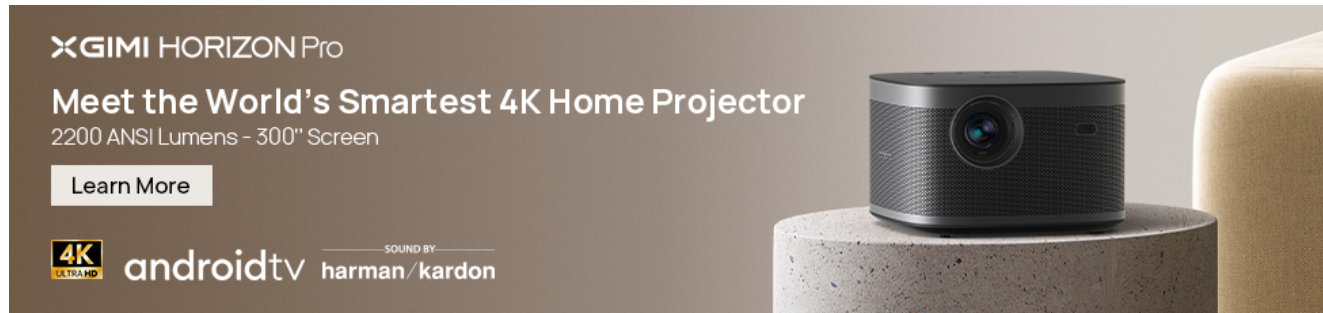


Sharp/NEC NP-M380HL Laser Projector Review

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Review by [Brian Nadel](#) | Mar 14, 2022 | [ProjectorCentral.com](#) | [Subscribe](#)
NEC M380HL 1080P DLP Laser Projector

Our Take

The Sharp/NEC NP-M380HL costs a bit more than some competition, but it pumps out the brightness for classrooms and small conference rooms with a no-maintenance laser illumination engine, vertical image shift mechanism, and even includes an old-school composite video port.

Pros

- Bright 3,800-lumen rating
- Filter-free laser engine
- Vertical lens shift
- Five year warranty

Cons

No wired or wireless networking



The [Sharp/NEC M380HL](#) squeezes a lot of projector into its small frame. Capable of lighting up a screen in classroom or large conference room with lights on, it combines laser components with an economical zero maintenance design. The 1.6X zoom optics from the M380HL's permanently attached lens allow it to fill a screen from a variety of distances, while its 3,800 lumen rating actually understated our measurement.

The Sharp/NEC M380HL isn't the least expensive 1080p (1920x1080) laser projector in its class with its typical street price of \$2,159 (though you might find it as low as \$2,000 if you shop around online, or be eligible to enjoy discounts through [Sharp/NEC's Star Student Program](#) for educational institutions). It also lacks some niceties like wired or wireless networking. But with vertical lens shift and keystone options, a full suite of wired connections, and compatibility with 4K signals, it's a flexible and robust option for today's schools and businesses. And the M380HL demonstrates sufficiently natural image quality out of the box to go beyond spreadsheets and infographics to photo-realistic content when that's needed.

Features

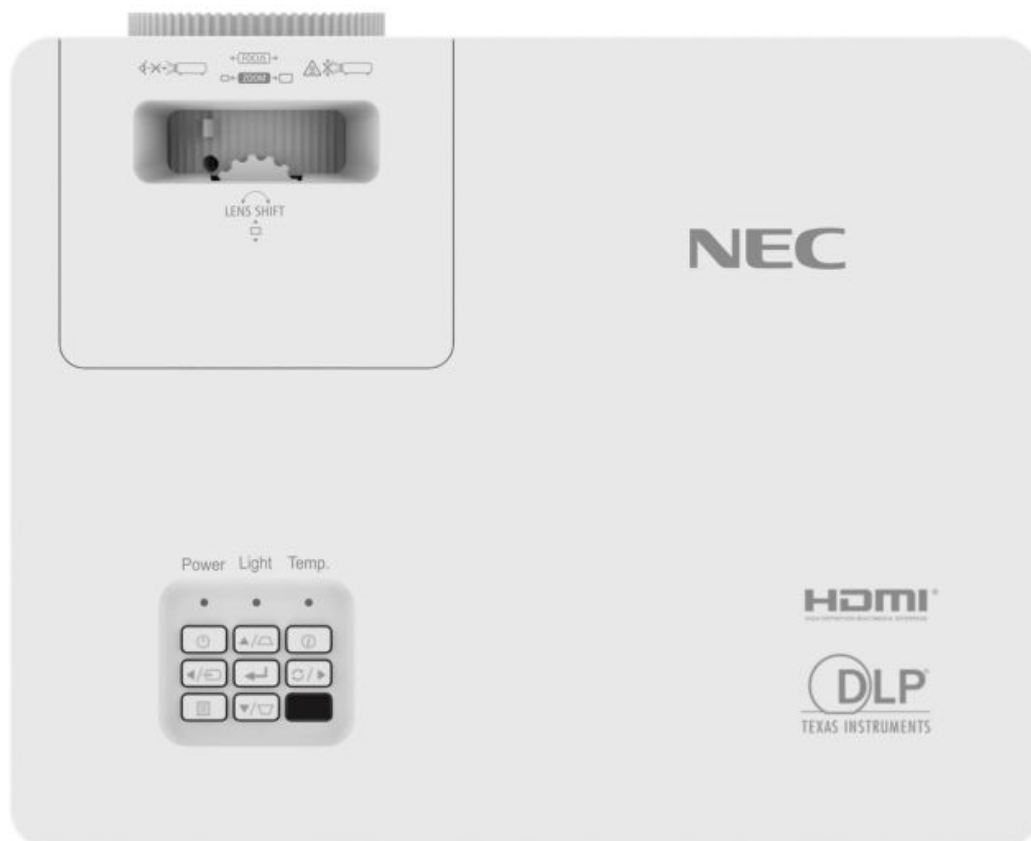
By combining a powerful laser light engine with a wide zoom lens and various mechanical enhancements, Sharp/NEC's NP-M380HL brings a dependable projector to schools, businesses and houses of worship. Able to be set at any angle (including portrait orientation) without worrying about overheating, its sealed optics will probably never need maintenance yet will likely prove to be versatile and dependable.

Based on a blue diode laser, the M380HL pumps out a lot of light that travels through a yellow-green phosphor wheel, a blue dichroic mirror and a three-segment color wheel with a diffuser segment. The resulting red, blue and green beams are bounced off a Digital Light

Processing (DLP) chip that delivers 1920x1080 HD video. Sharp/NEC uses the larger 0.65-inch micromirror imaging target for this native resolution, which is 26 percent larger than the 0.48-inch imaging target used on some other models.

Able to light up anything from a classroom to a large conference room, or a small lecture hall or church, the NP-M380HL is rated at an output of 3,800 ANSI lumens. It should be more than enough to leave the shades open on the sunniest day without the images getting washed out, but more on that later.

If the \$2,159 ticket (before discounts) oversteps your budget, that's where the Sharp/NEC NP-M430WL sister model comes in. At \$1,730, it projects WXGA resolution but ups the rated output to 4,300 lumens.



Longevity is a major selling point with both projectors. In the normal projection mode, the laser uses about 74-watts of power, according to Sharp/NEC, and is rated to last for 20,000 hours of use. For the typical school or business that might mean a decade or more of typical use. Not enough? The expected life of the lighting components can be extended by 50 percent to 30,000 hours by using the projector's low-power Eco mode. Because it lowers the laser's power use to 63 watts, you'll sacrifice some brightness, but ECO may be a viable option in environments where you have some ambient light control.

The bottom line is that for the foreseeable life of the projector, it will need neither a lamp nor a dust filter replaced, thanks to the sealed light engine. This makes it as close to a set and forget projector as exists in this product class.

The M380HL's forte is projecting presentation graphics, maps and text, but it does surprisingly well with naturalistic images and video streams. The projector's high dynamic range (HDR) and Hybrid Log Gamma (HLG) modes push encoded signals to the limit with vivid high-contrast images. While the former uses the Rec. 2020 color gamut, the latter uses the Rec. 2100 gamut for differing results but both reduce the projector's maximum brightness. It's enough to handle a film or art history class as well as for showing a video training session. Furthermore, the M380HL is 3D ready; all you'll need are compatible DLP-Link glasses.

While it lacks the ability to change lenses to suit different rooms, the NP-M380HL's optics are flexible enough to suit a variety of locations. Its 1.6X zoom has a throw ratio of 1.4-2.24:1 and can create images of up to 25-foot diagonal from as far as 50 feet; it delivered a six-foot image from 87-inches away. For more precise projection data, check out [ProjectorCentral's Sharp/NEC M380JL throw distance calculator](#).



Not surprisingly for this budget projector class, all the zoom, shift, and focus adjustments on the 1.6X lens are manual via the lens ring and controls on the projector. The projector does come with a lens cap that could be helpful for non-permanent installations, such as if the projector lives on a cart and moves frequently from room to room.

The NP-M380HL's lens shift mechanism uses a thumbwheel to move the image up or down by 15 percent. Its action is smooth and accurate, but the mechanism can't be locked into position and there's no horizontal image shifting available. The horizontal and vertical keystone correction can handle angles up to 30-degrees.

The system's cooling air flows in on the right, passes over the laser illumination engine and optics and exits on the left, while the M380HL's back has its connections. A mix of old and new, it provides two 4K-compatible HDMI ports, both version 1.4 with HDCP 2.2, one capable of accepting UHD signals (3840x2160) up to 60 Hz, the other up to 30 Hz. There's a

VGA port and a composite video input, making this projector a flexible choice in environments where there are legacy source components floating around, such as an old DVD player or VCR.

In addition to a USB port for service and another for powering an accessory, the projector has 3.5-millimeter jacks for audio input and output. The built-in 10-watt speaker should be plenty for up to a mid-sized classroom, but larger rooms will probably require a separate sound system. Finally, there's an RS-232 serial port for remote control operation, but this projector lacks both wired networking or a Wi-Fi connection, and neither can be added via an accessory dongle or other device.



Sharp/NEC conveniently includes infrared reception windows for the remote on top and in front. The putty-colored remote feels good in the hand, uses a pair of AAA batteries and has a 30-foot range. It has the expected buttons for source, changing the picture mode and opening the Menu. For those who like to stop the action to make a point, there are AV-Mute and image Freeze buttons. But this remote is obviously generic to other models as well, so you'll find many of the buttons don't do anything for the M380HL.

Should you misplace the remote, it's augmented by a basic control panel on the projector that can be used for turning it on, navigating within the Menu and adjusting the keystone settings. Nearby are LEDs for telling the projector's power status, whether the lighting element is active, or warning that the projector is overheating.

Sharp/NEC stands by the NP-M380HL with a five year warranty with next-day exchange for replacements.



Setup

At 9.8-pounds, the NP-M380HL is light enough to move from room to room if needed, and the company sells a \$39 padded carrying bag for the 13.3 x 4.7 x 10.4-inch (WHD) projector—though it'll likely be permanently set up in a classroom, lecture hall or small auditorium.

Underneath, the NP-M380HL has three adjustable feet for setting it up on a table or nook. There're also three threaded attachment points arranged in an equilateral triangle, simplifying its mounting. I used generic mounting hardware but Sharp/NEC's \$109 NP01UCM mount is a flexible way to set the projector up. In any setup, make sure that

there's at least a foot of space around it for cooling. And, although it can be set at any angle—including portrait orientation—without risking melt-down, the projector can't be stacked; it requires about 4-inches of space between projectors.



The M380HL's vertical lens shift can help get the picture where it needs to be and its horizontal and vertical keystone correction can turn a trapezoid into a perfect rectangle. An easier technique is to use Sharp/NEC's Four Corners technology to pull in the image's corners until it just fits on the screen. At 15-degrees vertical keystone, the projector lost 16 percent of its brightness.

Finally, the M380HL has four test patterns that range from white, green and magenta grids to a full field white image. They were a big help in quickly setting up the projector.

Performance

The M380HL was easy to carry and set up on the lab bench for quantitative testing. It took a long 30.3 seconds to display its image after turning it on but turned its fan off 1.8 seconds after shutting down.

Happily, it can be wired to a standard light switch for turning the projector on or off, making it a good choice for use in shared spaces (like classrooms and conference rooms). It will also go from standby to projecting when it senses a live video signal in one of its HDMI ports, or can be set to turn off automatically after a period when no signal is detected at any of the inputs.

The M380HL is a versatile performer with eight picture modes, each tuned for different usage scenarios. Its Presentation and Bright modes put out the maximum amount of light but are aimed at displaying Web sites, infographics and tabular material. Meanwhile, the HDR Sim and HLG Sim settings provide better color balance, good contrast and more natural flesh tones. The Cinema setting warms up the image and the Game mode is for quick action while

the sRGB mode attempts to balance brightness with color balance, but looked dull. In addition to the NP-M380HL's Dicom Sim mode for projecting medical scans, it has a user defined setting that let me adjust a variety of parameters to match the projector to the material and room. In addition to changing the gamma and color temperature, I tweaked the individual color settings.

While I recommend using a screen, the NP-M380HL can alter its projection parameters to match the color of a painted wall. It has settings for six different colors but lacks a blackboard option.

Using the projector's Bright mode, the NP-M380HL put out 4,170 ANSI lumens, about 9 percent above its 3,800 lumen specification. That's a lot of light for a projector of its size. It was a great way to show all sorts of infographics, websites and spreadsheet material but gave everything a blue cast.

The Presentation mode warmed things up with pink tones but was still second best for naturalistic images, like photos and paintings. It put a measured 3,108 lumens on the screen. The best compromise between brightness and color balance came with the HDR Sim (2,766 lumens) and HLG Sim (2,712 lumens) modes, although at the cost of overall brightness. Meanwhile, the sRGB mode looked dull at 1,652 lumens. Of the three, the HLG mode had the advantage when it came to projecting a vivid image. Cinema mode topped out at 2,731 lumens while the Game mode delivered 3,065 lumens and Dicom Sim yielded 3,154 lumens.



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Overall, the image was sharp although it had a modest hot spot in the lower center of the screen. The M380HL had measured brightness uniformity of 78 percent, which isn't out of line for this type of projector.

The M380HL's Eco mode reduces the power usage by about eight percent, although its brightness dropped by 11 percent. At any time you can adjust the M380HL's brightness power setting in one percent increments to get it just right.

Using the Bright mode, the M380HL consumed an economical 171.1 watts of power. If it's used for eight hours a day for 200 days out of the year, it should cost about \$58 to operate if you pay the national average of 14 cents per kilowatt hour of electricity. In this case, that's the whole expense, because the M380HL should not need a new lamp or filter over its life.



Furthermore, the M380HL is a cool customer, hitting a peak of only 90 degrees Fahrenheit while in use. And in a room that registered 39.8dBA background noise level, the M380HL's fan put out 43.4dBA of noise at 36-inches from its exhaust. In Eco mode, it dropped to 42.1dBA. Sharp/NEC rates the projector at 34dB using the industry-standard, multi-point measurement in a sound-proof room; our casual real-world measurements are always higher.

Conclusion

The Sharp/NEC NP-M380HL is an excellent choice for a classroom or business projector if you want a device that doesn't require any maintenance, other than occasionally dusting its case. Its laser illumination engine and filter-free design make it a set-and-forget device that could likely outlive much of the other tech in your office, school, or house of worship. While it may cost a bit more than some competitive models, and comes without LAN or wireless networking, it should serve well in environments that call for a basic workhorse where high brightness, simplicity and ease-of-use, and low cost of ownership are the driving factors.

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Measurements

Brightness. Our M380HL test sample went beyond its 3,800 ANSI lumen spec in our measurements to put 4,170 ANSI lumens of light on screen in its Bright mode. As with most projectors in their brightest mode, Bright did not have the best color balance, but it delivered 9 percent above its rating. Engaging the Eco setting reduced brightness to a still impressive 3,631 lumens.

Sharp/NEC NP-M380HL ANSI Lumens

Mode	Normal	ECO
Presentation	3,108	2,800
Bright	4,170	3,631
HDR Sim	2,766	2,653
HLG Sim	2,712	2,667
Cinema	2,731	2,961
Game	3,065	2,667
sRGB	1,652	1,568
Dicom Sim	3,154	2,814

Zoom Lens Light Loss (from widest to maximum zoom): 29.8%

Brightness Uniformity: 78%

Fan Noise. More than quiet enough for a classroom, conference room, lecture hall or small church, the M380HL's fan hit a peak output at 43.3dBA, measured 36-inches from the exhaust vent. The room it was measured in had a background noise level of 39.8dBA. Lowering the output with the projector's Eco mode lowered the noise to 42.2dBA. By contrast, Sharp/NEC engineers rate the projector to have a noise output of 34dB in its Normal high output mode and 31dB in Eco mode, using the industry-standard multi-point average taken in a sound-proof room.

Input Lag. The M380HL had a measured input lag of 49.5 milliseconds with 1080p/60 signals.

Connections



- HDMI Version 1.4, with HDCP 2.2 (x2)
- Computer RGB in (15-pin D-Sub)
- Composite video (RCA)
- RS-232C Serial Port
- USB (Type A, 5-volt)
- USB (Type B, for service)
- Audio in (3.5 mm)
- Audio out (3.5mm)

For more detailed specifications and connections, check out our [NEC M380HL](#) projector page.

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