gray, avg.)	
Computer Input	Video	Analog RGB (0.7 Vp-p) [75Ω], Digital (conforms to DVI 1.0 standards)	Analog RGB (0.7 Vp-p) [75Ω], Digital (conforms to DVI 1.0 standards)	Analog RGB (0.7 Vp-p) [75Ω], Digital (conforms to DVI 1.0 standards)
	Synchronization	Horizontal/vertical separation (TTL: positive/negative), Sync on green, composite sync (TTL: positive/negative)	Horizontal/vertical separation (TTL: positive/negative), Sync on green, composite sync (TTL: positive/negative)	Horizontal/vertical separation (TTL: positive/negative), Sync on green, composite sync (TTL: positive/negative)
	Plug & Play	VESA DDC2B	VESA DDC2B	VESA DDC2B
	Power Management	VESA DPMS, DVI DMPM	VESA DPMS, DVI DMPM	VESA DPMS, DVI DMPM
Video Color System	NTSC (3.58 MHz, 4.43 MHz)**, PAL, PAL60, SECAM	NTSC (3.58 MHz, 4.43 MHz)**, PAL, PAL60, SECAM	NTSC (3.58 MHz, 4.43 MHz)**, PAL, PAL60, SECAM	
Input Terminals**	PC/AV Video	DVI-D 24-pin** (HDCP compatible), Analog mini D-sub 15-pin, Analog BNC** +5#	DVI-D 24-pin** (HDCP compatible), Analog mini D-sub 15-pin, Analog BNC** +5#	DVI-D 24-pin** (HDCP compatible), Analog mini D-sub 15-pin, Analog BNC** +5#
	PC/AV Audio	3.5 mm-diameter mini stereo jack x 1	3.5 mm-diameter mini stereo jack x 1	3.5 mm-diameter mini stereo jack x 1
	Video	BNC x 1**	BNC x 1**	BNC x 1**
	S-Video	1**	1**	1**
	Component	BNC (Y, Cb/Pb, Cr/Pr) x 1** +5	BNC (Y, Cb/Pb, Cr/Pr) x 1** +5	BNC (Y, Cb/Pb, Cr/Pr) x 1** +5
	HDMI	1 (HDCP compatible) <sup>13</sup>	1 (HDCP compatible) <sup>13</sup>	1 (HDCP compatible) <sup>13</sup>
	Audio	RCA pin (L/R) x 2**	RCA pin (L/R) x 2**	RCA pin (L/R) x 2**
Output Terminals**	Computer Signal	DVI-D 24-pin** (HDCP compatible, PC/AV signal)	DVI-D 24-pin** (HDCP compatible, PC/AV signal)	DVI-D 24-pin** (HDCP compatible, PC/AV signal)
	Audio	RCA pin (L/R)	RCA pin (L/R)	RCA pin (L/R)
	Speakers	10W + 10W (6Ω)**	10W + 10W (6Ω)**	10W + 10W (6Ω)**
Input/Output Terminals**	LAN Port	1**	1**	1**
	RS-232C	D-sub 9-pin (input x 1, output x 1)	D-sub 9-pin (input x 1, output x 1)	D-sub 9-pin (input x 1, output x 1)
Speaker Output	10W + 10W	10W + 10W	10W + 10W	
Mounting	VESA (6 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw or VESA (4 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw	VESA (6 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw or VESA (4 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw	VESA (6 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw or VESA (4 points), 200 mm (7 <sup>7</sup> / <sub>16</sub> ") pitch, M6 screw	
Power Supply	100V – 240V AC, 50/60 Hz	100V – 240V AC, 50/60 Hz	100V – 240V AC, 50/60 Hz	
Power Consumption		395W (without audio input), max. 400W	260W (without audio input), max. 265W	225W (without audio input), max. 260W
	Standby Power Consumption	2.0W (standby mode in Standard), 0.8W (standby mode in Low Power)	2.0W (standby mode in Standard), 0.8W (standby mode in Low Power)	2.0W (standby mode in Standard), 0.8W (standby mode in Low Power)
Environmental Conditions	Operating Temperature	0°C to 40°C	0°C to 40°C	0°C to 40°C
	Operating Humidity	20% to 80% RH (no condensation)	20% to 80% RH (no condensation)	20% to 80% RH (no condensation)
Frame Width	19.8 mm	Left/right: 25.5 mm, Top/bottom: 21.0 mm	19.5 mm	
Dimensions (approx.)	W x D x H	1,374 x 112 x 793 mm (54 <sup>1</sup> / <sub>16</sub> " x 4 <sup>7</sup> / <sub>16</sub> " x 31 <sup>1</sup> / <sub>4</sub> ")	1,208 x 106 x 695 mm (47 <sup>3</sup> / <sub>16</sub> " x 4 <sup>1</sup> / <sub>16</sub> " x 27 <sup>3</sup> / <sub>16</sub> ")	1,083 x 111 x 628 mm (42 <sup>5</sup> / <sub>16</sub> " x 4 <sup>3</sup> / <sub>16</sub> " x 24 <sup>3</sup> / <sub>4</sub> ")
Weight (approx.)		35 kg (77.2 lbs)	28 kg (61.7 lbs)	25.5 kg (56.2 lbs)
Package Dimensions (approx.)	W x D x H, Weight	1,580 x 381 x 932 mm, 44 kg (62 <sup>3</sup> / <sub>16</sub> " x 15" x 36 <sup>3</sup> / <sub>16</sub> ", 97 lbs)	1,420 x 372 x 836 mm, 36 kg (55 <sup>2</sup> / <sub>16</sub> " x 14 <sup>2</sup> / <sub>16</sub> " x 32 <sup>2</sup> / <sub>16</sub> ", 79.4 lbs)	1,240 x 280 x 790 mm, 31 kg (48 <sup>1</sup> / <sub>16</sub> " x 11 <sup>1</sup> / <sub>16</sub> " x 31 <sup>3</sup> / <sub>16</sub> ", 68.3 lbs)
Main Accessories		Power cord (3-pin <sup>14</sup> , approx. 3 m), remote controller and batteries (AA size x 2), CD-ROM, operation manual, stand hole protection cover x 2, vertical sticker (operation panel) x 1, vertical sticker (logo) x 1, blank sticker x 1, cable clamp x 2	Power cord (3-pin <sup>14</sup> , approx. 3 m), remote controller and batteries (AA size x 2), CD-ROM, operation manual, stand hole protection cover x 2, vertical sticker (operation panel) x 1, vertical sticker (logo) x 1, blank sticker x 1, cable clamp x 2	Power cord (3-pin <sup>14</sup> , approx. 3 m), remote controller and batteries (AAA size x 2), CD-ROM, operation manual, stand hole protection cover x 2, vertical sticker (operation panel) x 1, vertical sticker (logo) x 1, blank sticker x 1, cable clamp x 2

Model		PN-E421
Installation		Landscape/portrait
LCD Panel		42" class (42 1/16" diagonal), widescreen TFT LCD
	Maximum Resolution	1,920 x 1,080 pixels
	Max. Display Colors (approx.)	1,064 million colors
	Pixel Pitch (H x V)	0.485 x 0.485 mm
	Max. Brightness**	700 cd/m <sup>2</sup>
	Contrast Ratio	3000:1
	Viewing Angle (H/V)	178°/178° (CR ≥ 10)
	Active Screen Area (W x H)	930.2 x 523.3 mm (36 5/8" x 20 5/8")
	Response Time	8 ms (gray to gray, avg.)
Computer Input		Video Analog RGB (0.7 Vp-p) [75Ω], Digital (conforms to DVI 1.0 standards)
	Synchronization	Horizontal/vertical separation (TTL: positive/negative), Sync on green, composite sync (TTL: positive/negative)
	Plug & Play	VESA DDC2B
	Power Management	VESA DPMS, DVI DMPM
Video Color System		NTSC (3.58 MHz, 4.43 MHz)**, PAL, PAL60, SECAM
Input Terminals**		PC/AV Video DVI-D 24-pin** (HDCP compatible), Analog mini D-sub 15-pin, Analog BNC** *5*6
	PC/AV Audio	3.5 mm-diameter mini stereo jack x 1
	Video	BNC x 1**
	S-Video	1**
	Component	BNC (Y, Cb/Pb, Cr/Pr) x 1** *5
	HDMI	1 (HDCP compatible)*3
	Audio	RCA pin (L/R) x 2**
Output Terminals**		Computer Signal DVI-D 24-pin** (HDCP compatible, PC/AV signal)
	Audio	RCA pin (L/R)
	Speakers	10W + 10W (6Ω)**
Input/Output Terminals**		LAN Port 1**
	RS-232C	D-sub 9-pin (input x 1, output x 1)
Speaker Output		10W + 10W
Mounting		VESA (6 points), 200 mm (7 7/8") pitch, M6 screw or VESA (4 points), 200 mm (7 7/8") pitch, M6 screw
Power Supply		100V - 240V AC, 50/60 Hz
Power Consumption		195W (without audio input), max. 225W
	Standby Power Consumption	2.0W (standby mode in Standard), 0.8W (standby mode in Low Power)
Environmental Conditions		Operating Temperature 0°C to 40°C
	Operating Humidity	20% to 80% RH (no condensation)
Frame Width		19.5 mm
Dimensions (approx.)		W x D x H 973 x 126 x 566 mm (38 1/8" x 4 15/16" x 22 5/16")
Weight (approx.)		22 kg (48.5 lbs)
Package Dimensions (approx.)		W x D x H, Weight 1,100 x 264 x 704 mm, 28 kg (43 5/16" x 10 13/32" x 27 29/32", 61.7 lbs)
Main Accessories		Power cord (3-pin**), approx. 3 m), remote controller and batteries (AAA size x 2), CD-ROM, operation manual, stand hole protection cover x 2, vertical sticker (operation panel) x 1, vertical sticker (logo) x 1, blank sticker x 1, cable clamp x 2

## More About the Products

### ■ Using the product

- Mounting the monitor on the wall requires special expertise and the work must be performed by an authorized Sharp dealer, servicer or installer. You should never attempt to perform this work by yourself. Sharp will bear no responsibility for accidents or injuries caused by improper mounting or mishandling.
- Continuous display of static images may result in a temporary image retention effect on the screen.
- Using the monitor's screen-size switching or dual-screen display functions to compress or expand the screen for commercial or public viewing may infringe on the rights of the creators, as protected by Copyright Law.

### ■ Catalog Notes

- Product specifications are subject to change without notice. Colors of products shown in this catalog may differ slightly from actual colors due to the limitations of the printing process.
- The displays shown on the LCD monitors appearing in photographs in this catalog are simulated images.

\*1 Brightness will depend on input mode and other picture settings. Brightness level will decrease over time. Due to the nature of the equipment, it is not possible to precisely maintain a constant level of brightness.

\*2 Use a commercially available connection cable for PC and other video connections.

\*3 For both PC and AV components.

\*4 Use a 3-pin compatible power outlet.

\*5 The analog and component BNC terminals are switchable. Use the menu to select.

\*6 Does not support plug & play.

\*\* Requires separately sold PN-ZB01 Interface Expansion Board.

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