

1-chip DLP® Laser Projector with High Brightness LX-MH502Z

■Product Outline

The LX-MH502Z is a compact and lightweight 4K UHD DLP® laser projector capable of projecting high-resolution 4K images, making it suitable for projecting PC data and digital signage images as well as for viewing sporting events.

■Basic Specifications

1. Product classification	Projector
Product name	Digital mirror device (DMD), 1 chip
Image device, No. of devices	Built-in
Projection lens	
2. Image device	
No. of pixels	1920 x 1080 (FHD)
Size	0.47"
Aspect ratio	16:9
Resolution	3840 x 2160 / 1920 x 1080 (4K-shift function: On/Off)
3. Light source	
Type	Blue Laser Diode Yellow phosphor wheel
4. Image	
Optical system	Time division color extraction, Sequential display
Light output	5000/3750 lm Notes: - When Image Mode is set to Presentation - Changed with light source mode Normal / Eco Brightness other than Normal setting is a calculated value, and is not guaranteed as a specification. - For the protection of product, the light emission from light source sometimes decreases when the temperature of surroundings rises.
Marginal illumination ratio	80%
Contrast ratio	(Fully white : Fully black, Image mode: Presentation)
Non-native	50,000:1 Note: The light source turns off when full black is projected.
Electrical zoom	Not provided
Keystone adjustment range	Vertical: ±30° Horizontal: Not provided

5. Connection terminals and input/output signals (1)	
HDMI (1)/MHL	
Digital PC input	3840x2160/WUXGA/WSXGA+/UXGA/SXGA+/WXGA+/FWXGA/WXGA/SXGA/XGA/SVGA/VGA
Digital video input	2160p/1080p/1080i/720p/576p/480p/576i/480i* *Supports audio input
HDMI (2)	Same as HDMI (1), but the signal details are different
Mini Dsub15	
Analog PC input	WUXGA/WSXGA+/UXGA/SXGA+/WXGA+/FWXGA/WXGA/SXGA/XGA/SVGA/VGA/MAC
RJ-45 (1)	Cannot be used as a regular network.
HDBaseT input	Image, audio, control, network (100BASE-TX) Note: Image and audio input is same as HDMI.
Mini jack	Audio input (analog PC)
Mini jack	Audio output
RJ-45(2)	
Network connection	Network (100BASE-TX/10BASE-T)
USB Type A	
Power supply	5 V
USB Mini-B	
Service port	Firmware version up
Dsub9	
RS-232C connection	User commands
6. Mechanics	
Lens shift	Lens shift dial (V,H), Manual Amount of lens shift Vertical +60%/-60%, Horizontal +23%/-23%
Adjustable feet	Bottom of the projector: 4 Maximum angle of inclination: ±1.9
Dimensions	
Total length	W: 450 mm, H: 154 mm, D: 379 mm
Not including protrusion	W: 450 mm, H: 125 mm, D: 379 mm
Weight	Approx. 9.3 kg
Noise level	39/37 dB
4K shift: On	37/35 dB
4K shift: Off	** Changed with light source mode Normal / Eco

8. Others

Infrared receiver
Internal speaker

Front panel: 1, Top panel: 1
Monaural: 10 W

Rated power supply voltage
Maximum power consumption
(100 ~ 120VAC)
(220 ~ 240VAC)

AC100 - 240 V, 50/60 Hz
530/415 W
490/395 W

Notes:

- Changed with light source mode
Normal / Eco
- The value for Eco mode is only a calculated value,
and is not guaranteed as a specification.

Standby power consumption
(100 – 120VAC)
(220 – 240VAC)

0.4/1.5 W
0.5/2.0 W

Note: Changed with network setting : Off / On

Operation environment
Storage environment

0°C - 40°C , 10%RH - 90%RH
-10°C - 65°C

■ Projection Specifications

- | | |
|---|--|
| <p>1. Projection lens
F number
Focal length
Zoom ratio
Operation</p> <p>2. Projection capability
Image size
Projection distance
Throw ratio (100")</p> <p>3. Image Size and Projection distance</p> | <p>F1.81 – F2.1
14.3 – 22.9 mm
1.6x
Zoom, Focus: manual</p> <p>Wide: 60" – 300", Tele: 60" – 200"
Wide: 1.80 – 8.98 m, Tele: 2.87 – 9.58 m
Wide: [1.36:1], Tele: [2.18:1]</p> <p>Using an optical zoom function, it displays an image in the same size in a projection distance between L(W) and L(T).</p> |
|---|--|

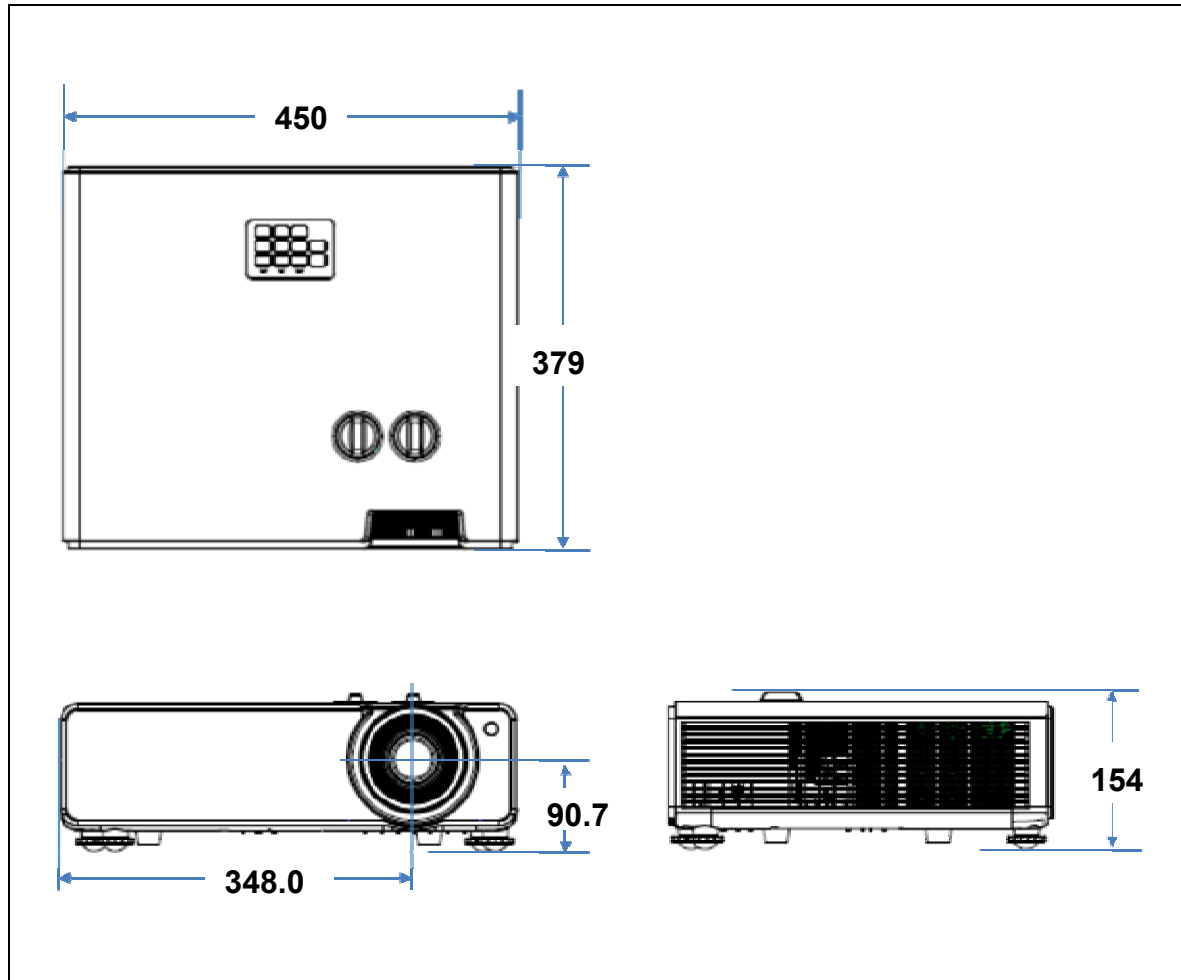
L(W): Projection distance at Wide end
L(T): Projection distance at Tele end

The following lists the projection distances when projecting a 16:9 image that corresponds to an aspect ratio of the image device.

Image size (16:9)			Projection distance	
Diagonal [type]	Width [cm]	Height [cm]	L(W) [m]	L(T) [m]
60	133	75	1.80	2.87
70	155	87	2.10	3.35
75	166	93	2.25	3.59
87	193	108	2.61	4.17
95	210	118	2.85	4.55
100	221	125	2.99	4.79
120	266	149	3.59	5.75
150	332	187	4.49	7.19
180	398	224	5.39	8.62
200	443	249	5.99	9.58
250	553	311	7.49	-
300	664	374	8.98	-

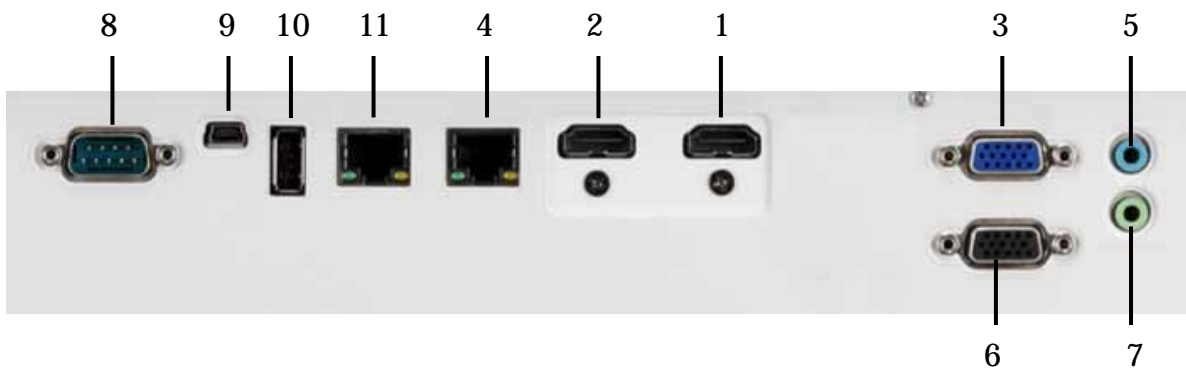
The distances listed on the table have been rounded off and are therefore approximate values.

■External Dimensions



Dimensions	W: 450 mm, H: 154 mm, D: 379 mm (17.7 x 6.1 x 15.0 inches)
Lens center	348.0 mm from the right side ("front" is the side where lens is attached.) 90.7 mm from the installed surface
Weight	Approx.9.3 kg

■Terminals



1. HDMI(1)	HDMI input
2. HDMI(2)	HDMI input
3. Dsub15	Analog PC input
4. RJ-45	HDBaseT input
5. Mini jack	Stereo audio input
6. Dsub15	Analog PC output
7. Mini jack	Stereo audio output
8. Dsub9	RS-232 connection
9. USB Mini-B	Service port
10. USB Type A	Power supply
11. RJ-45	Network connection

■Supported image signal type

●D-sub15 input (Computer type signals only)

Resolution	Format	Vertical frequency (Hz)	Horizontal frequency (kHz)	Dot clock (MHz)
720 x 400	720x400_70	70.087	31.469	28.3221
640x480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
800x600	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120 (*1)	119.854	77.425	83.000
1024x768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.667	94.500
	XGA_120 (*1)	119.989	97.551	115.500
1152x864	1152x864_75	75.00	67.500	108.000
1280x720	1280x720_60	60	45.000	74.250
	1280x720_120	120	90.000	148.500
1280x768	1280x768_60 (*1)	60	47.396	68.25
	1280x768_60	59.870	47.776	79.5
1280x800	WXGA_60	59.810	49.702	83.500
	WXGA_75	74.934	62.795	106.500
	WXGA_85	84.880	71.554	122.500
	WXGA_120 (*1)	119.909	101.563	146.25
1280x1024	SXGA_60	60.020	63.981	108.000
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280x960	1280x960_60	60.000	60.000	108
	1280x960_85	85.002	85.938	148.500
1360x768	1360x768_60	60.015	47.712	85.500
1440x900	WXGA+_60 (*1)	60	55.469	88.75
	WXGA+_60	59.887	55.935	106.500
1400x1050	SXGA+_60	59.978	65.317	121.750
1600x1200	UXGA	60.000	75.000	162.000
1680x1050	1680x1050_60 (*1)	59.883	64.674	119.000
	1680x1050_60	59.954	65.290	146.250
640x480	MAC13	66.667	35.000	30.240
832x624	MAC16	74.546	49.722	57.280
1024x768	MAC19	74.93	60.241	80.000
1152x870	MAC21	75.06	68.68	100.00
1920x1080	1920x1080_60 (*1)	60	67.5	148.5
1920x1200	1920x1200_60 (*1)(*2)	59.95	74.038	154

*1: Reduced Blanking (RB)

*2: EDID does not support.

●HDMI (HDCP) input: Component type signals

Resolution	Format	Vertical frequency (Hz)	Horizontal frequency (kHz)	Dot clock (MHz)
640x480	VGA_60	59.940	31.469	25.175
	VGA_72	72.809	37.861	31.500
	VGA_75	75.000	37.500	31.500
	VGA_85	85.008	43.269	36.000
720x400	720x400_70	70.087	31.469	28.3221
800x600	SVGA_60	60.317	37.879	40.000
	SVGA_72	72.188	48.077	50.000
	SVGA_75	75.000	46.875	49.500
	SVGA_85	85.061	53.674	56.250
	SVGA_120 (*1)	119.854	77.425	83.000
1024x768	XGA_60	60.004	48.363	65.000
	XGA_70	70.069	56.476	75.000
	XGA_75	75.029	60.023	78.750
	XGA_85	84.997	68.667	94.500
	XGA_120 (*1)	119.989	97.551	115.500
1152x864	1152x864_75	75.00	67.500	108.000
1280x720	1280x720_60	60	45.000	74.250
	1280x720_120	120	90.000	148.500
1280x768	1280x768_60 (*1)	60	47.396	68.25
	1280x768_60	59.870	47.776	79.5
1280x800	WXGA_60	59.810	49.702	83.500
	WXGA_75	74.934	62.795	106.500
	WXGA_85	84.880	71.554	122.500
	WXGA_120 (*1)	119.909	101.563	146.25
1280x1024	SXGA_60	60.020	63.981	108.000
	SXGA_75	75.025	79.976	135.000
	SXGA_85	85.024	91.146	157.500
1280x960	1280x960_60	60.000	60.000	108
	1280x960_85	85.002	85.938	148.500
1360x768	1360x768_60	60.015	47.712	85.500
1440x900	WXGA+_60 (*1)	60	55.469	88.75
	WXGA+_60	59.887	55.935	106.500
1400x1050	SXGA+_60	59.978	65.317	121.750
1600x1200	UXGA	60.000	75.000	162.000
1680x1050	1680x1050_60 (*1)	59.883	64.674	119.000
	1680x1050_60	59.954	65.290	146.250
640x480	MAC13	66.667	35.000	30.240
832x624	MAC16	74.546	49.722	57.280
1024x768	MAC19	75.020	60.241	80.000
1152x870	MAC21	75.06	68.68	100.00
1920x1080	1920X1080_60 (*1)	60	67.5	148.5
1920x1200	1920X1200_60 (*1)(*2)	59.95	74.038	154
3840x2160	3840x2160_30	30	67.5	297
3840x2160	3840x2160_60 (*3)	60	135	594

*1: Reduced Blanking (RB)

*2: EDID does not support.

*3: HDMI(2) only

●HDMI (HDCP) input: Video type signals

Resolution	Format	Vertical frequency (Hz)	Horizontal frequency (kHz)	Dot clock (MHz)
720(1440)x480	480i	59.94	15.73	27
720x480	480p	59.94	31.47	27
720(1440)x576	576i	50	15.63	27
720x576	576p	50	31.25	27
1280x720	720/50p	50	37.5	74.25
1280x720	720/60p	60	45.00	74.25
1920x1080	1080/24P	24	27	74.25
1920x1080	1080/25P	25	28.13	74.25
1920x1080	1080/30P	30	33.75	74.25
1920x1080	1080/50i	50	28.13	74.25
1920x1080	1080/60i	60	33.75	74.25
1920x1080	1080/50P	50	56.25	148.5
1920x1080	1080/60P	60	67.5	148.5
3840x2160	2160/24P	24	54	297
3840x2160	2160/25P	25	56.25	297
3840x2160	2160/30P	30	67.5	297
3840x2160	2160/50P (*3)	50	112.5	594
3840x2160	2160/60P (*3)	60	135	594

*3: HDMI(2) only

●HDBaseT input

Signals acceptable to the HDMI (1) terminal can be input.

The maximum cable lengths are shown in the table below.

However, depending on the connection method, etc., the length becomes shorter than the value in the table.

Band width (example of signal)	1.65Gbps or more (2160p/60@12bit, 1080p/60 @12bit)		Under 1.65Gbps (1080p/60@8bit,1080p/24@12bit)	
	CAT5e	CAT6/CAT7	CAT5e	CAT6/CAT7
Cable type	CAT5e	CAT6/CAT7	CAT5e	CAT6/CAT7
Length of cable	70 m	100 m	100 m	100 m

■ Accessories

5-1 Main Supplied Accessories	Remote control LV-RC08	Power supply: DC 3.0V (with CR2025) Communication range: approx.8 m within ± 30 degrees of the receiver
	Power Cord	Connects the unit to a power source.
5-2 Optional Parts	Remote control, LV-RC08	Power supply: DC 3.0V (with CR2025) Communication range: approx.8 m within ± 30 degrees of the receiver