INFORMATION DISPLAY

NEC

LARGE-SCREEN LCD SERIES

40" (40" VIS), 40" (39.6" VIS) and 30" (29.5" VIS) LCD displays ideal for public information display applications

Digital merchandising

Airports/flight and baggage information

Financial

Also serving markets such as...


Restaurants


Medical


Corporate


Theaters

Tradeshows

NEC/MITSUBISHI
NEC-MITSUBISHI ELECTRONICS DISPLAY

FEATURES AND BENEFITS

High brightness level and contrast ratio, measured according to VESA FPDM, enhance the visual experience

High 1280 x 768 native resolution allows for crisp text and precise images

LCD technology virtually eliminates the potential for permanent phosphor image burn-in, contributing to optimal screen performance and longer monitor life (see Note #1)

XtraView® technology allows for 170° wide-angle viewing

DDC/CI capabilities allow control commands to be sent directly to the monitor through a standard PC or over an existing network by a system administrator

CableComp™ automatic long cable compensation prevents image quality degradation caused by long cable lengths

User-friendly, efficient design features the currently proposed VESA-standard mounting and an overall lightweight construction for easy transport and installation

Touch or protective glass integration-enabling design increases application options

Automatic black level adjustment regulates grayscale images for optimal picture quality

Reduced reflection and glare in high ambient light environments provide you with a more comfortable view of the screen

Optional Onkyo® detachable speakers deliver an enhanced multimedia experience with amazing sound quality (part # SP-3040)

Low power consumption conserves energy and leads to a lower total cost of ownership

Rapid Response™ technology delivers virtually uninterrupted, undistorted viewing of full-motion video

Picture-in-picture (PIP) capability displays PC and video input simultaneously

On Screen Manager (OSM®) puts you in complete control of display setting adjustments

NEC's quality and reliability provide peace of mind with a 1-year limited parts and labor warranty (including backlight) and 24/7 customer service and technical support

At 35.3 lbs. (shown with optional speakers), the LCD3000 was designed with light weight in mind. Transporting and installing your visual display has never been so easy. The LCD4000 and LCD4000e weigh 57.3 lbs. and 61.7 lbs. respectively.

Expanding information display options with SUPERIOR screen performance.

Providing visual display solutions to a wide variety of users for many years, NEC LCD monitors have set the standard for flat-panel technology and continue to offer new ways to enhance visual experiences. Our visual solutions provide users with a diverse range of options to help them see their digital world more clearly and support them in achieving their goals.

Building on this tradition of quality and innovation, NEC's black-bezel 40" (40" VIS) LCD4000, silver-bezel 40" (39.6" VIS) LCD4000e and black-bezel 30" (29.5" VIS) LCD3000 feature the latest in advanced LCD technologies and create new options for those in the information display market. As three of the largest screen size LCD displays commercially available, these models carry with them all of the benefits users have come to value in NEC's desktop LCD displays. These benefits now can be enjoyed in a variety of information display applications, including conference rooms, public information kiosks, retail signage, financial exchanges, airports, broadcast studios and tradeshow exhibits. The screen performance of the Large-Screen LCD Series brings ideas to life, capturing the attention and imagination of viewers and ensuring that messages reach audiences with maximum clarity and impact.

Sized to please. With their spacious screens, the LCD4000 and LCD4000e are ideal for applications that require precise readability and clarity from a distance, such as airports and financial institutions. Filling the gap between flat panels designed for the desktop and those intended for larger venues, the LCD3000 offers the information display market another option for a variety of visual display needs. It also fills the void left by larger-sized CRT monitors, which are no longer widely available.

Superior screen performance. Large-Screen LCD Series displays take advantage of the many display technologies that have made LCD monitors so popular over the years, and deliver them through expansive screens featuring a wide aspect ratio. The displays' 1280 x 768 (WXGA) resolution optimizes on-screen text, images and video with remarkable precision and clarity, allowing onlookers to clearly view presentations, charts, advertisements, pricing and other content-rich information. Further, these applications can be viewed simultaneously, utilizing the displays' picture-in-picture capability when using the defined combination of video inputs (see User's Manual).

With some screen technologies, leaving the same image on the display for a long period of time can permanently burn the image into the screen. Particularly with phosphor-based public displays the image can remain permanently "engraved" into the display, severely impacting the visual quality of the display. Since LCD-based displays do not use phosphors in their construction, the potential for permanent burn-in is

Multiple application solutions

And you thought LCD monitors were used only on desktops. With space conservation a major concern for all types of markets in today's business world, Large-Screen LCD Series displays' space-conscious designs allow them to fit comfortably into almost any application for maximum impact to viewers. Wall mounting, custom-made cabinets and hanging fixtures are just a few of the options you have when choosing your display installation for these displays.

Information Display. *Make a lasting impression on the public eye with the LCD4000, LCD4000e and LCD3000. Whether the displays are placed in airports, train stations, restaurants or kiosks in any interior environment, their spacious screens are guaranteed to turn heads and feed useful information to passersby. With XtraView wide-angle viewing technology, it doesn't matter if they're directly in front of the screen or passing by–an ideal view is assured.*

Advertising. *With their high resolution, bright display and lifelike colors, the LCD4000, LCD4000e and LCD3000 are unrivaled in drawing consumer attention. Spread the word on your products and services to moviegoers, advertise the latest sale items at a department store or attract the eyes of passersby in the storefront of a clothing store. No matter the outlet, these displays stop consumers in their tracks.*

The screen performance of the Large-Screen LCD Series brings ideas to life, capturing the attention and imagination of viewers and ensuring that messages reach audiences with maximum clarity and impact.

significantly decreased, thereby contributing to optimal screen performance and a longer life for the displays (see Note #1).

In applications where spectators are situated at various angles in front of the screen or where they are passing by the display, the displays provide an undistorted view of the screen. Using XtraView wide-angle viewing technology, the displays deliver flexible 170° horizontal and vertical viewing angles (85° up, down, left and right or conical) with less glare, reflection and distortion.

With a brightness of 450 cd/m^2, these displays stand out in the crowd, allowing onlookers to view text and graphics with ease and comfort. Exceptional contrast ratios help the displays deliver amazingly vivid colors and support superior grayscaling. Further, Rapid Response technology allows them to display virtually uninterrupted and undistorted viewing of high-speed, full-motion video without ghosting or image trailing.

Take control of your monitor. To make remote control and diagnostics easier, the LCD4000, LCD4000e and LCD3000 provide three different methods to manipulate the display—an RS-232 connector, the advanced remote diagnostics and remote control capabilities of the Display Data Channel/Command Interface (DDC/CI), and the handheld IR remote control. By utilizing the inherent power of the PC (a typical source for the display), DDC/CI allows control commands to be sent directly to the monitor through a standard PC system or remotely over an existing network (LAN) by a system administrator. A wide range of DDC/CI-based graphics cards, which are quickly becoming the standard in most PCs, allow for easy control through today's operating systems (Windows 2000/XP) and beyond.

Achieve consistent long distance signals. NEC-Mitsubishi's exclusive CableComp technology enables users to realize the advantages of long monitor cable lengths without the difficulties and costs normally associated with this type of configuration. In environments such as trading floors, call centers, broadcast studios and public signage venues, longer cables enable systems to be centrally located in control rooms far away from users (up to 328 feet/100 meters), allowing monitor upgrades, service and repairs to be accomplished without interrupting the work or display environment.

Historically, longer monitor cable configurations tended to have limitations, including weakened signals, which resulted in blurred images. Inconsistent red, green and blue cable lengths were also common. This produced uneven signals, thereby drastically reducing display quality.

CableComp technology solves these dilemmas by using a digitized signal delay circuit to automatically compensate for each red, green and blue cable's length and video signal delay, ensuring sharp image

Financial. *In the fast-paced financial market, information needs to be relayed in real time. The LCD4000, LCD4000e and LCD3000 are capable not only of displaying on-the-fly market data and other vital information without distortion, but do so using crisp text and a high-bright backlight for easier readability.*

Corporate. *Deliver a presentation they'll remember using the LCD4000, LCD4000e or LCD3000. Ideal for boardrooms, conference rooms and large offices, the monitors' ability to display crystal-clear text and precise images add clarity and profoundness to spreadsheets, documents and graphics-based presentations. Picture-in-picture capability allows your group to simultaneously view multiple applications, such as a spreadsheet and full-motion video conference.*

Tradeshows. *With a multitude of exhibitors vying for the attention and time of tradeshow visitors, it can be difficult to stand out from the crowd. The LCD4000, LCD4000e and LCD3000 help your exhibit become the center of attention with their amazing screen performance. Their brightness and dynamic design will draw interest, while Rapid Response and a high contrast ratio allow you to effectively demonstrate your company's message.*

Note #1: Please be aware that LCD technology may experience phenomena known as image persistence. Image persistence occurs when a residual or "ghost" image of a previously displayed image remains visible on the screen. Unlike CRT or other phosphor-based monitors, LCD monitors' image persistence is not permanent; however, constant images being displayed for a long period of time should be avoided. To alleviate image persistence, turn off the monitor for a period of time as long as the previous constant image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image. As with all personal display devices, to conserve energy and reduce the potential of image persistence, NEC-Mitsubishi Electronics Display recommends turning off the monitor when not in use or displaying moving images and using a moving screen saver at regular intervals whenever the screen is idle.

reproduction. CableComp also boosts the VGA video signal to prevent blurred images without the need for costly repeaters.

Get connected. Large-Screen LCD Series displays feature a number of input connections for maximum compatibility (see Fig. 1). These include a DVI-D connector for digital video signal adapters and a traditional 15-pin mini D-sub connector that is configured for IBM® VGA-compatible adapters, as well as BNC, composite video, component video for HDTV and an S-Video connector. This wide compatibility makes it possible to upgrade adapters or software without having to purchase a new monitor. By accepting analog signal inputs, the monitors can display more than 16 million colors, depending on the graphics card and software being used.

User-friendly, efficient design. As ease of installation is a main concern for the information display market, these displays were designed with light weight in mind, making them simple to transport and install wherever necessary. In addition, with these displays, NEC is on the forefront of mounting technology as the cabinets were designed to meet currently proposed VESA mounting standards for larger-sized public displays, which will be required of all manufacturers in the future. With a uniformly thin frame, the displays' design is ideal for multi-screen construction for virtually seamless video walls.

Enhance your multimedia experience. Optional multimedia speakers, powered by a built-in 7W x 7W audio amp, boost the senses during presentations or other display applications. These powerful components easily attach to the vertical sides of the displays, eliminating the need to find additional mounting, wiring or installation solutions.

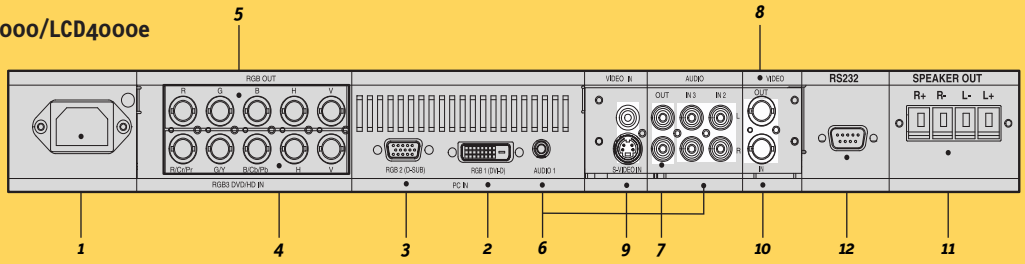
Simplified control of screen settings. Large-Screen LCD Series displays feature NEC's critically acclaimed On Screen Manager (OSM) for precise monitor adjustments. A touch of the convenient controls or the individual remote control activates the OSM, delivering a comprehensive set of adjustments and an expanded display mode with monitor information such as brightness, contrast and color settings. However, for quick and easy setups, a multitude of presets makes these monitors ready to go right out of the box.

Extend your message with ease. Utilizing daisy-chaining capability, these monitors can be linked to one another to display the same image and deliver the same audio—all from a single source. This capability allows you to avoid the hassle and extra costs of using splitters or connecting monitors to multiple sources.

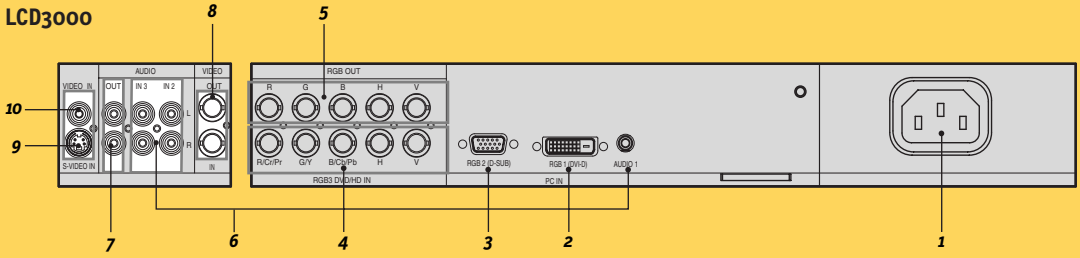
Intelligent power management ensures a smart investment. Utilizing energy-efficient technologies in their design, the displays reduce power consumption and significantly lower the total cost of ownership (TCO). The high-efficiency backlight reduces not only the power consumption but also the heat generation at the front of the screen.

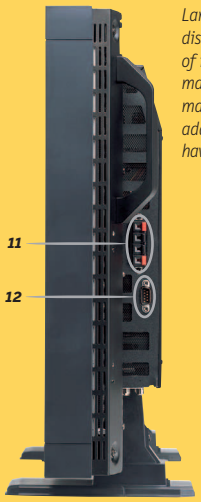
Figure 1

LCD4000/LCD4000e



LCD3000





Large-Screen LCD Series displays feature a number of input connections for maximum compatibility. This makes it possible to upgrade adapters or software without having to purchase a new display.

1. ***AC IN connector*** *Connects with the supplied power cord.*
2. ***RGB 1 IN (DVI-D)*** *To input digital RGB signals from a computer having a digital RGB output. Note: this connector does not support analog input.*
3. ***RGB 2 IN (mini D-Sub 15 pin)*** *To input analog RGB signals from a personal computer or other RGB equipment.*
4. ***RGB 3 DVD/HD [R/Cr/Pr, G/Y, B/Cb/Pb, H, V] (BNC) IN connector*** *To input analog RGB signals or signals from other RGB equipment. Also for connecting equipment such as a DVD player or HDTV laser disc player. A Sync-on-Green signal also can be connected.*
5. ***RGB OUT connector (BNC)*** *To output the signal from the RGB 2, RGB 3 and DVD/HD IN connector.*
6. ***AUDIO IN 1,2,3*** *To input audio signal from external equipment such as a computer, VCR or DVD player.*
7. ***AUDIO OUT*** *To output the audio signal from the current audio input.*
8. ***VIDEO OUT*** *To output the video signal from the VIDEO IN connector.*
9. ***S-VIDEO IN*** *For connecting equipment such as a DVD player or VCR.*
10. ***VIDEO IN*** *For connecting equipment such as a DVD player or VCR.*
11. ***SPEAKER TERMINAL*** *For connecting non-amplified speakers (side of unit on LCD3000).*
12. ***RS-232 INPUT*** *For connecting a control cable for remote control (side of unit on LCD3000).*

NEC

Model	*LCD3000*	*LCD4000*	*LCD4000e*
Display			
Viewable Image Size	29.5"	40"	39.6"
Pixel Pitch	0.503mm	0.681mm	0.681mm
Pixels Per Inch	50.5 @ native resolution	37.3 @ native resolution	37.3 @ native resolution
Brightness (typical)*	450 cd/m^2	450 cd/m^2	450 cd/m^2
Contrast Ratio (typical)*	350:1	600:1	600:1
Viewing Angle (typical)	170°Vert., 170° Hor.(85U/85D/85L/85R) @ CR>10	170°Vert., 170° Hor.(85U/85D/85L/85R) @ CR>10	170° Vert., 170° Hor.(85U/85D/85L/85R) @ CR>10
Response Time (typical)	Rapid Response (25 ms)	Rapid Response (23 ms)	Rapid Response (22 ms)
Display Colors	256 RGB Level, more than 16 million colors	256 RGB Levels, more than 16 million colors	256 RGB Levels, more than 16 million colors
Active Screen Area (W x H)	643.2 x 385.9mm	871.7 x 523mm	871.7 x 523mm
Screen Aspect Ratio**	15:9	15:9	15:9
Synchronization Range	Analog / Digital	Analog / Digital	Analog / Digital
Horizontal	31.5-75 kHz (15.75 kHz) / 31.5-48.4 kHz	31.5-75 kHz (15.75 kHz) / 31.5-48.4 kHz	31.5-75 kHz (15.75 kHz) / 31.5-48.4 kHz
Vertical	58-62 Hz / 58-62 Hz	58-62 Hz / 58-62 Hz	58-62 Hz / 58-62 Hz
Input Signal			
Video	ANALOG RGB 0.7 Vp-p/75 Ohms	ANALOG RGB 0.7 Vp-p/75 Ohms	ANALOG RGB 0.7 Vp-p/75 Ohms
Sync	Separate sync: TTL Level (positive/negative) Composite sync: TTL Level (positive/negative) Composite sync on green: (0.3 Vp-p negative 0.7 Vp-p positive)	Separate sync: TTL Level (positive/negative) Composite sync: TTL Level (positive/negative) Composite sync on green: (0.3 Vp-p negative 0.7 Vp-p positive)	Separate sync: TTL Level (positive/negative) Composite sync: TTL Level (positive/negative) Composite sync on green: (0.3 Vp-p negative 0.7 Vp-p positive)
Inputs			
RGB 1	DVI-D x 1	DVI-D x 1	DVI-D x 1
RGB 2	Analog D-sub	Analog D-sub	Analog D-sub
RGB 3	Analog BNC	Analog BNC	Analog BNC
Video 1	Composite RCA or S-Video	Composite RCA or S-Video	Composite RCA or S-Video
Component Video 1 (DVD/HD)	Component BNC (common use with RGB3, selectable)	Component BNC (common use with RGB3, selectable)	Component BNC (common use with RGB3, selectable)
Audio	2 sets RCA stereo, 1 mini stereo Internal Speaker: None	2 sets RCA stereo, 1 mini stereo Internal Speaker: None	2 sets RCA stereo, 1 mini stereo Internal Speaker: None
External Control	RS-232C, DDC-CI	RS-232C, DDC-CI	RS-232C, DDC-CI
Outputs			
RGB	Daisychain RGB2, RGB3, DVD/HD	Daisychain RGB2, RGB3, DVD/HD	Daisychain RGB2, RGB3, DVD/HD
Video	Daisychain Video 1	Daisychain Video 1	Daisychain Video 1
Audio	Daisychain Audio 3	Daisychain Audio 3	Daisychain Audio 3
Audio Amplifier	7W x 7W	7W x 7W	7W x 7W
Resolutions Supported	640 x 480 @ 60 Hz 800 x 600 @ 60 Hz 1024 x 768 @ 60 Hz 1280 x 768 @ 60 Hz 1280 x 1024 (Analog only, compressed) 1600 x 1200 (Analog only, compressed) NTSC/PAL, HDTV, 480i, 480p, 720p, 1080i	640 x 480 @ 60 Hz 800 x 600 @ 60 Hz 1024 x 768 @ 60 Hz 1280 x 768 @ 60 Hz 1280 x 1024 (Analog only, compressed) 1600 x 1200 (Analog only, compressed) NTSC/PAL, HDTV, 480i, 480p, 720p, 1080i	640 x 480 @ 60 Hz 800 x 600 @ 60 Hz 1024 x 768 @ 60 Hz 1280 x 768 @ 60 Hz 1280 x 1024 (Analog only, compressed) 1600 x 1200 (Analog only, compressed) NTSC/PAL, HDTV, 480i, 480p, 720p, 1080i
Native Resolution	1280 x 768	1280 x 768	1280 x 768
Additional Features	Power Management, Plug and Play (DDC/CI, DDC2Bi), PinP (Remote), CableComp, Screen Saver, Rapid Response, Video Ready (no tuner), Infrared remote control included	Power Management, Plug and Play (DDC/CI, DDC2Bi), PinP (Remote), CableComp, Screen Saver, Rapid Response, Video Ready (no tuner), Infrared remote control included	Power Management, Plug and Play (DDC/CI, DDC2Bi), PinP (Remote), CableComp, Screen Saver, Rapid Response, Video Ready (no tuner), Infrared remote control included
Touch-Capable	Designed for integration	Designed for integration	Designed for integration
Voltage Rating	100-120/220-240V @ 50/60 Hz	100-120/220-240V @ 50/60 Hz	100-120/220-240V @ 50/60 Hz
Power Consumption (typical)			
On	170W	235W	235W
Power Savings Mode	<8W	<5W	<5W
Dimensions (WxHxD)			
(with stand)	27.8 x 19.3 x 7.9 in/706 x 489 x 200mm	37.4 x 25.4 x 12.2 in/949 x 644 x 311mm	37.4 x 25.4 x 12.2 in/949 x 644 x 311mm
(without stand)	27.8 x 17.7 x 4.5 in/706 x 449 x 114mm	37.4 x 23.8 x 5.6 in/949 x 605 x 141mm	37.4 x 23.8 x 5.6 in/949 x 605 x 141mm
Net Weight			
(with stand)	35.3 lbs/16 kg	60.6 lbs/27.5 kg	60.6 lbs/27.5 kg
(without stand)	32.6 lbs/14.8 kg	57.3 lbs/26 kg	57.3 lbs/26 kg
VESA Hole Configuration Specifications	200 x 100mm (6 hole)/100 x 100mm (4 hole)	600 x 200mm (16 hole) 100mm spacing	600 x 200mm (16 hole) 100mm spacing
Environmental Conditions			
Operating Temperature	5-40°C/41-104°F	5-40°C/41-104°F	5-40°C/41-104°F
Operating Humidity	10-80%	20-80%	20-80%
Operating Altitude	4200 m/13,780 ft	4200 m/13,780 ft	4200 m/13,780 ft
Storage Temperature	-20-50°C/-4-122°F	-20-60°C/-4-140°F	-20-60°C/-4-140°F
Storage Humidity	10-90%	10-90%	10-90%
Storage Altitude	12,000 m/39,370 ft	12,000 m/39,370 ft	12,000 m/39,370 ft
Regulatory Approvals	UL 1950/CSA C22.2 No. 950/TUV-GS/EN60950/FCC-B/DOC-B/EN55022-B/EN55024/EN61000-3-2/EN61000-3-3/CE	UL 1950/CSA C22.2 No. 950/TUV-GS/EN60950/FCC-B/DOC-B/EN55022-B/EN55024/EN61000-3-2/EN61000-3-3/CE	UL 1950/CSA C22.2 No. 950/TUV-GS/EN60950/FCC-B/DOC-B/EN55022-B/EN55024/EN61000-3-2/EN61000-3-3/CE
Included Accessories	AC power cord, user manual, wireless remote control, batteries, 15-pin RGB cable, CD-ROM	AC power cord, user manual, wireless remote control, batteries, 15-pin RGB cable, CD-ROM	AC power cord, user manual, wireless remote control, batteries, 15-pin RGB cable, CD-ROM
Optional Accessories	SP-3040 Onkyo speakers	SP-3040 Onkyo speakers	SP-3040 Onkyo speakers
Limited Warranty	1 year parts and labor, including backlight	1 year parts and labor, including backlight	1 year parts and labor, including backlight
Technical Support	24 hours/7 days	24 hours/7 days	24 hours/7 days

*measured according to VESA FPDM
**equivalent to 16:9.6 calculation

NEC-Mitsubishi Electronics Display of America
500 Park Boulevard, Suite 1100
Itasca, Illinois 60143
888-NEC-MITS
www.necmitsubishi.com

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