\Orchestrating a brighter world NEC

Unveiling a filter-free LCD laser-based professional installation projector with high performance

PA803UL / PA653UL

HDBT™ HDMI® HIGH-DEFINITION MULTIMEDIA INTERFACE DisplayPort™

Realise efficient use and low-maintenance operation in an LCD laser-based projector while producing high-quality images

Excellent Ease of Installation and Functionality in Various Uses and Applications

Multi-screen Function

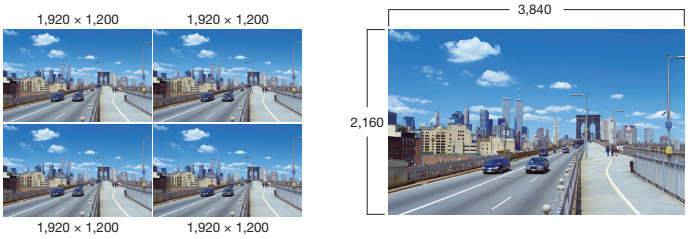
Multi-display capabilities and tiling technologies are integrated. The projector is also equipped with multiple digital input and HDBaseT output terminals that can connect multiple projectors in a digital daisy chain. These cutting-edge functions produce a beautiful high-resolution image, including a 4K high-resolution display using 4 projectors and various picture-in-picture and picture-by-picture configurations.

Screen Splitter

NEC is committed to bringing the latest and greatest Innovations to projectors. Multi-display capabilities and TileMatrix technologies are integrated into these projectors by using the HDBaseT repeater function (IN/OUT). This processing is all done internally and therefore eliminates the additional hardware typically required to produce a beautiful 4K resolution image.

Screen Splitter (Multi-display) by Daisy Chain

Using four WUXGA projectors to project videos with a resolution of 4K (3,840 × 2,160 pixels) [TILING]
On-screen menu operations
1 Use four projectors to display four similar videos.
2 Operate the on-screen menu using the four respective projectors to divide the image into four portions.
3 Adjust the lens shift of each projector to fine-tune the boundaries of the screen.



Edge Blending

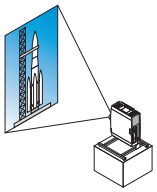
This function seamlessly blends multiple projected images to display a single high-resolution image.

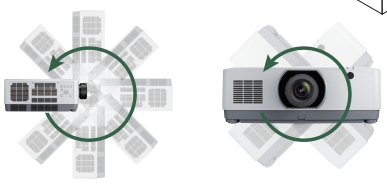
New Optional Lenses with Peripheral Motorised Focus Features and Advanced Dust-proof Construction

Three types of new optional lenses for the NP40ZL, NP41ZL and NP43ZL are available as dust proof lenses with motorised zoom and focus and a memory function. They correspond to screen sizes from 50 to 500 inches. A selection of wide zoom lenses with wide vertical and horizontal lens shift and control code emulation are available, guaranteeing hassle-free installation and replacement of existing installation projectors. The NP40ZL and NP41ZL lenses are also equipped with peripheral motorised focus, and focus adjustment is possible in two stages by the centre and the periphery, which offers excellent image quality. Lenses can be mounted and removed with one touch.

Highly Flexible Installation Options with 360 ° Positioning in any Direction.

This projector can be installed universally at any angle. Tilt-free, roll-free and portrait installations are supported. The projector can be rotated freely (360°) to point up or down depending on the installation requirements and can be rotated and installed on its side to create a portrait image.





A High-definition Design to Meet the Era of High-resolution Content and Devices

NEC's Unique High-definition Functionality with the 4th Generation of "SweetVision" for 4K Content

"SweetVision" newly supports 4K 60 Hz input signals and has been upgraded to support HDR10 and Rec.2020 signal inputs. It offers a high definition image by raising the contrast in the boundary parts of an image by using the "Craik-O'Brien-Cornsweet effect".

Supports High-definition Processing of Both Digital and Analogue Inputs

10-bit high-definition signal processing is possible with all digital and analogue inputs. An image can be projected with an excellent contrast of 1024 gradations and over 1 billion colours in 4K images.

4K Ready

The New PA series supports HDR10 and BT.2020 signals for various 4K content (including next generation "Ultra HD Blu-ray" and "4K TV broadcasting").

Reduced Maintenance Through a High-efficiency Design with the World's First Filter-free LCD Projector*

* According to our research as of March 2017

Implements a Fully-sealed Optical Engine for Minimal Maintenance

NEC uses a sealed calculative-cooling system for LCD panel cooling. Sections important for optical performance (optical engine, optical unit, and LCD panel cooling unit) are sealed to provide outstanding dust proofing. Designed with minimal maintenance in mind, the new projector also boasts a fully-sealed optical engine, allowing brightness levels to remain high and consistent without risk of dust-based ingress and image degradation.

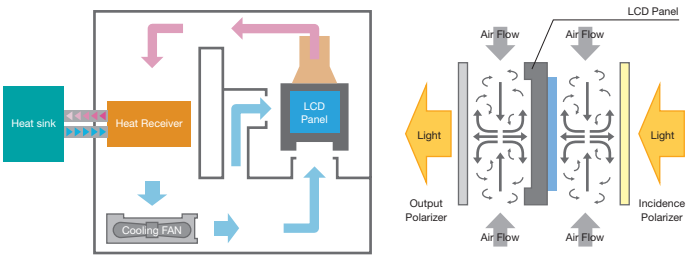
An Energy-saving Design for Low Power Consumption

When the on-screen menu's standby mode is set to "NORMAL", power consumption in standby mode using power management is 0.15 W (100 – 130 V AC) / 0.21 W (200 – 240 V AC) and it is 0.11 W (100 – 130 V AC) / 0.16 W (200 – 240 V AC) when the LAN function is off.
The projector is equipped with a "LIGHT MODE" to reduce power consumption during use. Furthermore, when the [ECO1], [ECO2] or [LONG LIFE] option is on, the power-saving effect is converted into the amount of reduction of CO_2 emissions, and this amount is listed in the confirmation message displayed when the power is turned off and under [INFORMATION] on the on-screen menu (Carbon Meter).

The World's First Filter-free LCD Projector

We provided effective cooling by adding NEC's unique jet impingement cooling method and finally realised the world's first filter-free LCD projector. Our new laser-based LCD projector takes low-maintenance operation to a new level. No required filter-cleaning means a better TCO.

NEC's unique LCD cooling method



The Brightness can be Adjusted Over a Wide Range

NEC's unique optical layout delivers high-reliability and responsiveness. Unlike with ordinary light sources, the brightness can be adjusted from 25 to 100% in 1% increments. When "CONSTANT BRIGHTNESS" mode is selected, sensors inside the projector detect and automatically adjust the output, thereby maintaining constant brightness throughout the life of the light module. If the brightness output is set at the maximum, the brightness will decrease with use.

Multiple Input Terminals for HDMI and DisplayPort and Input and Output Terminals for HDBaseT

The SSL Projector Available with Built-in HDBaseT (IN/OUT) Support*

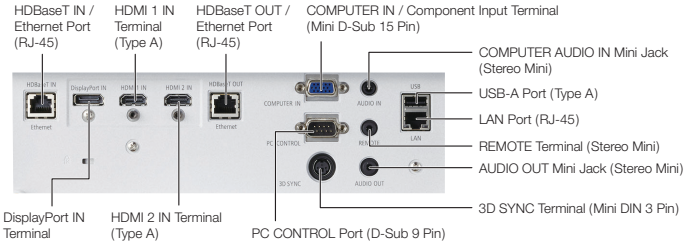
Simplify your installations with HDBaseT. The projector is optimized for video applications and supports uncompressed full HD digital video, audio, Ethernet, power and control signals. With only a single cable (up to 100 m) to run, infrastructure and labour costs are reduced, installations are significantly easier, and there is no cable clutter to manage. With uncompressed HD video support, images have never been more stunning. What's more, control signals are contained in the same cable.

* Passed the examination of the testing agencies approved by the HDBaseT Alliance. Website of HDBaseT Alliance: http://hdbaset.org/advanced-search

A Wide Selection of Digital Inputs such as HDMI and DisplayPort

Among the PA Series' wide selection of inputs are dual HDMI with HDCP and DisplayPort with HDCP for connecting to high-definition sources such as Blu-ray players, cable boxes, satellite receivers and personal computers.

Terminals



Other Useful Functions and Features

- Cornerstone
- Geometric correction to project an image on more non-standard surfaces
- Stacking correction to boost image brightness
- Centre lens design for easy setup
- Lens memory
- Seamless switch function for smoother screen changes when switching the signal
- Network control
  - NaViSet Administrator 2
  - PC control
  - Alert mail
  - CRESTRON ROOMVIEW
  - AMX BEACON
  - PJLink
  - HTTP server (projector adjustment)
- Wall colour correction
- PIN security / control panel lock / security bar / security slot
- DICOM simulation
- Cable cover included as an accessory

PA803UL
8,000 lumens | WUXGA | 18.2kg

PA653UL
6,500 lumens | WUXGA | 18.2kg

Brightness using NP41ZL.
Weight does not include lens.

Specifications

Model		NP-PA803UL	NP-PA653UL
Method		Three primary colour liquid crystal shutter projection	
Specifications of main parts			
Liquid crystal panel	Size	0.76" (with DMLA) × 3 (aspect ratio: 16:10)	
Liquid crystal panel	Pixels*1	2,304,000 (1,920 dots × 1,200 lines)	
Projection lenses*2	Zoom	Motorised (Digital Zoom) (zoom range depends on lens)	
Projection lenses*2	Focus	Motorised	
Projection lenses*2	Lens shifting	Refer to Lens Specifications	
Light Source		Laser diode	
Light source (laser diode) life*3		20,000 H	
Light output*3 *4 *5 *6	Normal mode	8,000 lumens	6,500 lumens
Light output*3 *4 *5 *6	ECO 1 mode	6,400 lumens	5,200 lumens
Light output*3 *4 *5 *6	ECO 2 mode	4,800 lumens	3,900 lumens
Light output*3 *4 *5 *6	Long life mode	2,400 lumens	1,950 lumens
Contrast ratio*5 (all white / all black)		2,500k: 1with dynamic contrast	
Screen size (throw distance)		50" to 500" (throw distance depends on lens)	
Colour reproducibility		10-bit colour processing (approx. 1.07 billion colours)	
Scan rate	Horizontal	Analogue: 15 kHz, 24 to 100 kHz (24 kHz or greater for RGB inputs), conforms to VESA standards / Digital: 15 kHz, 24 to 153 kHz, conforms to VESA standards	
Scan rate	Vertical	Analogue: 48 Hz, 50 to 85 Hz, 100, 120 Hz conforms to VESA standards / Digital: 24, 25, 30, 48 Hz, 50 to 85 Hz, 100, 120 Hz conforms to VESA standards	
Maximum resolution (horizontal × vertical)		Analogue: 1,920 × 1,200 (with Advanced AccuBlend) / Digital: 4,096 × 2,160 (with Advanced AccuBlend)	
Keystone Correction	Horizontal	Manual, Approx. ± 40 Max degrees	
Keystone Correction	Vertical	Manual, Approx. ± 40 Max degrees	
Input/output connectors			
Computer / Component	Video input	Mini D-Sub 15-pin × 1	
Computer / Component	Audio input	Stereo mini jack × 1	
Computer / Component	Audio output	Stereo mini jack × 1 (common for all signals)	
HDMI	Video input	Type A HDMI connector × 2, Deep Colour (colour depth): Support 8bits, 10bits, 12bits, Colourimetry Support: RGB, YCbCr444, YCbCr422, YCbCr420, Rec.2020, Rec.709, Rec.601, Support 4K, 3D, HDCP*7, LipSync, HDR	
HDMI	Audio input	Yes	
HDBaseT / Ethernet Port	Video input	RJ45 × 1, Support 100BASE-TX, Deep Colour (colour depth): Support 8bits, 10bits, 12bits, Colourimetry Support: RGB, YCbCr444, YCbCr422, YCbCr420, Rec.2020, Rec.709, Rec.601, Support 4K, 3D, HDCP*7, LipSync, HDR	
HDBaseT / Ethernet Port	Audio input	Yes	
HDBaseT / Ethernet Port	Video output	RJ45 × 1, Support 100BASE-TX, Deep Colour (colour depth): Support 8bits, 10bits, 12bits, Colourimetry Support: RGB, YCbCr444, YCbCr422, Rec.709, Rec.601, Support 4K, 3D, HDCP*7, LipSync	
HDBaseT / Ethernet Port	Audio output	Yes	
DisplayPort	Video input	DisplayPort 20 pin connecter × 1, Deep Colour (colour depth): Support 8bits, 10bits, 12bits, Colourimetry Support: RGB, YCbCr444, YCbCr422, Rec.709, Rec.601, Support 4K, 3D, HDCP*7	
DisplayPort	Audio input	Yes	
PC control connector		D-Sub 9-pin × 1	
USB port		USB type A × 1, (USB 2.0 High speed / Full speed / Low speed) for Mouse	
Ethernet / LAN / HDBaseT port		RJ-45 × 1, Supports 10BASE-T / 100BASE-TX, HDBaseT	
Remote connector		Stereo mini jack × 1	
3D SYNC output terminal		5 V / 10 mA, synchronized signal output for 3D use	
Usage environment		Operating temperature: 5 to 40°C*8, Operating humidity: 20 to 80 % (with no condensation)	
Usage environment		Storage temperature: -10 to 50°C, Storage humidity: 20 to 80 % (with no condensation)	
Usage environment		Operating altitude: 0 to 3,650 m (1,700 to 3,650 m: Set [FAN MODE] to [HIGH ALUTITUDE])	
Power supply		100 – 240 V AC, 50/60 Hz	
Power consumption	Normal mode	798 W (100 – 130 V) / 774 W (200 – 240 V)	627 W (100 – 130 V) / 613 W (200 – 240 V)
Power consumption	ECO 1 mode	604 W (100 – 130 V) / 592 W (200 – 240 V)	580 W (100 – 130 V) / 566 W (200 – 240 V)
Power consumption	ECO 2 mode	470 W (100 – 130 V) / 464 W (200 – 240 V)	437 W (100 – 130 V) / 431 W (200 – 240 V)
Power consumption	Long life mode	285 W (100 – 130 V) / 285 W (200 – 240 V)	276 W (100 – 130 V) / 276 W (200 – 240 V)
Power consumption	STANDBY (Link-up)	0.15 W (100 – 130 V) / 0.21 W (200 – 240 V)	
Power consumption	STANDBY (Link-down)*9	0.11 W (100 – 130 V) / 0.16 W (200 – 240 V)	
Rated input current		11.8 A – 5.2 A	10.2 A – 4.5 A
Dimensions (W × H × D)		580 × 205 × 490 mm (Net dimensions, not including protruding parts), 909 × 322 × 731 mm (Gross dimensions)	
Weight		18.2 kg (not including lens), 24.4 kg (Gross weight)	

*1: Effective pixels are more than 99.99 %. *2: Refer to Lens Specifications *3: Time at which the laser light source is at half brightness; not a guarantee time. *4: This is the light output value (lumens) mounting the lens unit, NP41ZL, when the [PRESET] mode is set to [HIGH-BRIGHT]. The light output values will be dropped according to the setting of [LIGHT MODE]. If any other mode is selected as the [PRESET] mode, the light output value may drop slightly. *5: Compliance with ISO21118-2012 *6: When attached with NP41ZL *7: If you are unable to view material via the HDMI DisplayPort and HDBaseT input, this does not necessarily mean the projector is not functioning properly. With the implementation of HDCP, there may be cases in which certain content is protected with HDCP and might not be displayed due to the decision/intention of the HDCP community. (Digital Content Protection, LLC). Video: HDR, Deep Colour, 8/10/12-bit, Lip Sync. Audio: LPCM; up to 2 ch, sample rate 32/44.1/48 KHz, sample bit; 16/20/24-bit, HDMI: Supports HDCP2.2/1.4, DisplayPort: Supports HDCP1.4, HDBaseT: Supports HDCP2.2/1.4 *8: Depending on the altitude and temperature, the projector goes into "Forced ECO Mode" in the state [NORMAL] or [ECO1] has been selected for [LIGHT MODE]. *9: Internal measured value. All wired network ports are connected and active.

• These specifications and the product's design are subject to change without notice.

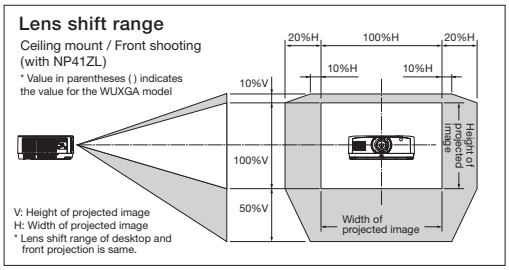
Optional Lens specifications

Model		NP40ZL	NP41ZL	NP43ZL
Lens Type		Zoom Lens	Zoom Lens	Zoom Lens
Zoom / Focus		Motorised	Motorised	Motorised
F# (Wide – Tele)		2.0 – 2.5	1.7 – 2.0	2.2 – 2.6
f (mm)		13.3-18.6	21.8 – 49.7	49.7 – 99.8
Throw ratio (WUXGA @ 100 inch)		0.79 – 1.11:1	1.30 – 3.02:1	2.99 – 5.93:1
Zoom Ratio		1.4	2.3	2.0
Screen Size (Performance guarantee range)		50 – 500 inch (80 – 200 inch)	50 – 500 inch (80 – 200 inch)	50 – 500 inch (80 – 200 inch)
Light Output	NP-PA803UL	6,800 lumens	8,000 lumens	6,400 lumens
Light Output	NP-PA653UL	5,500 lumens	6,500 lumens	5,200 lumens
Weight		1.6 kg	1.8 kg	1.8 kg

Lens shift range

Ceiling mount / Front shooting (with NP41ZL)

* Value in parentheses ( ) indicates the value for the WUXGA model



V: Height of projected image
H: Width of projected image
* Lens shift range of desktop and front projection is same.

• Do not stare into the lens during use.
• The projector can be unplugged immediately after it is turned off. Parts of the projector become heated during operation. Use caution when picking up the projector immediately after it has been operating.

Remote control

(included accessory)

Options

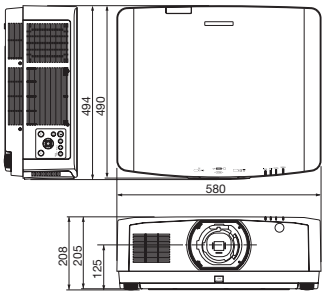
MultiPresenter Stick
DS1-MP10RX*

* Make sure to choose the appropriate MultPresenter Stick for the usage country or area by visiting our website. (http://www.nec-display.com/ap/en_display/mp10rx/index.html)

Lenses
NP40ZL
NP41ZL
NP43ZL

Cabinet dimensions

Unit: mm



Throwing distance and Screen size

NP-PA803UL / NP-PA653UL (WUXGA) Unit: m

Screen Size (W × H)	Lens unit model name		
	NP40ZL	NP41ZL	NP43ZL
50" (1.08 × 0.67)	0.8 – 1.2	1.4 – 3.2	3.3 – 6.4
60" (1.29 × 0.81)	1.0 – 1.4	1.7 – 3.9	3.9 – 7.7
80" (1.72 × 1.08)	1.4 – 1.9	2.2 – 5.2	5.2 – 10.2
100" (2.15 × 1.35)	1.7 – 2.4	2.8 – 6.5	6.4 – 12.8
120" (2.59 × 1.62)	2.0 – 2.9	3.4 – 7.8	7.7 – 15.3
150" (3.23 × 2.02)	2.6 – 3.6	4.2 – 9.8	9.6 – 19.1
200" (4.31 × 2.69)	3.4 – 4.8	5.7 – 13.0	12.8 – 25.4
240" (5.17 × 3.23)	4.1 – 5.8	6.8 – 15.6	15.3 – 30.5
300" (6.46 × 4.04)	5.2 – 7.3	8.5 – 19.6	19.1 – 38.1
400" (8.62 × 5.39)	6.9 – 9.7	11.4 – 26.1	25.4 – 50.8
500" (10.77 × 6.73)	8.6 – 12.1	14.2 – 32.6	31.7 – 63.4

*Stated projection distances are standard values from lens or mirror surface to screen centre.
*For a stack installation, the recommended projection distances will be different.
*The values in the table are design values and may vary.

http://www.nec-display.com/ap/

NEC Display Solutions, Ltd.

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