NEC NP-PX1005QL LASER PROJECTOR REVIEW

Posted on July 24, 2019 By Phil Jones

NEC NP-PX1005QL is a 10,000 lumen, large venue, 4K DLP projector with WQXGA, 3840 x 2160, resolution that can accept a full range of 4K content. This is a commercial/installation class projector with a focus on higher education, corporate, house of worship, and digital signage applications. The NP-PX1005QL uses a laser/phosphor wheel light engine rated at 20,000 hours of life and uses a single DLP to reproduce 4K UHD resolution.

NEC currently offers a total of twelve projector models in its PX-Series lineup. All units in this series utilize DLP chips but resolution varies from WUXGA up to 4K UHD. Brightness ranges from 8,000 lumens delivered by the NP-PX803UL all the way up to 10,000 lumens provided by the NP-PX1005QL.

While there are only three unique chassis, each can be purchased with or without the standard lens and each are also available in both black and white finishes. I reviewed the white finish NP-PX1005QL-W, however an identical version in black is the NP-PX1005QL-B.

NEC NP-PX1005QL Specs	
Price	$24,000
Technology	DLP
Native Resolution	3840x2160
Brightness (Manufacturer Claim)	10000
Contrast	10,000:1
Zoom Lens Ratio	N/A
Lens Shift	Yes
Lamp Life	20,000 hours (Laser Light Engine)
Weight	63.9
Warranty	5 Years

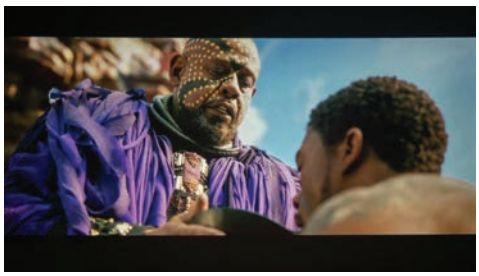
OVERVIEW

The NP-PX1005QL resolution is 4K UHD WUXGA (3840 x 2160). To provide a crisp and clear picture, the projector accepts 4K content and can reproduce it without having to rely on pixel shifting utilized by most 3LCD projector in its price point.

The NP-PX1005QL has motorized zoom and focus as well as vertical (+50%/-30%) and horizontal (+20%/-10%) lens shift. While the NEC NP-PX1005QL does not ship with a lens, for maximum flexibility it is compatible with a total of eight bayonet style lenses which allows for a throw distance range of 1.6ft to 183 ft. For this review NEC provided the NP18ZL-4K which is its standard lens. It is a middle throw zoom lens with a range of 1.71 to 2.25.

Since this is a large venue installation class projector it includes several features you would expect in a higher-end model including edge blending and geometric correction.

The NP-PX1005QL has wired LAN and HDBaseT for running audio, video, and control signals over extremely long distances (up to 100 meters). There's a DVI-D connector, an HDMI 2.2 port for accepting 4K content, several audio inputs and an RS-232c connector for old-school command and control. It also has BNC connectors, a service port and an input for a wired remote control.

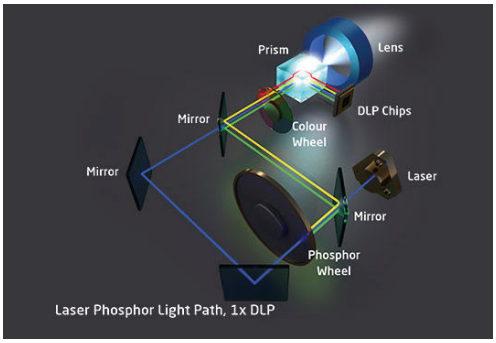


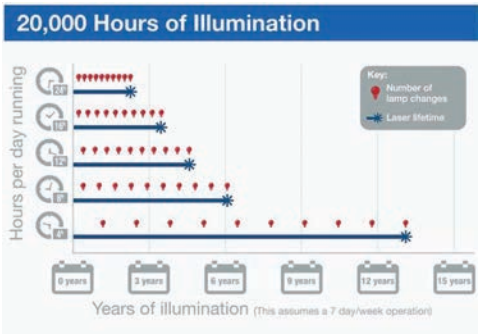
HIGHLIGHTS

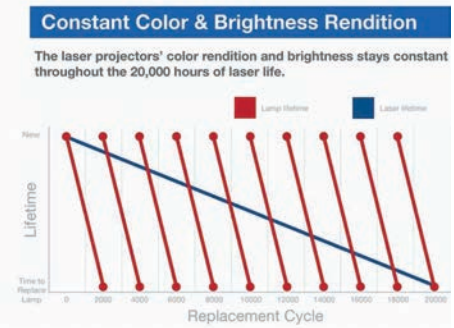
- 10,000 lumens
- $24,0000 List Price
- Laser Light Engine – Light engine life of up to 20,000 hours
- WQXGA Resolution (3840 x 2160)
- DLP Technology
- 10,000:1 Contrast Ratio
- Support 4K and HDR (HDCP 2.2)
- Blu-ray UHD compatible
- Vertical and horizontal lens shift provides excellent mounting flexibility
- Lens Memory (10 savable settings)
- User Modes settings (10 savable settings)
- Will work vertically and at any angle
- Split Screen (Picture by picture) capability
- Edge blending and projection mapping abilities
- Extensive Geometric Correction capabilities
- Digital image zoom to enlarge an area of an image up to four times
- Wired and optional wireless networking support along with extensive software support available for control and management of multiple projector installations
- HDBaseT for running HDMI long distances over low cost CAT6
- Integrated support for Crestron Roomview, AMX Beacon and PJ Link allow for complete interactivity and control
- 5-year limited warranty with NEC's InstaCare rapid replacement service included

NEC NP-PX1005QL LASER PROJECTOR REVIEW-SPECIAL FEATURES

LASER LIGHT ENGINE







The NP-PX1005QL uses a laser light source along with a phosphor wheel instead of a conventional lamp. Perhaps the most obvious advantage that a laser light source has over a traditional lamp-based projector is the life of the light source – NEC claims 20,000 hours of laser life for the PX1005QL. As with a lamp-based system, the life rating is the point where 50% of the brightness has been lost. NEC says this model can be used for 24/7 operation and those 20,000 hours equate to about 2 1/2 years of continuous operation. While NEC rates the life of the laser light source at 20,000 hours, it does not say if that's when operating in normal or Eco power mode.

Another advantage is that the image quality should be more stable over time than with lamp-based projectors. The PX1005QL uses a sealed light engine so there should be no worries about getting "dust blobs" which can impact the projected image.

There are three modes to adjust the brightness output of the laser light source:

Normal – 100% brightness with maximum fan speed
ECO1 – Reduces brightness by 80% while reducing the cooling fan speed. This setting reduces power consumption and audible noise
Long Life – Reduces brightness by 50% while reducing cooling fan speed as well. This further reduces power consumption and audible noise.

In addition, the laser engine brightness can be adjusted from 20 to 100% in 1% increments. The brightness usually decreases with usage; when the Constant Brightness Mode is engaged, sensors inside the projector measure brightness and automatically adjust the light output to maintain constant brightness throughout the life of the light module. Light Mode settings can be quickly accessed by press the LIGHT button the projector's chassis or the ECO/L-SHIFT button on the remote control.

NATIVE 4K UHD RESOLUTION

The NEC NP-PX1005QL utilizes Texas Instruments latest DLP (0.66"DMD) chip to deliver native WQXGA (3840 x 2160) resolution. The projector can also accept signal up to 4K@60P.

Several comparable installation projectors are pixel shifting WUXGA (1920 x 1200) units. Combined with good image processing, Pixel Shifting can do a very nice job emulating the original 4K content. Pixel shifting fires each pixel twice by shifting the location by 1/2 pixel diagonally. Small type and fine details that can't be discerned on a basic WUXGA (or 1080p) projector can often be resolved with pixel shifting. It is enough to make a real readability difference on CAD, engineering and scientific drawings, renderings, and anything else demanding max detail. In many situations, the content lacks the detail required and is viewed at a distance where the difference between 4K and pixel shifting cannot be perceived.

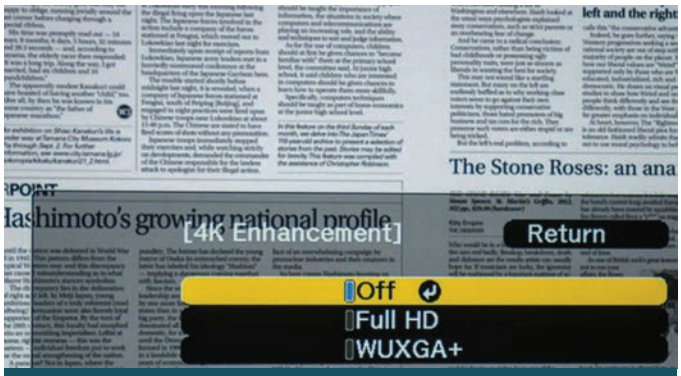
It is only when you do a side-by-side comparison between a true 4K projector versus a 2K pixel shifting projector using highly detailed content that the resolution difference is truly noticeable. While pixel shifting 2K projector can accept the projector's native resolution is only 2.3 MP, it won't be as sharp/detailed as a true 4K projector (8,8 MP resolution).

The images below show the resolution difference between the NEC NP-PX1005QL and WUXGA projector utilizing pixel shifting for comparison when native 4K content is displayed.

A 4K DLP projector offers more resolution, however they cannot match a Pixel Shifting 3LCD projector when it comes to color saturation, contrast, and black level. You can find a few high brightness 3LCD installation projectors that offer 4K resolution, but they cost much more than comparable native 4K DLP models. For example, a Sony 4K 3LCD laser projector with 8,000 lumens retails for $60,000 while a 4K DLP laser projector with 10,000 lumens, like the PX1005QL, cost about 1/3 of that amount.

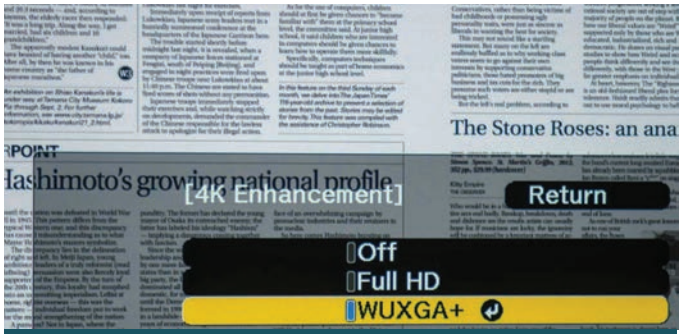
So how do I choose between a native 4K DLP projector like the NEC NP-PX1005QL or a pixel shifting 3LCD projector? To make a wise decision you must factor in your budget, what you are watching and from where you are watching it.

8.8MP Photo of a newspaper page easily shows the advantage of native 4K resolution



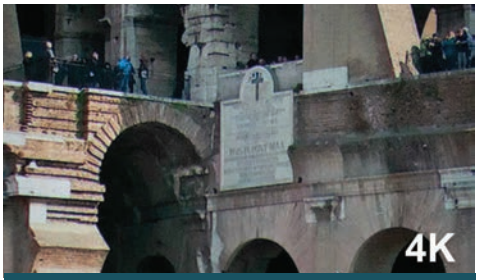
When projected in native HD, small text is far less sharp than native 4K

Small text is sharp and readable



While Pixel Shifting improves the clarity of a 2K projector, it is not fine details are not as sharp as native 4K.

While most consumer 4K content lacks the fine detail needed to see the difference between native 4K and Pixel Shifting, landscapes usually make its easy to see.



The fine architectural details in the image is easier to see in native 4K.

Pixel Shifting can match the clarity of native 4K. While this is a closeup shot, the differences is also noticeable from a reasonable viewing distance.

GEOMETRY CORRECTION TOOLS

While there are powerful software-based projector mapping solutions, the NP-PX1005QL has several Geometric Correction adjustments built-in. The Cornerstone adjust makes it easy to precisely correct keystone errors by making the top, bottom, left or right side longer or shorter to make the image rectangular.

The Warp adjustment lets you correct image distortion caused by projecting an image onto a column, sphere or curved surface while the Horizontal Corner/Vertical Corner corrects issue when projecting on a 90-degree corner surface. These tools are useful for concerts, museums and other digital signage applications. While these adjustments can be done via the PX1005QL menu, NEC also offers a software program called Geometric Correction tools so you can make the adjust quickly and more efficiently via a laptop.

EDGE BLENDING

If you need more light output or want to utilize multiple projectors to display a larger, wider aspect image, the PX1005QL is equipped with Edge blending to make that goal easier.

By utilizing Edge Blending, you can split an image over multiple projectors and display it as one large image while reducing the hard transition from one projector to another. Under the EDGE BLENDING sub-menu, you can fine-tune the blend's starting position and the width of the blended area. In this sub-menu there are also BLEND CURVE and BLACK LEVEL adjustments to fine tune brightness and black level of the overlapping areas to make the blend even less noticeable. The result is an image that looks seamless, like it's being displayed by a single projector.

The laser light engine offers a significant advantage over a bulb-based system in a long-term projector installation. If multiple lamp-based projectors are used, not only would the bulbs fail regularly, they will dim at different rates, causing color and brightness shifts. You would need to replace all the bulbs each time one failed to ensure similar characteristics and some additional calibration would probably still be required to produce ideal picture quality.

For Edge Blending application, laser projectors make for the ideal solution. Unfortunately, it's not practical to fully test the PX1005QL projector's Edge Blending feature in my test room but based on the available adjustments and the tradeshow demos I have seen, it looks like an easy-to-setup, capable solution.

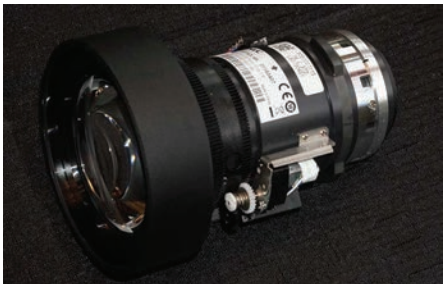
NEC NP-PX1005QL LASER PROJECTOR REVIEW-SPECIAL FEATURES 2

NEC NP-PX1005QL Laser Projector Review: Special Features 2 Array of Interchangeable Lenses, Network Control, Mounting Flexibility, DICOM Simulation, Image Manipulation

ARRAY OF INTERCHANGEABLE LENSES

Several models in the NEC PX series lineup can be purchased with or without a lens. The "18" at the end of the model number indicates that no lens is packaged with that specific model. While the NP-PX1005QL does not have a lens in the box, it is compatible with eight powered NEC lenses.

The NP18ZL-4K provided by NEC which is their standard kit lens



For this review, NEC provided a NP18ZL-4K lens which is a standard-throw zoom lens with a range of 1.71 to 2.25.

While NEC offers an ultra-short throw lens (NP39ML-4K) with a throw ratio of 0.38:1. While the UST lens makes the projector more bulky, the throw distance is as short as that of a dedicated UST projector with an integrated lens. To project a 120 inch image, the rear of NP-PX1005QL need to be just 6 inches from the screen while the rear of a dedicate UST projector, like the Sony VZ1000ES has to be 10 inches away.

After installing or replacing a lens, you should conduct a lens calibration by pressing and holding the "CTL' button on the remote or CALIBRATION button on the projector's main body. Lens calibration helps the projector to correctly acquire the lens position and adjustment range. When calibration is finished, the lens returns to the same position it was in before calibration.

Lens Specifications

NP39ML-4K:	Throw Ratio: ~ 0.38:1 Screen Sizes: 85"-350"	Focal Length: 11.4mm F/#: 1.85
NP16FL-4K:	Throw Ratio: ~ 0.76:1 Screen Sizes: 50"-300"	Focal Length: 11.6mm F/#: 1.85
NP17ZL-4K:	Throw Ratio: 1.24 - 1.78:1 Screen Sizes: 50"-300"	Focal Length: 18.7 – 26.5mm F/#: 1.85
NP18ZL-4K:	Throw Ratio: 1.71 – 2.25:1 Screen Sizes: 50-300"	Focal Length: 26.0 – 34.0mm F/#: 1.70-1.90
NP19ZL-4K:	Throw Ratio: 2.20 -3.67:1 Screen Sizes: 50-300"	Focal Length: 32.9 – 54.2mm F/#: 1.86 – 2.48
NP20ZL-4K:	Throw Ratio: 3.54 – 5.36:1 Screen Sizes: 50"-300"	Focal Length: 52.8 – 79.1mm F/#: 1.85-2.41
NP21ZL-4K:	Throw Ratio: 5.25 – 8.28:1 Screen Sizes: 50"-300"	Focal Length: 78.5 -121.9mm F/#: 1.85-2.48
NP31ZL-4K:	Throw Ratio: 0.74 – 0.93:1 Screen Sizes: 50-300"	Focal Length: 11.3 -14.1mm F/#: 1.96-2.3

Focal length and throw ranges of the 8 compatible NEC lenses

NETWORK CONTROL

Once you have connected your projector to your network there are several ways you can control the PX1005QL via the network. The Virtual Remote software allows you to control a projector connected by LAN (wired or wireless), serial connections (RS-232C), or computer connection cable (signal cable) from the computer.

PC Control Utility Pro 4 is another free software program to control power on/off, input signal switching, and other functions of a connected projector. You can also manage and review the lamp usage time and wide variety of other information. The software also permits control of the projector according to a specified schedule and can send an e-mail when an error has occurred with the projector.

NEC also offers the NaViSet Adminstrator2 software program which can be used to monitor and control the PX1005QL projector. This free software solution is designed to simplify the control, monitoring, and management of multi-display installations. Adjust almost any parameter or setting of a NEC projector or flat panel from a remote location. Monitor display status receives email alerts automatically if a diagnostic error is reported by a device or a setting has been changed.

In addition, The PX1005QL supports Crestron Roomview, AMX Beacon, and PJ Link for compete interactivity and control. The bottom line is the NEC NP-PX1005QL has very good support for networking with support for presentation and control applications/services.

MOUNTING FLEXIBILTY

The NP-PX1005QL is suitable for commercial applications such as digital signage and other applications requiring something other than traditional landscape orientation of the image. The unit 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

DICOM SIMULATION

In addition to the usual Picture modes, NEC has included a DICOM Simulation mode intended to display images approximating the DICOM (Digital Imaging and Communication in Medicine) Part 14 Grayscale Standard Display Function used with B/W medical imaging (such as X-rays). This mode optimizes black/gray/white detail with a custom gamma curve. It should be noted that with such projectors as the PX1005QL, although the DICOM name is used, the projector is not a medical device and should not be used for purposes such as diagnosis of display images. Instead, the DICOM Simulation mode is intended for use in a classroom for teaching purposes.

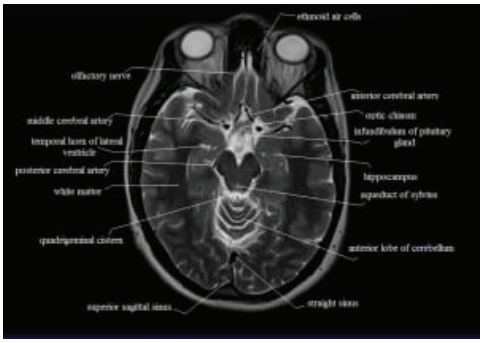


IMAGE MANIPULATION

There are many classroom and meeting situations where it would be beneficial to project multiple images on a single screen. The PX1005QL offers support for displaying information from multiple users/sources during business meetings or in the classroom. The Picture and Picture feature makes it possible to project up to four images with a single projector. You can choose any four of the PX1005QL inputs to display simultaneously including DisplayPort, HDMI, or SDI.

The PX1005QL offers support for displaying information from multiple users/sources during business meetings or in the classroom. The PiP (Picture in Picture) feature makes it possible to project two images with a single projector by displaying a small sub-display within the main display. The sub-display's position can be moved, and the main display and sub-display images can also be swapped.

By adding the optional MultiPresenter Stick (DS1-MP10RX1) you can also utilize the MutliPresenter application. This free software application enables you to display your device's screen (computer, smart phone, tablet) on the PX1005QL via wired or wireless LAN. Not only can you display images, PDFs, and webpages, you can even mirror the camera of your mobile device. The content from up to 12 connected sources, including 8 mobile devices, can be displayed simultaneously.

There are times in a classroom or meeting that you might want to zoom in on a specific area of an image, such as a map or blueprint. Digital Image Zoom makes it simple to magnify a portion of the image on-screen up to four times. After pressing the D-Zoom button, you can use the arrow buttons on the remote to reposition the area to be magnified.

NEC NP-PX1005QL PROJECTOR REVIEW HARDWARE TOUR

NEC NP-PX1005QL Projector – Hardware Tour: Overview, Overview, Control Panel, Inputs and Connectors, Remote Control, Menus

OVERVIEW

The PX1005QL is an installation class projector and its size is comparable with other 10,000 lumen business or classroom projectors. While the dimensions are similar, NEC PX1005QL weighs 69 pounds which was noticeably heavier than the 15,000 lumen Epson Pro L1755UNL which clocked in at just 48 pounds.

The projector's lens is in the center of the front panel. While power focus is available, adjustment can also be done manually by turning the lens focus ring. Also located on the front panel is a cooling intake vent and a lens release button.

The top of the projector has status lights along the left side of the front edge. There is also an IR sensor on the front and rear. The left side of the projector holds the control panel, inputs and power connections. The entire right side of the projector is covered with another intake ventilation grill. A cooling exhaust vent covers the entire rear of the projector.

CONTROL PANEL

The PX1005QL has its control pad on the left side of the projector. At the right top of the control pad is the power button and below it is the Zoom, Focus, and Home buttons. There are Menu button (to display the on-screen menu) and Exit button along with 4-way menu navigation buttons with the enter button in the middle. The input buttons (to select the desired signal input) are located along the left side.

There are 4 lights along the front edge of the projector's top panel. The Power indicator which shows if the projector is ON/OFF/SLEEP/STANDBY. The Status light blinks when Lens Calibration has been indicated or is in progress. The Light indicators provide information on the light source mode (Normal, ECO1 or ECO2). The Temperature light indicates if the ambient temperature is too high or low.

INPUTS AND CONNECTORS

The power and signal connectors for the PX1005QL are located on the left panel of the projector. It has two HDMI inputs, two DisplayPort inputs, an HDBaseT port and a SDI (3G/HD) connections. There is also a LAN connection, a Serial Port for PC Control, wired remote control input and USB-A Port. Lastly, there is a removable panel to access a slot to add an optional 3G/HD/SD-SDI input board.

REMOTE CONTROL

The supplied NEC remote control is back lit and offers tons of controls. Since the remote is compact, there are several buttons that do double duty.

The Power On and Off buttons along with an Info/Lens Calibration button are located at the top of the remote. The row below that contains Test pattern, a Focus/Volume button, and an ECO/Lens Shift mode button.

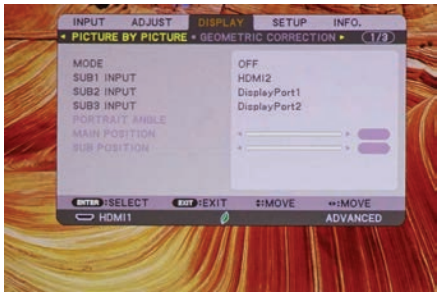
The next section below contains buttons to access and exit the on-screen menus. There is a group of buttons containing the 4-way navigation buttons with an enter button in the center. Below those is a button to turn off the Onscreen menu and a Lens Shutter button to temporarily turnoff the projector's light source.

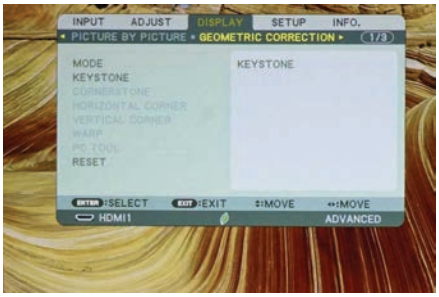
The third section contains an AV-Mute button and buttons to access the Source and Picture settings menu directly. The 3-D Reform buttons provides direct access to the Geometric tool menu. There is also a PIP/Image Freeze button and an Auto Adjust button to automatically optimize conditions for selected input (HDMI, DisplayPort, etc.).

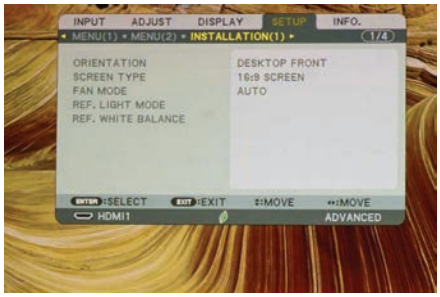
The next section contains buttons to directly access the available inputs (HDMI, DisplayPort, SDI, HDBaseT). Note there are three buttons for inputs that are not available on the PX1005QL including Computer, Video, and S-Video.

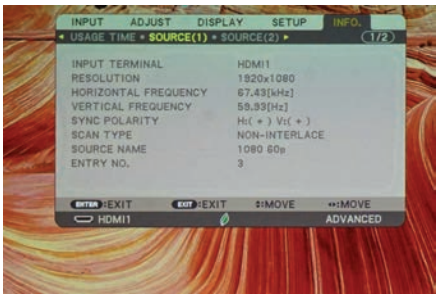
The bottom row contains a Remote Light button, a Help button to directly access the PX1005QL Information menus and CTL button. Press and holding the CTL button while press the desired selection switches functionality. While using buttons for 2 things reduces the number of buttons on the remote control, it can be more confusing. I would have preferred a large remote with discrete buttons for Zoom, Focus, and Lens Shift.

THE MENUS









The PX1005QL has a well laid out menu structure. When the menu button is pressed the top-level menu is displayed offering 5 groups of menus across the top (i.e., Input, Adjust, Display Setup, and Info). The images of the menu included in this section represent only a small number of all the sub-menus available. I tried to show the submenus that contain frequently used adjustments (image, setting, networking, etc.). NOTE: the color shift in the images is caused by the high shutter speed on my camera.

NEC NP-PX1005QL PROJECTOR REVIEW PICTURE QUALITY

NEC NP-PX1005QL Projector Review-Picture Quality: Color Modes, Black Levels and Shadow Detail, Text Readability

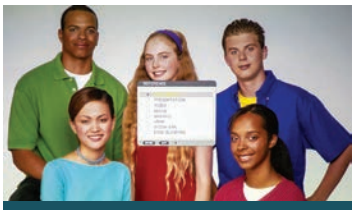
COLOR MODES

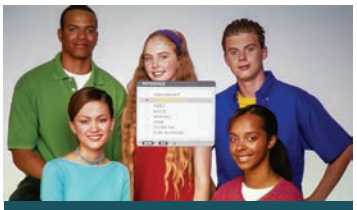
There are nine factory color presets. The following observations were generally made with the projector using its factory default picture settings.

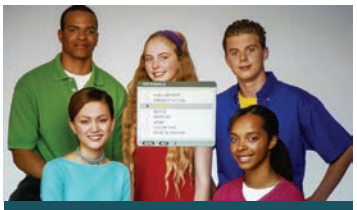
- **Auto:** The projector will automatically try to optimize itself based on the input signal
- **High-Bright Picture Mode**: This is the brightest but least accurate picture mode. Recommended for use in high ambient light environments.
- **Presentation Picture Mode**: This is the second brightest mode it is recommended for PowerPoint and is somewhat more accurate than High-Bright mode.
- **Video Picture Mode**: The Video picture mode has a somewhat higher than ideal color temperature producing a moderately cool image.
- **Movie Picture Mode**: The Movie picture mode has just a little lower than ideal color temperature giving the image a slightly warm appearance.
- **Graphic Picture Mode**: This picture mode has a somewhat high color temperature giving the picture a cool appearance with a mild blue/cyan tint.
- **sRGB Picture Mode**: Displays standard color values. While this picture mode was the least bright, it delivered the most accurate colors out-of-the-box.
- **DICOM Picture Mode**: This picture mode is intended for displaying black & white medical images with a unique gamma curve. Grey scale uniformity was good with the color temperature remaining nearly constant from dark greys to full white.
- **Edge Blending**: Brightness and color reproduction is similar to Presentation mode.

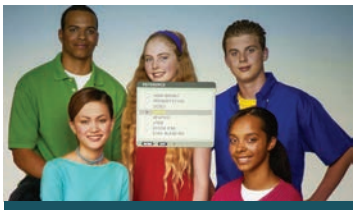
For those who want to further fine tune the PX1005QL color reproduction, there are additional advanced color adjustments including color temperature and RGB balance (contrast, brightness). There is even a Wall Color Correction feature which make it easy to apply color correction to image projected on a screen or wall that are not white.

The PX1005QL offers several picture modes and I found the best quality, in terms of color accuracy, to be the Movie and SRGB modes. For the screen shots below, the factory default settings were used for Movie mode except the Color Temperature was set to 6500K and Gamma Correction Mode was set to Natural. Since the PX1005QL includes user adjustments for white balance, gamma, and color temperature, I am sure it could be calibrated to produce a more accurate picture.

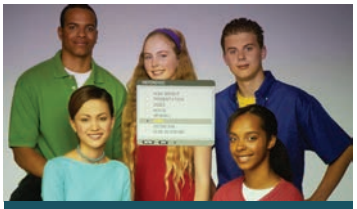

High Brightness Mode

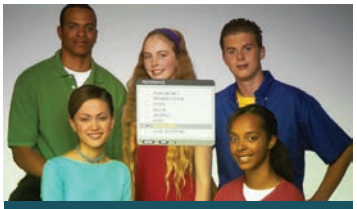

Presentation Mode

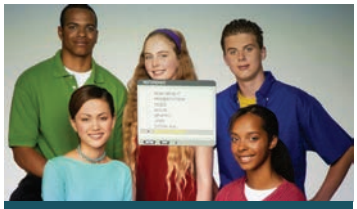

Video Mode


Movie Brightness Mode


Graphic Mode


aRGB Mode


DICOM Mode


Edge Blending Mode

The above screen shots give a rough idea of the color accuracy for each picture mode. Like all our photos, they remain unadjusted for color, so they do not look as good as what the projector produced. The PX1005QL reproduced very respectable colors, which is normally a huge challenge for single-chip DLP projectors that have relatively low Color Light Output (compared to white light output).

The NEC PX1005QL has HDCP 2.2 HDMI inputs can accept a 4K HDR signal. The projector will switch between SDR and HDR mode automatically as well as auto adjust for different color spaces (RGB, REC709, REC2020). While the NEC PX1005QL can display HDR, I found that the bright colors were a little dull, so I preferred watching material in SDR.

VIDEO IMAGE QUALITY




Overall the picture quality for displaying video is very good for this class of projector. While not perfect, the overall color accuracy was very good, with natural looking skin tones, and reasonable image contrast.

BLACK LEVEL & SHADOW DETAIL

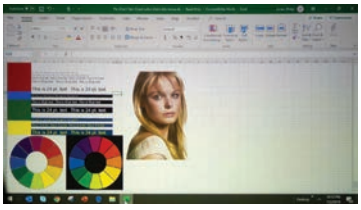
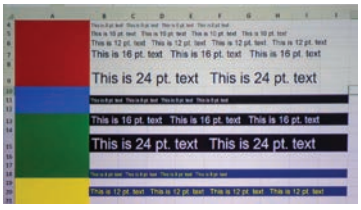
Overall, black level performance, was fine. A single chip 4K DLP projector has more native resolution usually can't match the black level and native contrast of a good 3LCD unit. While the overall shadow detail was good, the blacks were closer to a dark gray.



The grayish black level was more noticeable in a pitch-black room watching extremely dark scenes. However, in most large venue applications (churches, classroom, meeting room, etc.) ambient light wouldn't allow you to fully appreciate any additional black level and shadow detail anyway, so most would sacrifice little black level for the added dynamic range provided by PX1005QL's brightness.

I believe this NEC has what it takes to display some pretty critical content such as projecting in a museum setting or for displaying photography/videography in general. Also, having so much brightness available increases visible dynamic range, especially in rooms with medium to high ambient light which really made the colors and details pop.

TEXT READABILITY

The NEC PX1005QL image resolution and text clarity is great due the PX1005QLs native 4K UHD. Even 8-point text was very easy to read in both black text on a white background and with white text on a black background. When my attached laptop PC was set to the projector's native 3840 x 2160 resolution you couldn't really ask for any better readability of the projected text.

I included closeups of the first two photos to show the full text readability. There was no visible color fringing on the text indicating the projector's lens does not exhibit any significant chromatic aberration. I was able to get sharp focus over the entire image. PX1005QL is extremely well suited for displaying presentations with lots of small text and fine details in the graphics.

For maximum sharpness, the NEC PX1005QL can accept up to a 4K@60P and NEC's signal proprietary video processing/scaling chip did a great job upscaling the lower resolution images to the projector's native resolution.

NEC NP-PX1005QL PROJECTOR REVIEW-PERFORMANCE

BRIGHTNESS

NEC lists NP-PX1005QL as a 10,000 lumens projector. Just how close did theNP-PX1005QL come to hitting its target 10,000 lumens? As always, I took 3-4 readings about 15-20% out from the center of the lens which usually gives a pretty good approximation of ANSI lumens. At full wide angle I measured the NEC NP-PX1005QL in its brightest picture mode, HIGH-BRIGHT, with the ECO Mode set to OFF.

NEC NP-PX1005QL Brightness: 10,055 Lumens

At wide zoom, High-Bright mode.

The NP-PX1005QL measured **10,055 lumens** which was slightly above NEC's brightness claim. For the seven available modes, I also measured them at mid-zoom since it is common for a projector to be zoomed in a bit when installed.

Color Mode	Lumens
High-Bright	9147
Presentation	7903
Video	5991
Movie	5704
Graphic	5927
sRGB	3282
DICOM SIM.	5927
Edge Blending	7807

The high brightness of the PX1005QL really made video, presentations, and images pop even in ambient light. When taking screenshots of my 120" screen, there was almost no need to completely turn off the room lighting. I only bothered to kill the lights for the test images and the brightness measurements.

AUDIBLE NOISE

The sealed LCD cooling system not only isolates the optics from dust and eliminates the need for filter changes, it also reduces fan noise. The NEC PX1005QL produces 37db in Eco Mode and 42db in high power. While this noise level is in line with other the large venue, high brightness projectors, I have tested quieter units. For example, Epson quotes its 15,000 lumens Pro L1755UNL's noise level at 30db in its Quiet mode. However, relative to the amount of brightness the PX1005QL can output, it is still a pretty quiet projector.

NEC NP-PX1005QL PROJECTOR REVIEW-SUMMARY

HIGHLIGHTS

The NEC NP-PX1005QL is a 10,000-lumen installation WUXGA projector with a laser/phosphor light source rated for 20,000 hours of maintenance-free operation. There is also a Constant Brightness mode to ensure that the PX1005UL delivers consistent looking imagery over the life of the projector.

The PX1005QL utilizes Texas Instruments latest DLP (0.66"DMD) chip to deliver native WQXGA (3840 x 2160) resolution. The projector can accept 4K@60P content via HDMI, DisplayPort or HDBaseT for increased clarity and detail.
Since the PX1005QL is a large venue installation class projector, it includes several features you would expect in a higher-end model including edge blending and geometric correction. Like other NEC PX Series projectors, the PX1005UL has power zoom and horizontal/ lens shift.

While the NEC NP-PX1005QL does not ship with a lens, for maximum flexibility it is compatible with a total of eight bayonet style lenses which allows for a throw distance range of 1.6ft to 183 ft.

The sealed optics and laser light source ensure years of maintenance free operation. Registered NEC PX1005QL owners receive a 5-year or 20,000 hours parts and labor warranty including InstaCare which is next business day exchange.

VALUE PROPOSTION

The NEC PX1005QL is a great option for someone looking for a high brightness native 4K installation projector. It can reproduce far more detail than a comparable Pixel Shifting projector. It would be ideal for displaying video, artwork, photos and other images that requires a large amount of detail.

For example, the PX1005QL could be used to display highly detailed CAD images either in an architectural firm's meeting room or in a classroom at an architecture school. The NEC PX1005QL even has multi-picture capabilities so you can display four separate 1080p images simultaneously.

Since it utilizes a DLP imager, it however cannot match the black level and native contrast of a good 3LCD projector. While you can find a few high brightness 3LCD installation projectors that offer 4K resolution, they cost much more than comparable native 4K DLP models. For example, a Sony 4K 3LCD laser projector with 8,000 lumens retails for $60,000 while a 4K DLP laser projector with 10,000 lumens, like the PX1005QL, cost about 1/3 of that amount.

The NEC NP-PX1005QL retails for $24,000. If you are looking for a 10,000 lumens projector at that price point you will have to choose between a Pixel Shifting 3LCD projector or a Native 4K DLP projector like the PX1005QL. If high resolution is one of your top priorities when looking for a flexible high brightness installation projector, you should definitely consider the NEC PX1005QL.

PROS

- 10,000 lumens (color and white)
- Long life laser light engine should reduce maintenance costs
- Very sharp, 4K resolution ensure high readability of fine details and text
- Edge Blending and Geometric Correction capabilities
- Several out-of-the-box picture modes with reasonably accurate colors, as well as a very bright mode for use in situations where the extra light output is needed
- Can be mounted at any angle for projection in alternatives to normal landscape mode
- Excellent network support for control, monitoring, and multimedia presentation functions
- DICOM Simulation mode allows this model to be useful for medical education purposes
- Excellent connectivity capabilities including support for HDbaseT and 3G SDI
- Support for Crestron Roomview, AMX Beacon, and PJ Link for connectivity and control
- Multiple NEC projectors can be controlled and managed from a central PC using the free downloadable software
- Suitable for applications requiring 24/7 operation

CONS

- The remote control needs discrete buttons for Focus, Zoom and Len Shift
- Black levels and contrast could be better
- Colors are less saturated than a 3LCD laser projector
- Fans are noisy (needs a quiet mode)
- Lacks built-in wireless

NP-PX1005QL PROJECTOR SPECIFICATIONS

NP-PX1005QL Specs	
Projector Model	NP-PX1005QL
Technology	DLP
Price	$24,000
Brightness (Manufacturer Claim)	10000
Brightness Description	N/A
Contrast Ratio	10,000:1
Projection	DLP
Native Resolution	3840x2160
Max Resolution	4160 x 2160
3D	Yes
Blu Ray 3d	Yes
Ultra Short Throw	Yes
Native Aspect Ratio	16:9
Video Compatibility	720p, 1080i, 1080p/60, 1080p/24, 1080p/50, 576i, 576p, 480p, 480i
HDTV	720p, 1080i, 1080p, UHD, 4K
Lamp Life	20,000 hours (Laser Light Engine)
Noise Level (-db)	43(high), 39(eco)
Audio	N/A
DVI or HDMI	Yes
Power Zoom/Focus	Yes
Lens Shift	Yes
LAN Networking	Yes
Zoom Lens Ratio	N/A
Optional Lens	Yes
Classroom	Yes
Speakers	No
Special Features	MultiPresenter, HDBaseT, edge blending
Wireless Networking	No
Dimensions	19.7" x 22.9" x 8.5"
Weight	63.9
Warranty	5 Years
Year	2019

NEC Display Solutions of America
866-NEC-MORE
www.necdisplay.com