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delivering technology solutions

PN-M501
PN-M401
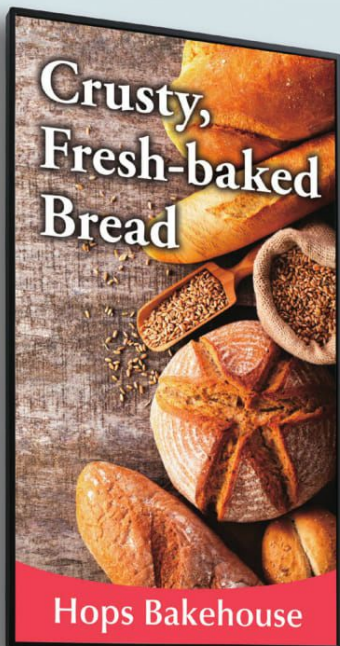Professional LCD Monitors

24/7 Professional LCD Monitors with Built-in SoC for Smart Signage Solutions

Versatile Solution for Content Creation and Management

A standalone signage solution with the flexibility and expandability to support various applications and usage styles. Thanks to its built-in SoC (System on a Chip) controller, the 50" Class (49.5" diagonal) PN-M501 and 40" Class (39.5" diagonal) PN-M401 monitors deliver out-of-the-box digital signage solutions even without external devices such as PCs. What's more, the PN-M501/M401 monitors come standard with original software for simple content distribution and SHARP e-Signage S software for professional content creation and management. The PN-M501/M401 monitors offer versatile solutions for a wide range of digital signage applications.

Out-of-the-Box Digital Signage Solution

Built-in SoC (System on a Chip)

The PN-M501/M401 monitor has a powerful integrated SoC controller driven by the Arm® Cortex®-A17 quad core processor (max. 1.8 GHz) with 2 GB memory and 8 GB storage. It integrates Android™ OS (4.4) and comes pre-installed with several types of signage support software. This means the PN-M501/M401 monitor is ready to display signage right out of the box, even without a PC. It is also compatible with various third-party Android apps, which further expands the usability.

Supports H.265/HEVC

The built-in SoC controller supports not only H.264/AVC but also H.265/HEVC, a next-generation high-efficiency video codec.

SHARP Open Architecture Platform

The PN-M501/M401 monitors feature the SHARP Open Architecture Platform, which allows third-party software developers to create custom signage applications that open up rich possibilities for digital signage in retail, office and other settings.

Note: For details please consult with your local authorized Sharp dealer or representative.
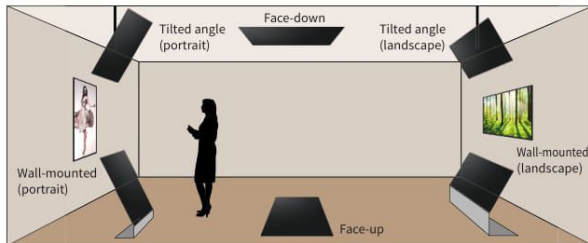
Flexibility and Expandability

The PN-M501/M401 monitors feature excellent image quality and are designed for flexibility in a variety of settings. They come with an Intel® Mini OPS-compatible expansion slot that gives you the added choice of expandability: an HDBaseT™ receiver board that supports various types of media and control signals or a wireless board for easy wireless connection with multiple devices.

Excellent Image Quality

Thanks to its 1,920 (H) x 1,080 (V)-pixel resolution, the PN-M501/M401 monitors express all of the detail and visual impact of your selected full-HD content. A brightness of 450 cd/m^2 supports these LCD monitors.

Flexible Settings

Whether in a landscape or portrait orientation, the PN-M501/M401 monitors can be installed face-up, face-down, or tilted forward or backward at an angle of up to 90 degrees. Designed for easy hanging installation, they can be suspended from four corners of the rear housing with wires. Such flexibility gives you more freedom to meet today's demanding signage needs.

Note: Please consult with your local authorized Sharp dealer or representative regarding tiltable angles and other installation conditions.

DisplayPort™ Daisy Chain

Multiple PN-M501/M401 monitors can be set up in a daisy chain configuration by connecting between the DisplayPort terminals, so you can display the same content simultaneously on all screens.

24-Hour Daily Operation

The PN-M501/M401 monitors support 24/7 operation, bringing reliable daily performance to retail, office, and many other locations.

Note: When POWER SAVE MODE is set to OFF, the integrated SoC controller stays on even in standby mode. It is highly recommended to reboot the OS once a day to maintain stable operation.

Support for HDBaseT 2.0 (Option)

Installing an optional HDBaseT Receiver Board (PN-ZB03H) allows these monitors to receive HDMI™ video, audio signals, and control signals sent up to 100 meters via a single LAN cable*[1]. This brings convenient connectivity with HDMI devices such as PCs and BD players. Compatibility with the HDBaseT 2.0 standard allows you to remotely operate a PC from a USB device connected to the optional board*[2]. With HDBaseT 2.0 support, you can use fewer cables and reduce the time and cost of installation.

An optional board can slide into the slot on the back of the monitor.

*1 Category 6 or higher shielded cable (available commercially)
*2 Requires an HDBaseT 2.0-compatible transmitter (available commercially). Not all USB devices are supported.

Wireless Connectivity (Option)

An optional Wireless Board (PN-ZB03W) allows up to 10 devices—including Mac or Windows® computers, smartphones, and tablets—to connect to the PN-M501/M401 monitors simultaneously without any cable hassles. You can display the content of one device on the whole screen, or you can display the content from up to four devices in a 2 x 2 split screen. This wireless collaboration is a great way to enhance productivity in the workplace.

Ready for Versatile Signage Support

A variety of signage support functions come standard with the PN-M501/M401 monitors. For an instant signage solution, the built-in media player allows you to easily use existing materials to make attractive signage. The integrated SoC also features an HTML5 browser that enables easy web-based signage operation. Furthermore, SHARP e-Signage S software opens up more advanced possibilities when it comes to creating, scheduling, delivering the signage programs and monitoring status with the PN-M501/M401 monitors. You have a streamlined solution designed to satisfy a range of signage needs.

Simple Standalone Signage

Autoplay with Media Player

Displaying still images or videos as signage content couldn't be easier. The built-in media player automatically starts playing the content that is stored either on USB memory device, SD card, or internal storage when the monitor is powered on. It also has a simple schedule function that allows you to pre-register seven patterns for when to start/stop the content playback. In a slideshow, you can add visual effects between the still images. You can make playlists that combine still images and videos. The PN-M501/M401 monitors let you enjoy the benefits of simple digital signage without any extra software, special skills, or even a PC.
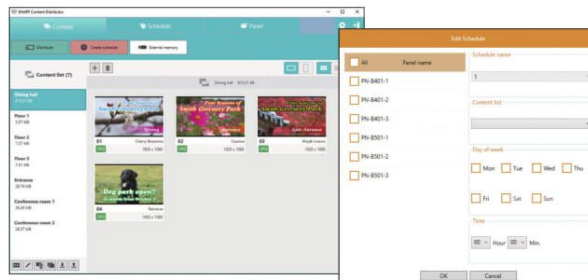
Web-based Signage

Thanks to the HTML5 browser pre-installed on the SoC, web content can be easily shown on the PN-M501/M401 monitors as signage content. All you need to do is enter the URL in the HTML5 browser.

Note: Requires Ethernet or optional wireless adapter. For more stable connection, Ethernet is recommended.

Easy Content Distribution

SHARP Content Distributor

This software makes it easy to update the content to be displayed on multiple LCD monitors. Through simple and intuitive PC operation, you can schedule *what* content gets distributed, *when* it gets delivered, and *which* monitors show it. Take advantage of a convenient signage solution that lets you distribute content in a timely manner to multiple monitors.

Intuitive drag-and-drop operation with thumbnail view

Easy editing of distribution schedules

Note: SHARP Content Distributor is available via the downloader on the bundled CD-ROM.

Total Signage Support Software

SHARP e-Signage S

This versatile signage software provides total support for satisfying individual user needs in the creation, scheduling, distribution, and management of a wide range of signage programs for Sharp LCD monitors installed in offices, commercial establishments, public spaces, and many other locations. The PN-M501/M401 monitor comes bundled with the standalone edition of SHARP e-Signage S software, accompanied with its player pre-installed on the integrated Android OS. SHARP e-Signage S software (standalone edition) lets you create/edit signage programs easily via simple drag-and-drop operation. You can intuitively lay out diverse content, such as still images, videos, HTML, and horizontal message bars, in a free layout frame to make attractive and suitable signage programs with minimal effort. You can also create display schedules and timetables and monitor the operational status of a designated PN-M501/M401 monitor.

	Product name	No. of target monitors	No. of operation PCs	Distribution via network
Standalone edition	Bundled	1	1	No
Player	Pre-installed			

Note: The standalone edition of SHARP e-Signage S software is available via the downloader on the bundled CD-ROM.
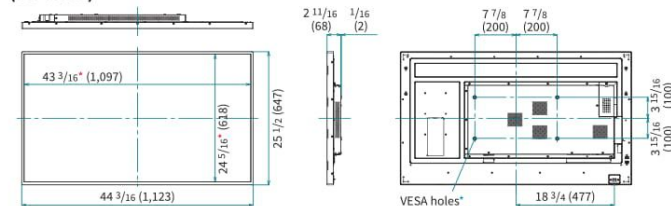
Specifications

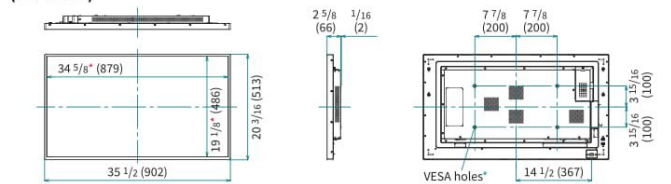| Model Name		PN-M501	PN-M401
Installation		Landscape / Portrait / Face-up / Face-down	
LCD Panel		50" Class (49.5" diagonal) TFT LCD	40" Class (39.5" diagonal) TFT LCD
	Max. Resolution	1,920 x 1,080 pixels	
	Max. Display Colors (approx.)	16.77 million colors	
	Pixel Pitch (H x V)	0.5708 x 0.5708 mm	0.45735 x 0.4494 mm
	Max. Brightness*[1]	450 cd/m²	
	Contrast Ratio	5,000 : 1	
	Viewing Angle (H/V)	178°/178° (CR≧10)	
	Active Screen Area (W x H)	43 $^1/_8$" x 24 $^1/_4$"	34 $^9/_{16}$" x 19 $^1/_8$"
	Response Time	9.5 ms (gray to gray, avg.)	
	Backlight	LED, edge lit	
Computer Input	Video	Analog RGB (0.7 Vp-p) [75Ω], HDMI	
	Synchronization	Horizontal/vertical separation (TTL: positive/negative)	
	Plug & Play	VESA DDC2B	
	Power Management	VESA DPMS	
Input Terminals*[2]		DisplayPort x 1, Mini D-sub 15-pin x 1, HDMI x 2, RS-232C x 1, 3.5 mm-diameter mini stereo jack x 1	
Output Terminals*[2]		DisplayPort x 1, RS-232C x 1, 3.5 mm-diameter mini stereo jack x 1	
Android	OS	Android 4.4	
	CPU	Quad Core (Arm Cortex-A17 processor)	
	Memory	2 GB	
	Storage	8 GB	
	Input/Output Terminals	LAN port (10Base-T/100Base-TX/1000Base-TX), SD card slot (SD/SDHC) x 1, USB port (2.0-compliant) x 3	
Expansion Slot		12 V, 2.5 A (power supplied when expanding the functions with an optional part)	
Speaker Output		7 W + 7 W	
Mounting		VESA (4 points), 400 x 200 mm (15 $^3/_4$" x 7 $^7/_8$") pitch, M6 screw	
Power Supply		100 V – 240 V AC, 50/60 Hz	
Power Consumption		120 W	92 W
Environmental Conditions	Operating Temperature*[3]	0˚C to 40˚C	
	Operating Humidity	20% to 80% RH (no condensation)	
Dimensions (W x D x H) (approx.) (display only)		44 $^3/_{16}$" x 2 $^{11}/_{16}$" x 25 $^1/_2$"	35 $^1/_2$" x 2 $^5/_8$" x 20 $^3/_{16}$"
Weight (approx.)		49 lbs	34 lbs
Main Accessories		AC power cord, remote control unit, battery (AAA size) x 2, CD-ROM, set-up manual, cable clamp x 2, USB flash drive/SD card cover, USB flash drive/SD card cover fixing screw, logo sticker	

*[1] Brightness depends on input mode and other picture settings. Brightness level will decrease slightly over the lifetime of the product. Due to the physical limitations of the equipment, it is not possible to maintain a precisely constant level of brightness.
*[2] Use a commercially available connection cable for PC and other video connections. *[3] When using the monitor laying flat on a surface (when the monitor is tilted more than 20 degrees upward or downward from the perpendicular in relation to a level surface) the ambient temperature must be within the range of 0°C to 30°C. Temperature conditions may change when using the monitor together with the optional equipment. In such cases, check the temperature conditions specified by the optional equipment.

Dimensions

(PN-M501)

43 $^3/_{16}$* (1,097)
24 $^5/_{16}$ (618)
25 1/2 (647)
44 3/16 (1,123)
2 $^{11}/_{16}$ (68)
$^1/_{16}$ (2)
7 7/8 (200)
7 7/8 (200)
3 15/16 (100)
3 15/16 (100)
3 15/16 (100)
18 3/4 (477)
VESA holes*

(PN-M401)

34 $^5/_8$* (879)
19 1/8 (486)
20 3/16 (513)
35 1/2 (902)
2 $^5/_8$ (66)
$^1/_{16}$ (2)
7 7/8 (200)
7 7/8 (200)
3 15/16 (100)
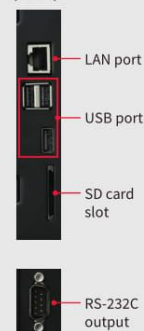3 15/16 (100)
14 1/2 (367)
VESA holes*

Units:inch (mm)
* Screen dimensions
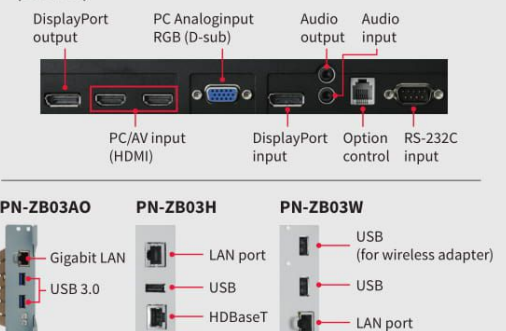* To use the VESA-standard mounting bracket, use M6 screws that are 8 to 10 mm plus the thickness of the bracket.

Input/Output Terminals

[standard]

(Side)
- LAN port
- USB port
- SD card slot
- RS-232C output

(Bottom)

DisplayPort output
PC Analoginput RGB (D-sub)
Audio output
Audio input
PC/AV input (HDMI)
DisplayPort input
Option control
RS-232C input

PN-ZB03AO
- Gigabit LAN
- USB 3.0

PN-ZB03H
- LAN port
- USB
- HDBaseT

PN-ZB03W
- USB (for wireless adapter)
- USB
- LAN port

PN-ZB03H HDBaseT Receiver Board	
Supported standard	HDBaseT 2.0
Max. resolution	4,096 x 2,160 (30 Hz)
Copy protection	HDCP pass-through
Transmission distance	Up to 328 feet / 100 m
Input/output terminals	HDBaseT x 1, LAN x 1 (10Base-T/100Base-TX), USB x 1 (USB 2.0)
Power supply	From the monitor

PN-ZB03W Wireless Board	
Max. resolution	1,920 x 1,080 (30 Hz)
Wireless communication method	2.4 GHz, IEEE802.11b/g/n 5 GHz, IEEE802.11a/n
Input/output terminals	LAN x 1 (10Base-T/100Base-TX), USB x 1 (USB 2.0), Wireless adapter x 1 (USB 2.0)
Power supply	From the monitor

Options

- **PN-ZB03H: HDBaseT Receiver Board**
- **PN-ZB03W: Wireless Board**
- **PN-ZW01: Wireless Adapter**
- **PN-ZB03AO: Computing Board**

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