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Vivid Color, Vivid Life

User's Manual

DU8090Z

DLP®

TEXAS INSTRUMENTS

Table of Contents

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About the Manual

The manual describes how to install and use the DLP projector and is applicable to the end-user. Relevant information (such as illustrations and descriptions) is put on the same page as possible as we can. The format, easy for printing, is convenient for reading and paper-saving which is beneficial to environmental protection. It is suggested printing the page you need.

Important Safety Guidelines

Thank you for purchasing the high quality product!

Read the Manual carefully to obtain the best performance. The Manual provides instructions to use the menu and implement operation.

Safety Notification

CAUTION To turn off main power, ensure to unplug from power outlet.

CAUTION To prevent electric shock, do not open the cabinet. There are high-voltage components inside. Refer service to qualified service personnel.

CAUTION The symbol warns the user about electric shock caused by voltage not insulated. Therefore, it is dangerous to make any kind of contact with any parts of inside units.

This symbol alerts the user that important information which should be read carefully to avoid problems concerning the operation and maintenance.

WARNING!
To prevent the projector from electrical discharge or electric shock, do not expose the projector to rain or moist environment. Do not use the plug with an extension cord or an outlet unless all the prongs can be fully inserted.

WARNING TO CALIFORNIA RESIDENTS:
Handling the cables supplied with this equipment might expose user to a little lead, a chemical known to the Stage of California, resulting in risks of barrenness. Please remember to wash hands after handling.

NOTIFICATION (CANADA)
This class A digital equipment complies with Canadian ICES-003.

CE NOTIFICATION
This is a class A product, which complies with rules for CE marking. This product may cause radio interference that the user may be supposed to take adequate measures.

FCC NOTIFICATION
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference; (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with part 15 of the FCC Rules. These requirements are designed to provide reasonable protection against harmful interference when the equipment operates in a commercial environment. This equipment might generate radio frequency energy. If user does not install or use in accordance with the instructions in manual, the radio frequency energy may interfere radio reception. If the above scenario occurs, the user may be responsible to correcting the interference

WARNING!
Changes or modifications without approval from Vivitek could void the user's authorization to operate the product.

LIGHT MODULE
- A light module containing multiple laser diodes acts as the light source in the product.

- These laser diodes are sealed in the light module. It is recommended to ask dealer for maintenance or repair services of the light module.
- End user is not allowed to replace the light module.
- Contact distributor who provides the qualified service for light module replacement and further information.

LASER SAFETY NOTIFICATION AND CAUTION

Do not stare at the lens while in use

- CLASS 3R LASER PRODUCT
- This Laser Product is designated as Class 3R during all procedures of operation.
- LASER LIGHT - AVOID DIRECT EYE EXPOSURE.
- Do not point laser or allow reflected laser light toward other people or reflective objects.
- Direct or scattered light can be hazardous to eyes and skin.
- There is a potential hazard of eye exposure to laser radiation if the included instructions are not followed.
- Caution – use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Parameters:

Wavelength	: Maximum laser energy
450nm - 460nm (Blue)	: 0.376mJ
Mode of operation	: Total internal power
Pulsed, due to frame rate	: >100W
Pulse width	: Apparent source size
0.74ms	: >10mm, at lens stop
Pulse repetition rate	: Divergence
24Hz	: >100 mili Radian

Product Label

Manufacturer's ID Label, Explanatory Label and Certification Statement Label
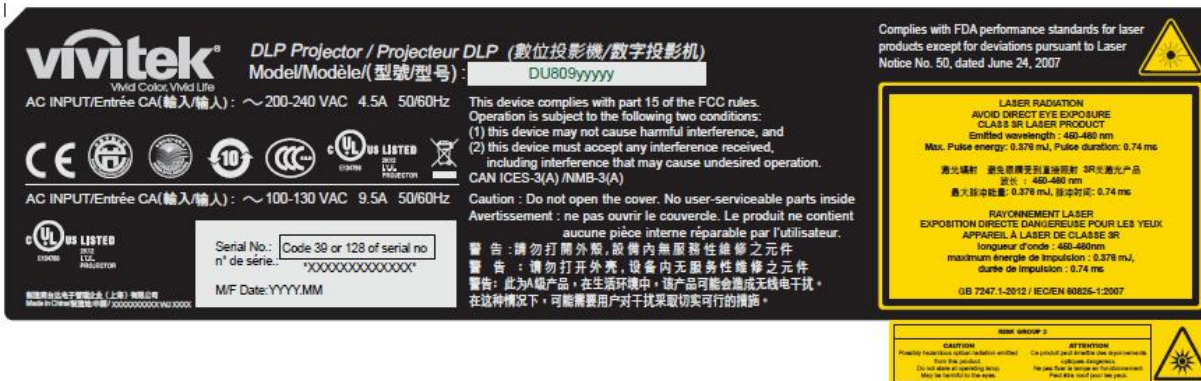
Hazard Warning Symbol and Aperture Label

Installation and Use Notices

1. Read and keep this manual properly.
2. Pay attention to all the noted warnings, and follow all the guidelines and descriptions in this manual.
3. Do not use the projector near water.
4. Do not install the equipment near the thermal sources, such as heaters, radiators, furnace, amplifiers, and any other equipment that may generate heat.
5. Be careful while holding the equipment or moving the trolley with projector to prevent the equipment from turning over.
6. Notice whether there is any parts with flaws after receiving the projector.
7. Please notice that the projector will not power on until the lens is fitted. The protection covering the lens should be taken to install the lens.
8. Do not let any vent be obstructed.
9. Do not destroy the safety protection function of polarized or grounding plug of power cord. A polarized plug has one wide and one narrow blade. The plug has two blades and one grounding blade. The wide blade or grounding blade is provided for the safety concerns. If the plug provided does not match the outlet, please contact the electrician to change outlet.
10. The +12V trigger only outputs 12V DC trigger signal. Do not connect other power input or output. Otherwise, the equipment may malfunction.

11. Adjust the slide switch with suitable volt input, and then plug in the projector; the red LED indicator would flash and then stabilize, getting into standby mode. User should only use the connectors or accessories provided by the manufacturer.
12. When user turns on the projector, the red LED indicator would flash until stabilize. Do not look at the lens directly while the projector is running.
13. Unplug the power cord of the equipment if there is a thunderstorm or the equipment is not going to be used for a long time.
14. The packaging materials can be kept properly for transportation use afterwards.
15. If any breakdown occurs, please contact dealer or manufacture for qualified repair service.

Disposal of Old Electric and Electronic Equipment

The symbol on your product or the package represents that the product should not be treated as the normal household waste when discarded but should be carried to the recycling location of the waste electric and electronic equipment. The consequence on the environment and human health due to the incorrect disposal of the product can be prevented if it can be ensured that the product is properly discarded. Material recycling is helpful to the protection of natural resources. The symbol is only valid in European Union. If you want to discard electrical and electronic equipment, contact the governmental authorities or your dealer for the correct method of disposal.

Important Recycling Instructions

The lamp of the product contains mercury. The product may contain other electronic wastes and may pose risk if not discarded properly. Abide by the local, state/provincial or federal laws of recycling or discarding. For more information, please visit the website and contact Electronic Industries Alliance (EIA) on WWW.EIAE.ORG. Please visit WWW.LAMPRECYCLE.ORG for the specific disposal information of lamps.

Introduction

The User's Manual describes the installation, setup and operation of the DU8090Z projector and provides assistance to the installation personnel and the end-user to fully develop the performance of the projector. VIVITEK has made every effort to ensure that the information in the Manual is correct at the time of printing. The contents may be frequently updated due to the continuously product improvement and customer feedback.
You can find the latest version of the Manual and the manual of other Vivitek products on www.vivitekcorp.com.

Packing Checklist

The following items are included in the packaging box of the DU8090Z series projector. If any loss or damage to any item, contact your dealer or the VIVITEK customer service department.

AC Power Cord	Power Cord	VGA Signal Cable

IR Remote Control	Cable of the Wired	Anti-thief Screw for
	Remote Control	Lens Installation

(M4)
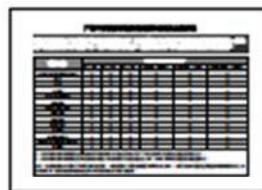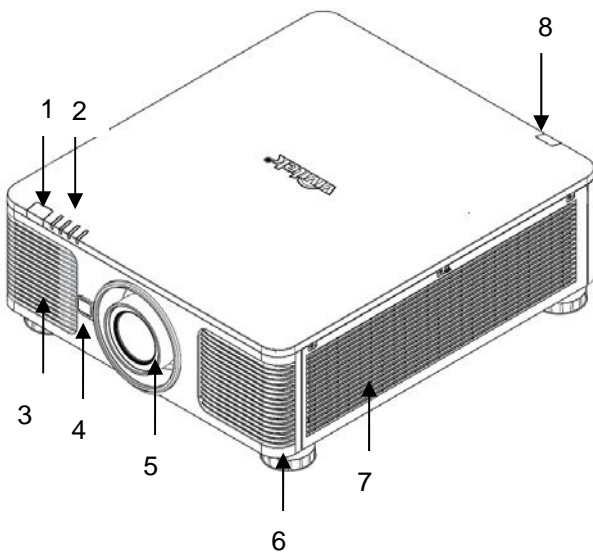
| User's Manual Disc	RoHS Card (China)	Qualification Certificate (China)

Projector Overview

Front-right View

1. **Front IR Receiver**
    The Receiver for IR signals from remote control.
2. **LED Indicator**
    Display current projector status such as power, light source status and warning.
3. **Air Intake**
    The fan pulls the cool air to the projector for system cooling.
4. **Lens Release Button**
    Press the Lens Change button before removing the lens.
5. **Lens hood**
    Remove the cover before installing the lens.
6. **Height Adjuster**
    Adjust level of projector
7. **Intake Vent**
    The fans pull air to cool the radiator of the projector.
8. **Rear IR Receiver**
    The Receiver for IR signals from remote control.

Rear-right View
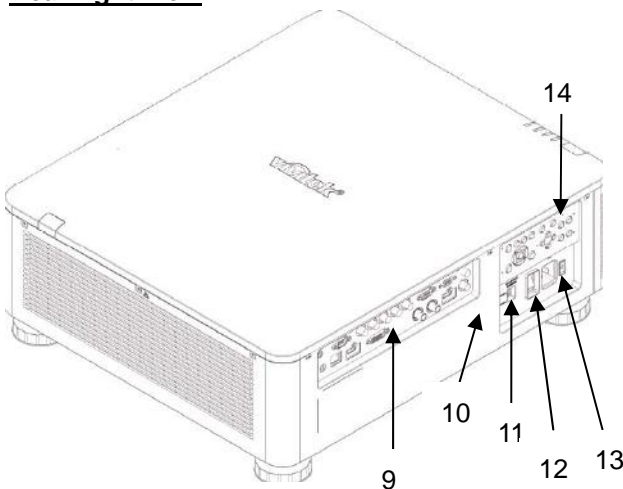
9. **I/O Connector Panel**
    Connect to various input, control or output terminals to the projector.
10. **Kensington Lock**
    Attach the projector to a permanent object with the Kensington slot and a security cable.
11. **Slide Switch**

12. **AC Power Switch**
    Turn on/off the AC power of the projector.
13. **AC Inlet**
    Connect the supplied power cable to this inlet.
14. **Control Panel**
    Press the button to operate the OSD menu or adjust the lens Settings see OSD controls.

Important:
Grill openings on the projector allow for good air circulation, which keeps the projector lamp cool. Do not obstruct any of the grill openings

Bottom View
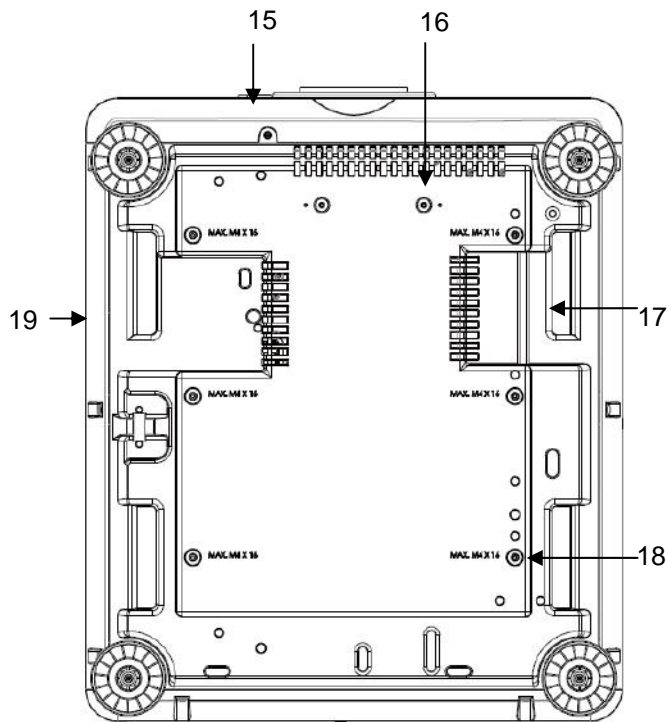
15. Anti-thief Screw hole
The anti-thief screw can be fastened to prevent Lens removing by unauthorized person.
16. Mounting Holes of Support Kit
These two screws holes can be used to fix support kits of ultra-short throw lens.
Note: The screws are for Lens support kits only; overloading may damage the projector or cause injury.
17. Recess for projector handling.
These four recesses can be used for handling the projector.
18. Ceiling Mounting Hole
Total, 6 holes for M4 screw, maximum depth 14mm.
19. Security Slot
The slot can be used for Short-term protection

Note:
- When installing, ensure that you use only UL Listed ceiling mounts, Contact your dealer for information on mounting the projector on a ceiling.
- With ceiling installation, use approved mounting hardware & M4 screws; maximum depth of screw: 18 mm.

IO Panel
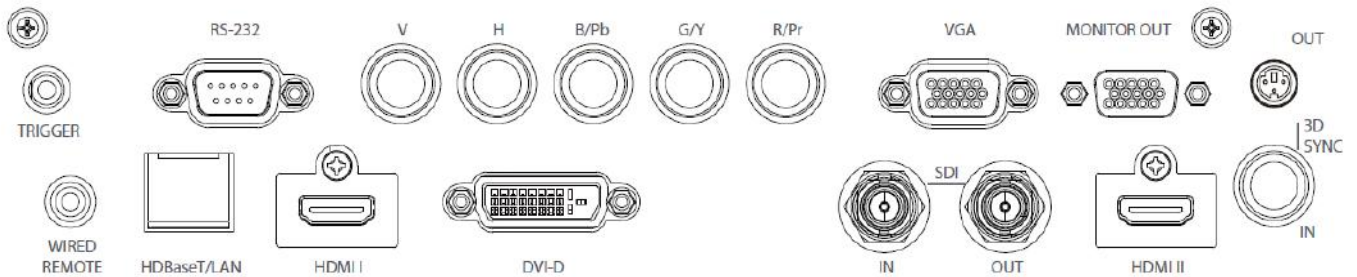
TRIGGER(12V +/-1.5V)
When connected to the screen thtough a 3.5mm cable, the screen deploys automatically on start up of the projector. The screen reacts when the projector is powered off.

RS-232
The 9-pin D-sub interface is used to connect to the PC control system and projector maintenance.

Component (V, H, B/Pb, G/Y, R/Pr)
Connect RGBHV or Component signal from computer or component video enabled device

VGA
Provide the standard 15-pin VGA connection and can connect to RGB, HD Component or personal computer.

MONITOR OUT
Connect to a monitor to display the projected content.

WIRED REMOTE
Connect the supplied remote controller to the projector

HDBaseT/LAN
Connect an Ethernet cable (Cat5/Cat6, not supplied) from a computer, network device, or HDBaseT transmitter.

HDMI I
Connect the HDMI cable from a computer or video device

DVI-D
Connect to DVI-D cable from a DVI-D output of the device.

SDI IN/OUT
Connect to SDI source.

HDMI II
Connect the HDMI cable from a computer or video device

3D SYNC IN / Out
Connect to the 3D IR synchronization signal transmitter.

Note for Trigger
- When the projector is turned on, a control signal (DC 12V) outputs from this terminal, Screen controllers are supplied and supported by screen manufacturers.
- Do not use this jack for anything other than intended use.

Note for Wired Remote
- Please make sure whether the port for insertion is correct before the terminal of the wired remote control is inserted. The remote control may be damaged if inserted to the wrong port such as trigger. Do not use this jack for anything other than intended use.

Control Panel
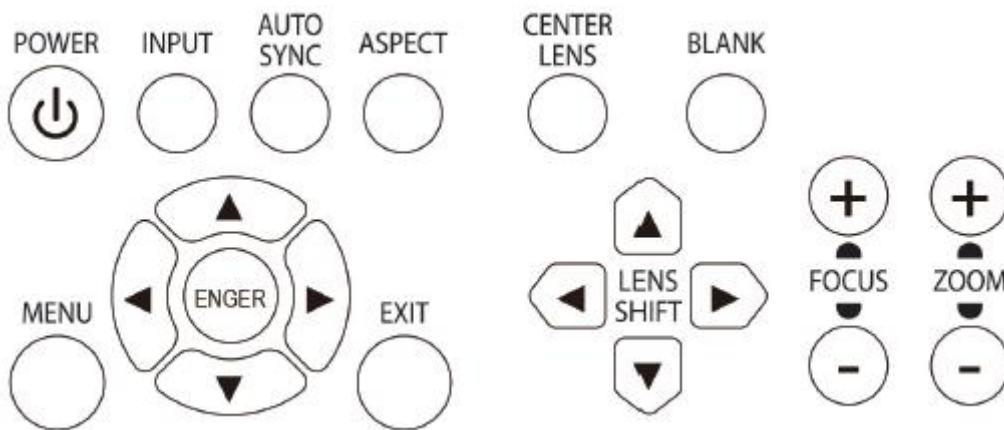
POWER
User the button to turn on/off the projector.

INPUT
Push the button to select the input signal. HDMI, DVI, VGA, Component…etc.

AUTO SYNC
Implement automatic signal synchronization.

ASPECT
Change the aspect ratio of the current image and push the button to change to the next aspect ratio settings.

MENU
Push the button to display or hide the OSD menu.

UP/Down/Left/Right
Use the button to select the OSD option.

ENTER
Use the button to select settings or confirm the changed settings.

EXIT
Push the button to return to the menu on the previous level or exit the OSD menu.

CENTER LENS
Push the button to center the lens and calibrate the parameter of lens shift, focusing and zooming.
Note: The lens memory function requires the accurate lens adjustment parameter. Please center the lens every time after the lens is mounted.

Blank
Use the button to stop the projection temporarily

LENS SHIFT
Use these four buttons to move the projected image to desired position.
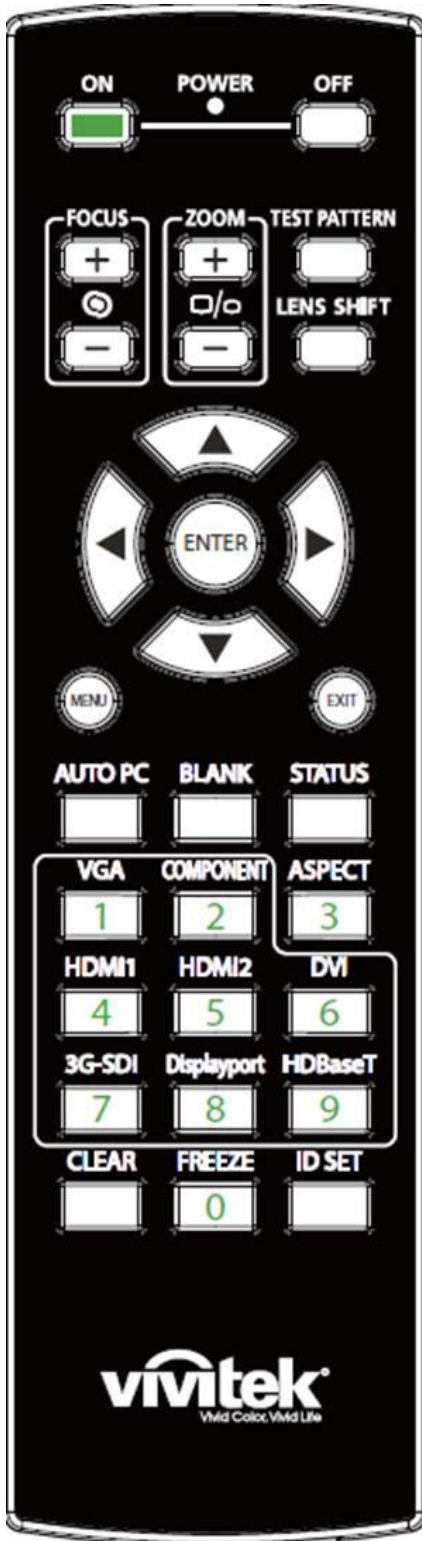
FOCUS
Use the button to adjust the focus of projected image.

ZOOM
Use the button to zoom in/out the projected image.

Remote Control

On
Use the button to turn on the projector.
OFF
Use the button to turn off the projector.
FOCUS
Adjust the focus of the projected image.
ZOOM
Zoom in/out the projected image.
TEST PATTERN
Use the button to show the test pattern. Press this button again to switch to the next pattern. Press the EXIT button to return to the projected image.
LENS SHIFT
Use the button to move the lens right or left.
ENTER
Use the button to select settings or confirm the changed settings.
MENU
Press the button to display or hide the OSD Menu.
EXIT
Press the button to return to the previous Menu or exit the OSD Menu.
AUTO PC
You can use this function to execute signal source auto synchronization
BLANK
Press the button to temporarily interrupt the projection.
STATUS
Show OSD MENU – SERVICE.
VGA
Select VGA input source.
COMPONENT
Select Component input source.
ASPECT
Press the button to display aspect ratio options.
HDMI1
Select HDMI1 input source.
HDMI2
Select HDMI2 input source.
DVI
Select DVI input source.
3G-SDI
Select 3G-SDI input source.
DisplayPort
Not available for this model.
HDBaseT
Select HDBaseT input source.
CLEAR (Not Applicable)
FREEZE
Freeze / cancel the freeze of the projected image.
ID SET (Not Applicable)
Wired Remote Jack
Connect to WIRED REMOTE terminal on the projector

Remote Control Operating Range

The remote control uses infrared transmission to control the projector. It is not necessary to point the remote directly at the projector. Provided you are not holding the remote perpendicular to the sides or the rear of the projector, the remote will function well within a radius of about 10 meters (25 feet) and 15 degrees above or below the projector level. If the projector does not respond to the remote control, move a little closer.
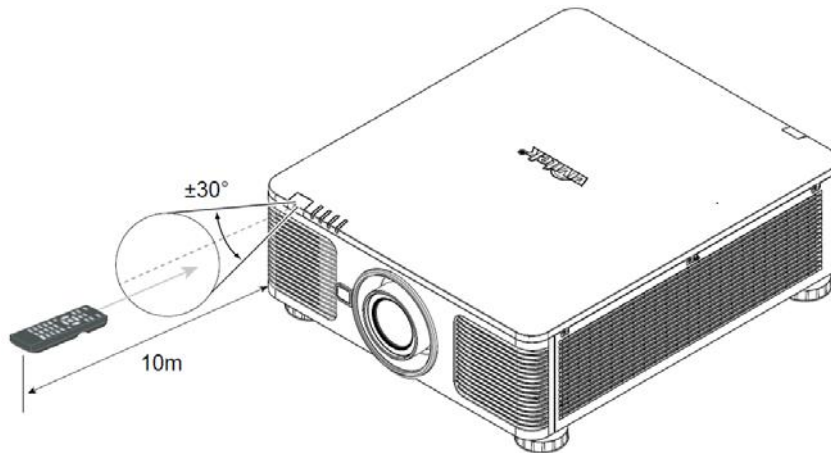
Inserting the Remote Control Batteries
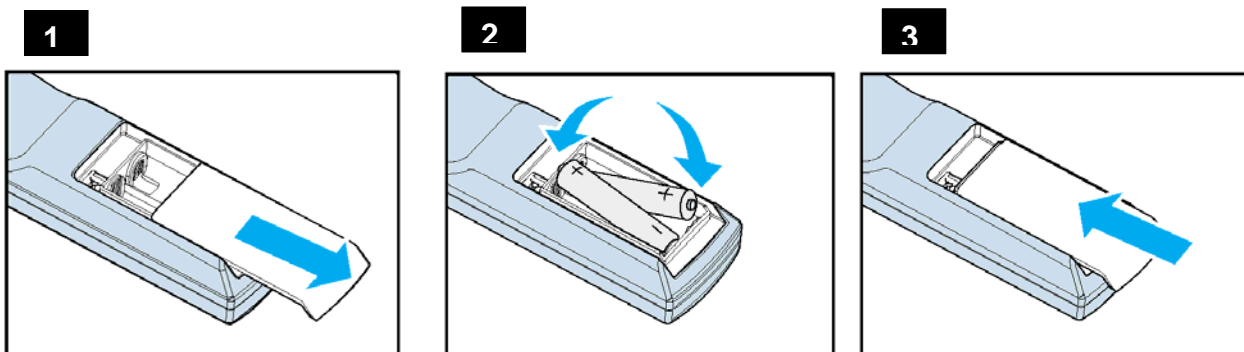
1. Remove the battery compartment cover by sliding the cover in the direction of the arrow.
2. Place two AA batteries with the correct polarity.
3. Slide on the cover as the arrow in the illustration.

Important:
- Avoid using the projector with bright fluorescent lighting turned on. Certain high-frequency fluorescent lights can disrupt remote control operation.
- Be sure nothing obstructs the path between the remote control and the projector.
- Do not expose the remote control to high temperature or humidity; otherwise, the remote control will not work

Battery installation instructions
- Make sure the battery is installed with the correct polarity
- Do not use the old and new batteries or the batteries of different types together
- Remove the battery if the remote control may not be used for a long time to prevent the damage caused by leaks.

Installing or Removing the Optional Lens

Caution:
- Do not shake or place excessive pressure on the projector or the lens components as the projector and lens components contain precision parts.
- When shipping the projector with the optional lens, remove the optional lens before shipping the projector. The lens and the lens shift mechanism may encounter damage caused by improper handling during transportation.
- Before removing or installing the lens, be sure to turn off the projector and wait till the cooling fans stop, and turn off the main power switch.
- Do not touch the lens surface when removing or installing the lens.
- Keep fingerprints, dust or oil off the lens surface. Do not scratch the lens surface.
- Work on a level surface with a soft cloth under it to avoid scratching.
- If you remove and store the lens, attach the lens cap to the projector to keep off dust and dirt.

Install New Lens

1. If the Lens cover is installed, pull the edge of the lens cover with one hand (①), so that the lens cover can be removed easily with the other hand (②)
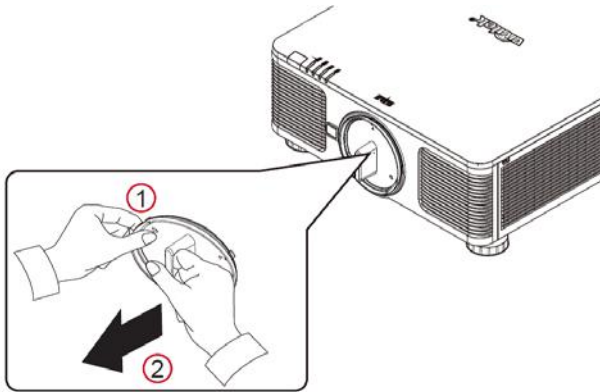
2. Align the "↑ " symbol on the lens label with the "* " symbol on the top of the body (align to the center of the lens hole) and pull in the lens.
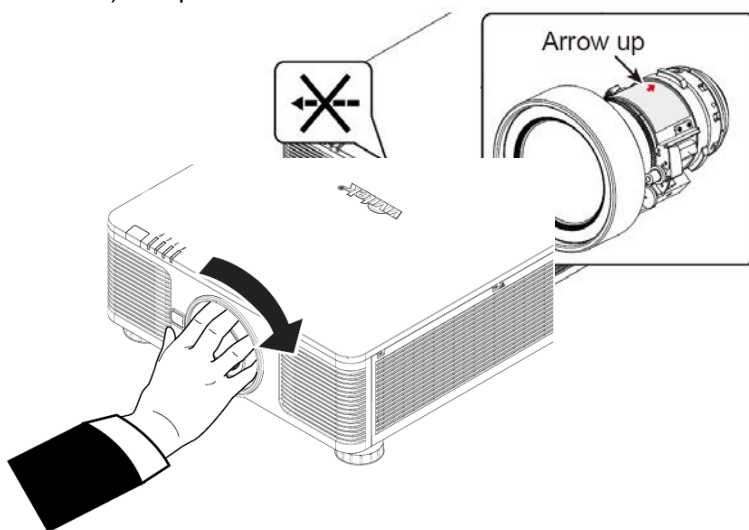
3. Make sure the lens is pushed into the holder and turn it clockwise to the "Lock" position. When turning the lens, the "Click" sounds twice to indicate that the lens is completely fixed.

4. Check if the lens is fixed successfully by pulling the lens out of the holder gently.

Removing the Existing Lens

1. Push the LENS RELEASE button all the way in and rotate the lens counterclockwise. The existing lens will be disengaged
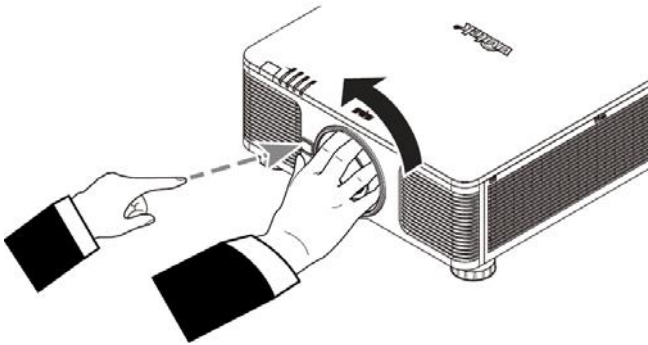
2. Pull out the existing lens slowly.
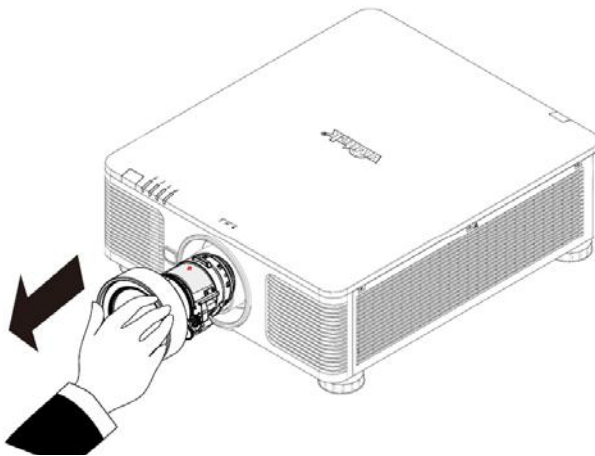
Caution:

When installing the lens into the projector, be sure to remove the lens cap from the back of the optional lens before installing the optional lens into the projector. Failure to do so will cause damage to the projector.

There is one safety switch inside the lens slot on the projector to prevent unexpected injury by laser beam, the projector cannot be turned on if the projection lens has not been installed or is not installed correctly. Please make sure the lens is installed properly before tuning on the projector.

Lens Shift Range

The DU8090Z projector has the lens shift feature; the image can be shifted vertically or horizontally without moving the projector. The lens shift range is shown in the percentage of the screen height, the maximum vertical shift range of the image can be up 50% and down 30%, maximum horizontal range is 10% to the right, 10% to the left. Please refer to below illustration.

Vertical lens shift

The projector is installed on the desk, the image can be moved up by 50% (0.5V) and down by 30% (0.3V).
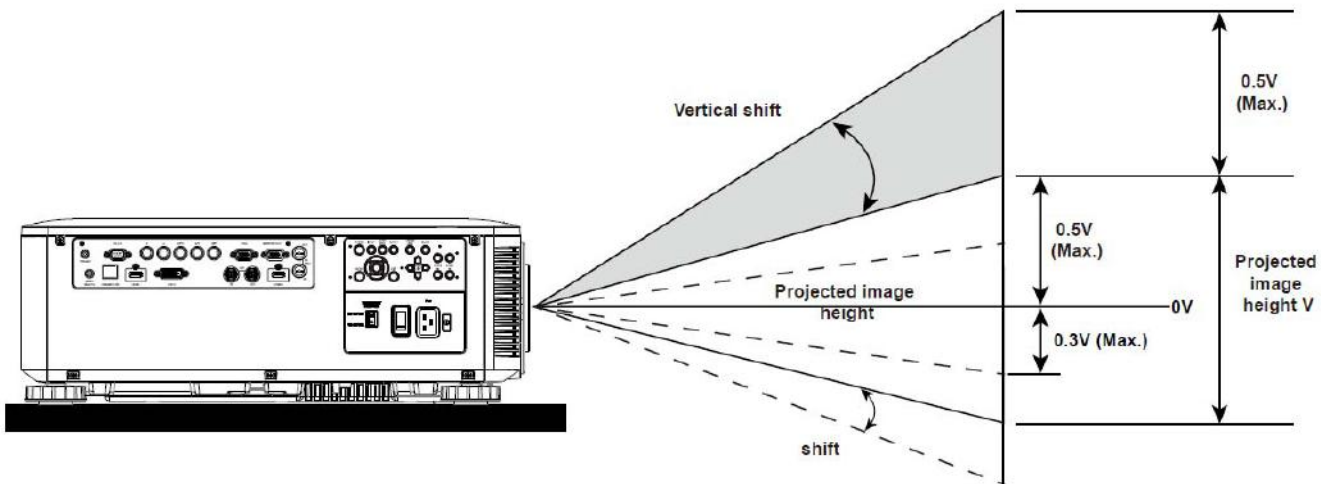
The projector is mounted on ceiling, the projected image can be moved down by 50% (0.5V) and up by 30% (0.3V).
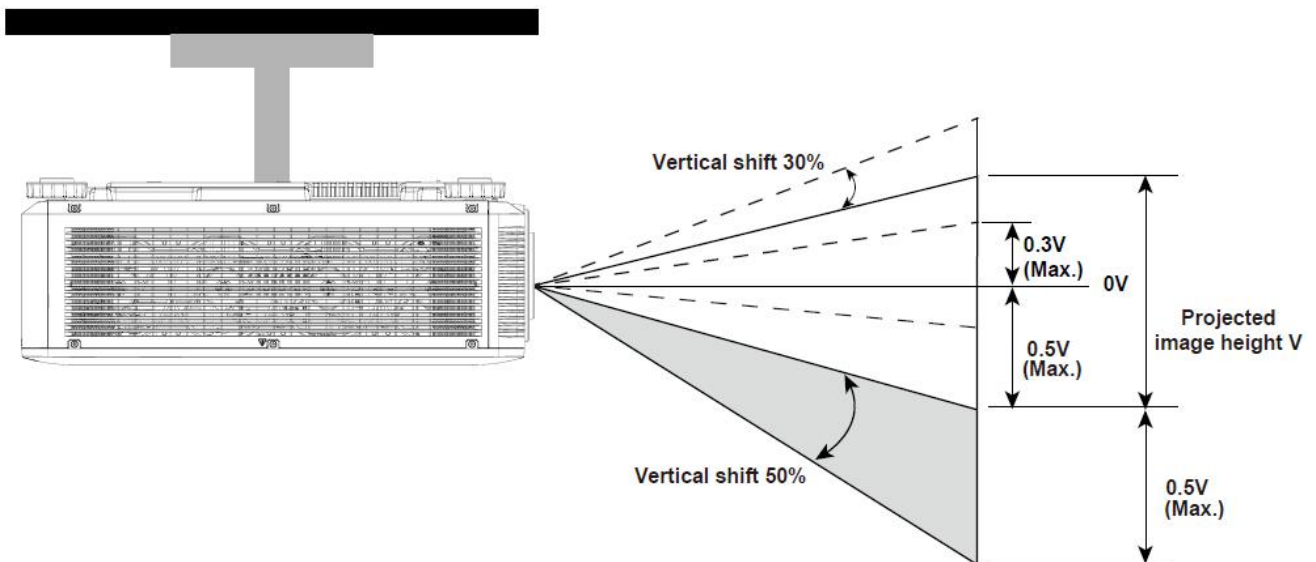
Caution:

- Ceiling installation must be done by a qualified professional. Contact your dealer for more information. It is not recommended you install the projector yourself.
- Only use the projector on a solid, level surface. Serious injury and damage can occur if the projector is dropped.

Horizontal lens shift

The image can be shifted horizontally to the right or left by 10% (0.1H) without moving the projector.
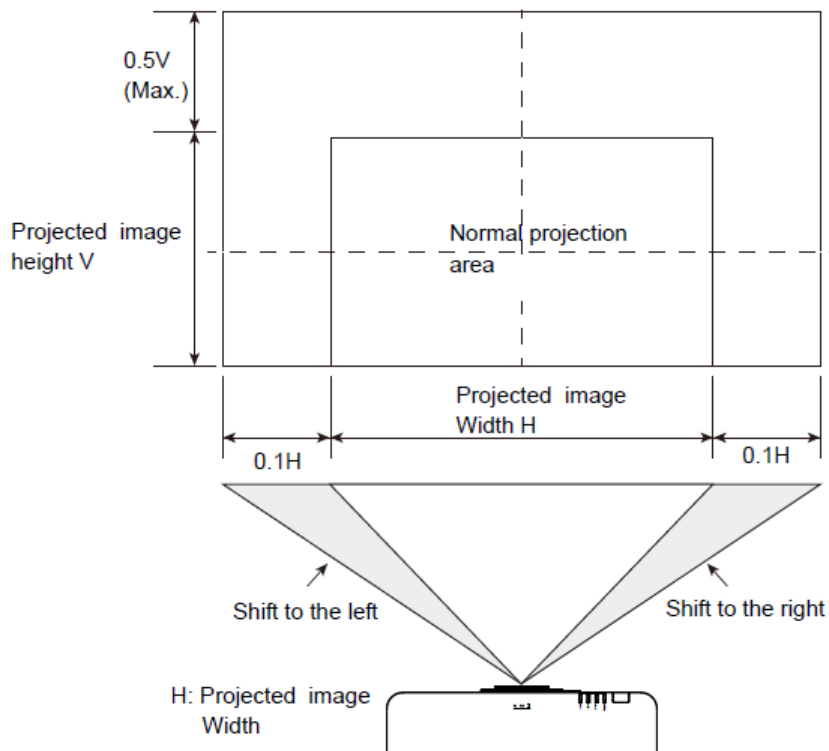
Note:

- Above adjustable lens shift range is preset in DU8090Z for more flexible in installation, the best performance range of the lens may vary with projection lens. Please refer to the projection lens specification.
- Lens shift range is reduced if Lens Type is set to UST Lens. Make sure Lens Type is set to Non-UST Lens if Non-UST lens is used.

Making Connections

Follow the instructions below to connect DU8090Z projector to the video source, external control equipment (if any). When connecting to the equipment, use the correct signal cable to connect to the signal source and ensure that the cable is securely connected. Fasten the nut on the joint and connect the signal source equipment to the projector according to the figure below.

Connecting to Personal Computer

You can connect the PC signal to be projected to the projector through the DVI-D, HDMI, VGA or RGBHV (BNC) cable. If the signal to be input is VGA signal, connect the VGA cable to the external display to simultaneously monitor the projected content.
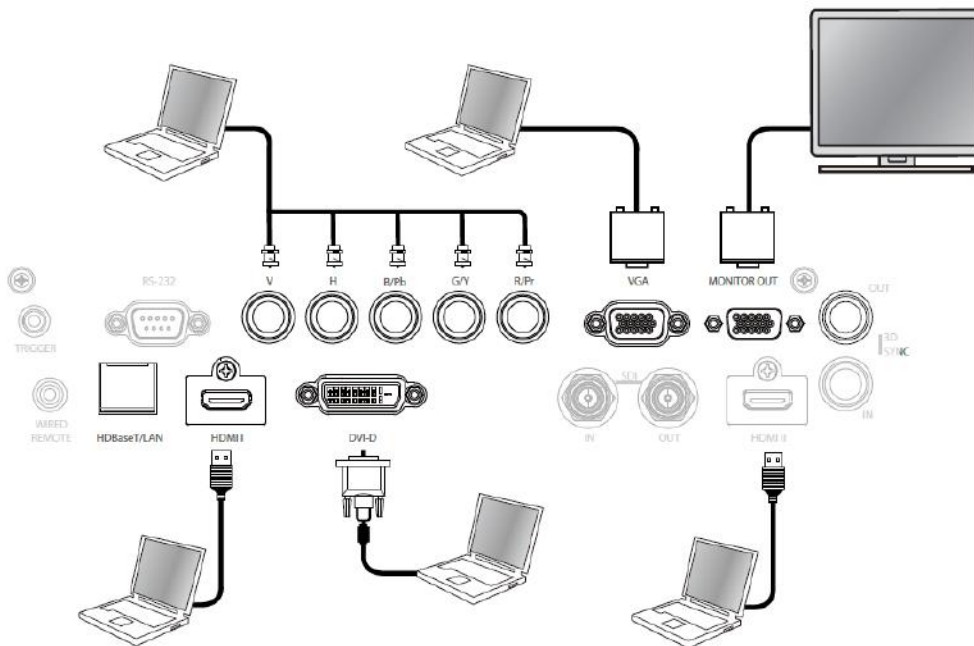
Connecting to the Video Device

Connect the video equipment to the input port of the projector via the DVI-D, HDMI, Component Video, Composite Video or S-Video Connector.
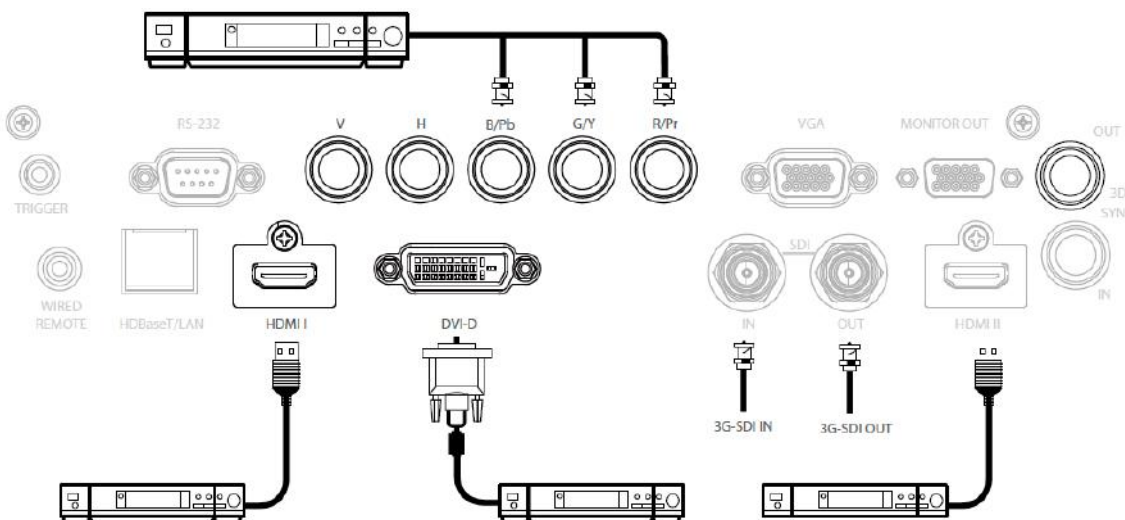
Connecting to the Control Equipment

The projector has the following control port for connecting to the control equipment:
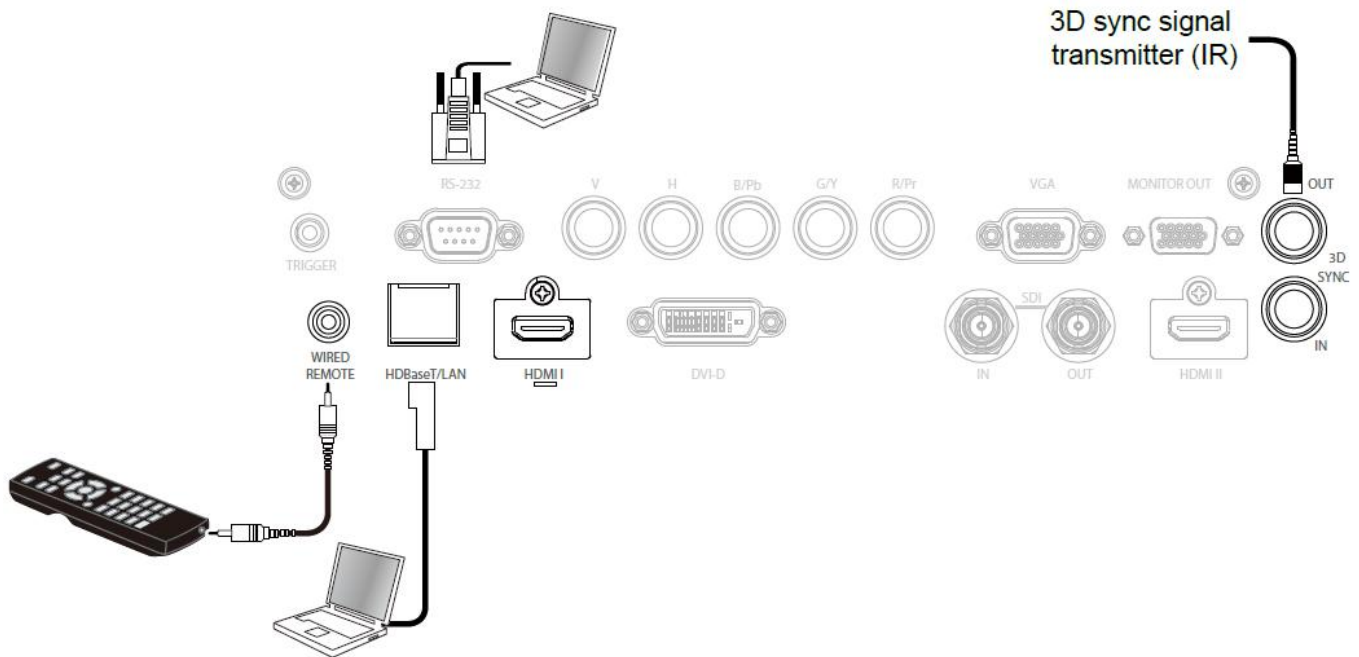
HDBaseT/LAN (Network control): The projector supports network control. LAN and Digital share the port. If only network control is used, you can connect the LAN on the projector to PC or through the local network. Refer to the remote control guidelines for

RS-232 (RS-232 control): The projector can be remote-controlled by connecting the projector to PC or control system Through the standard 9-pin serial cable (Straight Through Serial Cable). Refer to the Remote Communication Manual for detailed information.

Wired remote control: If the projector cannot receive the IR signal from the remote control due to the overly long distance or obstacles, you can connect the cable to the IR remote control or the external IR transmitter (optional) via the WIRE input port to expand the working range of the remote control.

3D Sync Out/In: Connect to 3D IR sync signal transmitter or device.

Caution:

- When the terminal of the remote control cable is inserted to the wired control terminal of the projector, the projector will automatically switch to the wired control mode and cannot be controlled through the IR signal of the remote control. Disconnect the wired control terminal on the projector if you want to control through the IR signal of the remote control.

- If the wired remote control cable or the external IR transmitter is inserted to the incorrect port, such as Trigger, the remote control or the IR transmitter may be damaged. Make sure whether the port is correct

Connecting to the Screen Trigger

If your projection system includes the Electric projection screen and other 12V trigger device, you can connect these devices to the 12V trigger to output and configure the output 12V signal settings, such as automation and the aspect ratio of 16:10 through OSD control to Trigger. The projector will output 12V signals according to the current settings of the aspect ratio and trigger when turned on. You can use the signal to control the screen or device.
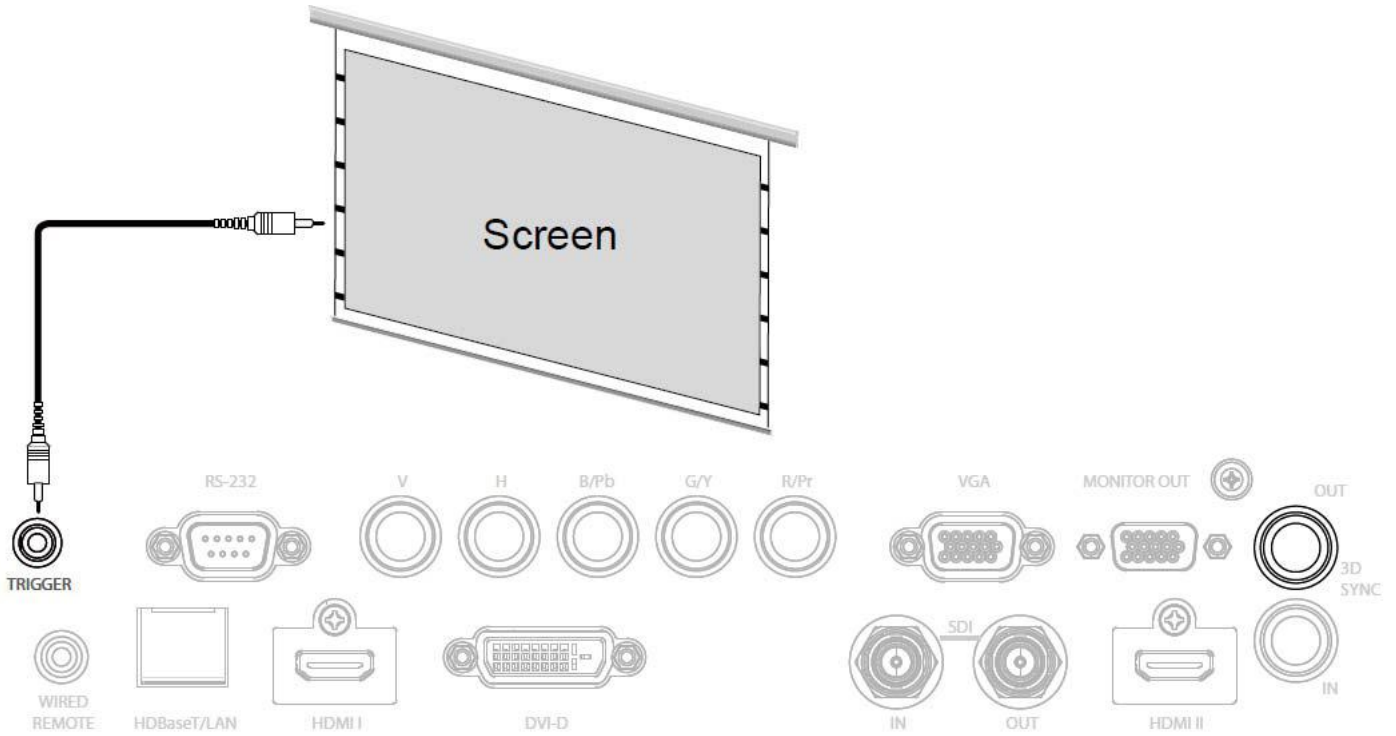
Connecting to external HDBaseT Transmitter

The projector has a built-in HDBaseT receiver. With HDbaseT Transmitter (optional), the video, RS-232 and LAN signals can be sent to the projector via a single RJ-45 cable. If the HDbaseT Transmitter you purchased supports the input and output of the IR remote control, the control signals from the IR remote control can be sent to the DU8090Z projector via the RJ-45 cable.
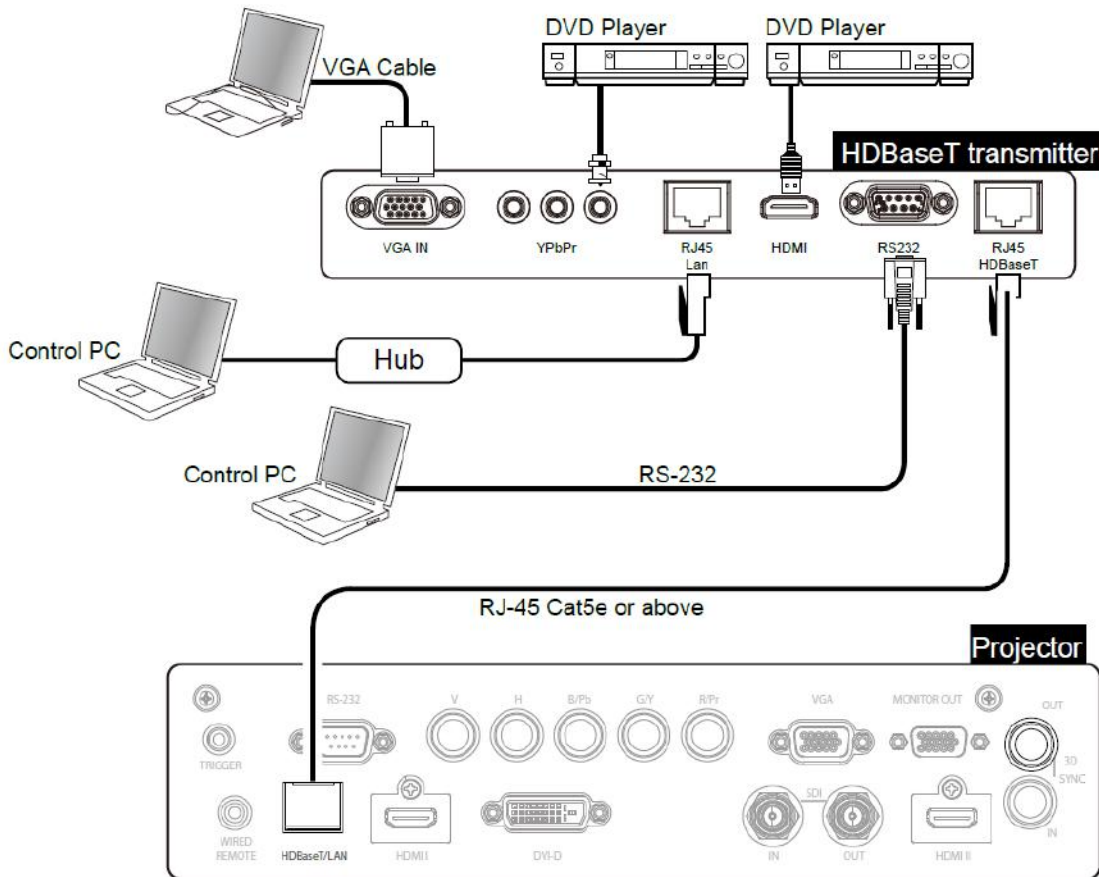
Note:
- The projector supports the video signal, R-232, IR remote control and the reception of the network control signals but do not support Power over Ethernet (PoE).
- Set the Control -> RS232 -> Channel on the OSD menu to HDBaseT if you want to use the external HDBaseT transmitter to send the RS232 command to the projector via the RJ45 cable and baud rate will switch to 9600.
- If the command is sent via the HDBaseT transmitter, the longest transmission distance is 100 meters. The projection may be interrupted or interfered, or the control signal cannot be sent if the transmission distance is exceeded.
- Use the RJ-45 Cat5e or above cable and avoid entwining. Entwining may cause damage or interfere signal transmission, reduce the transmission distance and degrade the image quality.

Using the projector

Note:
- The projector is equipped with safety switch inside the lens mount hole; the projection lens must be installed in the projector before turning on the power. Or the projection can't be started.
- Use supplied power cable only.

Select the Input Voltage of AC Power

There is one slide switch near AC switch, pleases switch it to according input voltage of AC power.
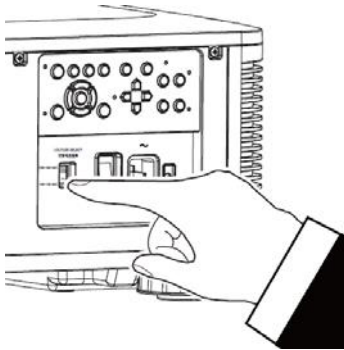
Connecting to AC Power Supply

The AC power cord is included in the box, plug the power cord to the AC socket on the IO panel.
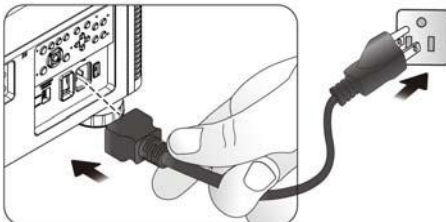
Turning on the Projector

Once the projector is correctly located and the power cable and other connections are in place, it is important that the projector is powered on correctly in order to avoid damage to components and un-necessary wear and tear. Refer to the following guide to power on the projector.

1. Press the main power switch to the on (I) position as shown. POWER LEDs flashes then lights red.
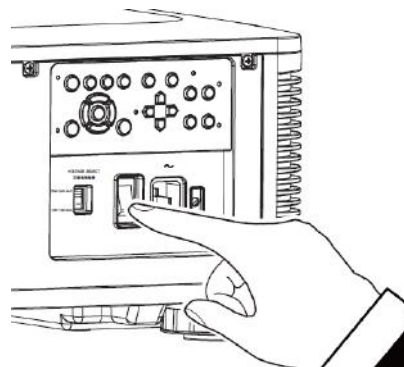
2. Press the POWER button on the control panel or ON button on the remote control.
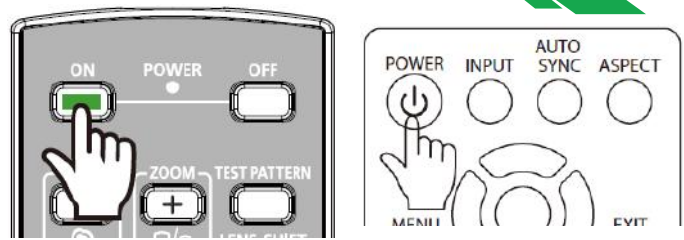
3. The Power LED and LIGHT LED flashes green till power on process is finished.
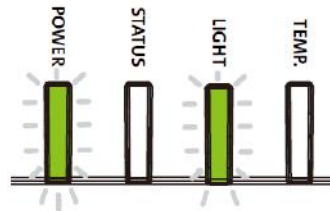
4. After few seconds, both LEDs keep green, the projector is ready for use.
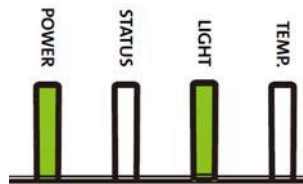
Turning off the Projector

Once the projector is no longer required, it is important to shut it down correctly to avoid damage or unnecessary wear and tear to the projector.

> **Note:**
> - Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can cause damage to the AC IN connector of the projector and (or) the prong plug of the power cable. To turn off the AC power supply when the projector is powered on, use a power strip equipped with a switch and a breaker.
> - Do not turn off the AC power supply within 10 seconds after making adjustment or changing the setting. Doing so is possible to cause loss of adjustments and settings and return to default.

Refer to the following guide to shut down the projector.

1. Press the POWER button on the control panel or OFF button on the remote control once, the Power Off window displays.
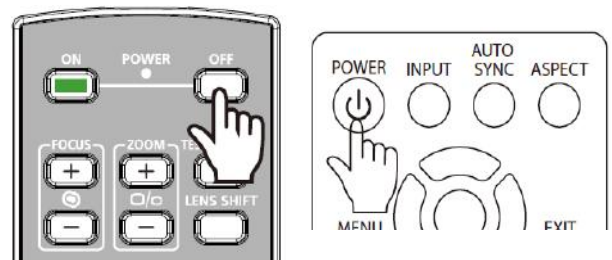
2. Press the POWER button again on the OSD control panel or remote control to verify power off, the power LED flashes orange after Power Off is confirmed.

⏻ Enter STANDBY mode?
Yes : Press Again
No : Please Wait
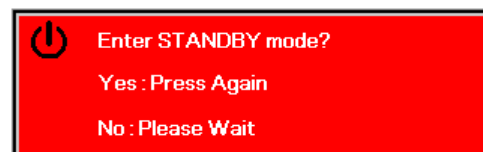
3. The projector enters Standby mode when the power LED lights red.
4. Press the Main Power switch to the off position (O) to turn off the projector.

Using On-Screen Display

Using the OSD Menu

The projector has an On-Screen Display (OSD) that lets you make image adjustments, change various settings and check current projector status.

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Input Selection			HDMI 1	↵／▶
PIP			Off HDMI 2	↵／▶
Auto Source		<	Off	>
Color Space		<	Auto	>
Aspect Ratio		<	Source	>
Overscan		<	Off	>
VGA Setup				↵／▶
Test Pattern				↵／▶
3D				↵／▶
Auto Sync				↵／▶
EXIT = Back		Item Adjust ◀ ▶		Scroll ▲▼

Navigating the OSD

You can use the remote control or the control buttons on the projector to navigate and make changes to the OSD. The following illustration shows the corresponding buttons on the remote control and on the projector
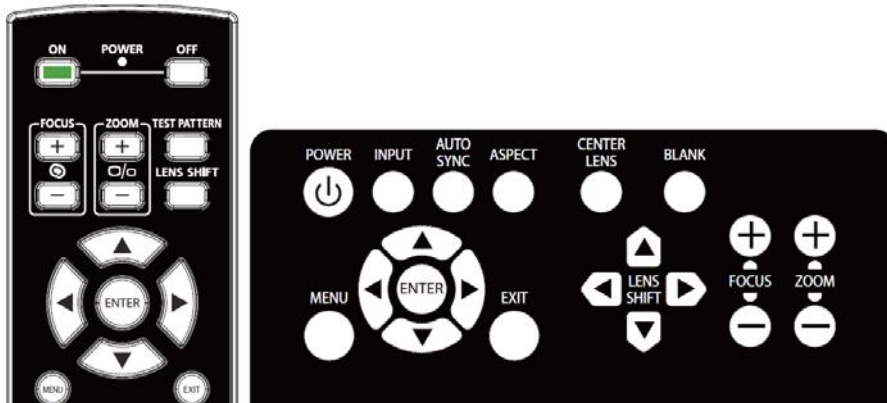
1. To open the OSD, press the **Menu** button on the OSD control panel or remote control. There are six folders on the menu. Press the cursor ◀ or ▶ buttons to move through secondary menus.

2. Press ▲or▼ to select menu items and ◀or▶ to change values for settings. Press ↵ to confirm the new setting.
3. Press **RETURN** to leave a submenu or MENU   to close menu

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Menu Tree

Use the following table to quickly find a setting or determine the range for a setting.

Main Menu		Submenu
INPUT	Input Selection	HDMI1
		HDMI2
		VGA
		Component
		BNC
		DVI
		3G-SDI
		HDBaseT
	PIP	PIP Option
		PIP Input
		Position
	Auto Source	Off
		On
	Color Space	Auto
		YPbPr
		YCbCr
		RGB-PC
		RGB-Video
	Aspect Ratio	5:4
		4:3
		16:10
		16:9
		1.88
		2.35
		LetterBox
		Source
		Native
	Overscan	Off
		Crop
		Zoom
	VGA Setup	H Total
		H Start
		V Phase
		V Start
	Test Pattern	White
		Black
		Red
		Green
		Blue
		Checker Board
		Crosshatch
		H Burst
		V Burst
		Color Bar
	3D	3D Format
		Eye Swap
		DLP Link
		Dark Time
		Sync Delay
		Sync Reference
	Auto Sync	Execute
PICTURE	Picture Mode	High Bright
		Presentation
		Video
	Brightness	
	Contrast	
	Saturation	
	Hue	
	Sharpness	
	Color Temperature	5400K

		6500K
		7500K
		9300K
		Native
	Gamma	1.0 / 1.8 / 2.0 / 2.2 / 2.35 / 2.5 / S-Curve
	Input Balance	Red Offset
		Green Offset
		Blue Offset
		Red Gain
		Green Gain
		Blue Gain
	HSG	Red
		Green
		Blue
		Cyan
		Magenta
		Yellow
		White
		Reset
	Noise Reduction	
	Dynamic Black	Off
		On
ALIGNMENT	Lens Lock	Off
		On
	Lens Control	Zoom
		Focus
		Lens Shift
	Lens Type	Non-UST Lens
		UST Lens
	Lens Memory	Load Memory
		Save Memory
		Clear Memory
	Center Lens	Execute
	Digital Zoom	Digital Zoom
		Dgital Pan
		Digial Scan
	Warp	Keystone
		Rotation
		Pincushion/Barrel
		Top Left Corner
		Top Right Corner
		Bottom Left Corner
		Bottom Right
	Blanking	Top
		Bottom
		Left
		Right
		Reset
	Edge Blend	Edge Blend
		Align Pattern
		White Level
		Black Level
		Reset
	Screen Format	16:10
		16:9
		4:3
CONTROL	Language	
	Projection Mode	Front Desktop / Front Ceiling / Rear Desktop / Rear Ceiling
	Cooling Condition	Desktop / Ceiling / Freetilt / Portrait / Auto
	High Altitude	Off
		Auto
	Auto Power Off	Off
		On

	Auto Power On	Off
		On
	Network	Standby Power
		DHCP
		IP Address
		Subnet Mask
		Gateway
		DNS
		Mac Address
	Light Power	Eco
		Normal
		Custom
	Custom Power Level	
	Background	Logo
		Black
		Blue
	Startup Logo	Off
		On
	Remote Sensor	Off
		On
	Trigger	Off
		Screen
		5:4
		4:3
		16:10
		16:9
		1.88
		2.35
		LetterBox
		Source
		Native
	OSD Seting	Menu Position
		Menu Transparency
		Time Out
SERVICE	Model	
	Serial Number	
	Software Version 1	
	Software Version 2	
	Active Source	
	Signal Format	
	H/V Refresh Rate	
	Pixel Clock	
	Light Time	
	Thermal Status	
	Factory Reset	

OSD Operation – INPUT

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Input Selection			HDMI 1	↵／▶
PIP		Off	HDMI 2	↵／▶
Auto Source	<	Off	>	
Color Space	<	Auto	>	
Aspect Ratio	<	Source	>	
Overscan	<	Off	>	
VGA Setup				↵／▶
Test Pattern				↵／▶
3D				↵／▶
Auto Sync				↵／▶

EXIT = Back	Item Adjust ◀▶	Scroll ▲▼

Input Selection

Use the shortcut key on the remote control or this function to select the input source, the Input options are as below. The available input source of the product is HDMI 1, HDMI 2, VGA, Component (BNC), HDBaseT, DVI and 3G-SDI.

PIP

This function allows you to split the screen for displaying the images from two input sources

PIP Option

Enable PIP by choosing "ON", and two windows will be shown on the projected picture. The larger one is the primary picture, the smaller one is the sub picture. By choosing "Off", PIP function will be disabled, and only one picture window projected.

PIP Input

Press ENTER to display available sources for the sub picture, and then select a source.

Note: The unavailable input sources of sub-menu will be gray out and cannot be selected. The available input source of sub picture is as below combination list.

		Main Picture						
		VGA	Component	HDMI 1	HDMI 2	HDBaseT	3G-SDI	DVI
Sub Picture	VGA		○	○		○		○
	Component			○		○		○
	HDMI 1	○	○		○		○	
	HDMI 2			○		○		○
	HDBaseT	○	○		○		○	
	3G-SDI			○		○		○
	DVI	○	○		○		○	

Position

Find preferred location of PIP window.

Top Left: Display sub picture at top left of the screen.

Bottom Left: Display sub picture at bottom left of the screen.

Top Right: Display sub picture at top right of the screen.

Bottom Right: Display sub picture at bottom right of the screen.

PBP: Display sub picture next to main picture, the main screen is shrined to the same size as sub picture.
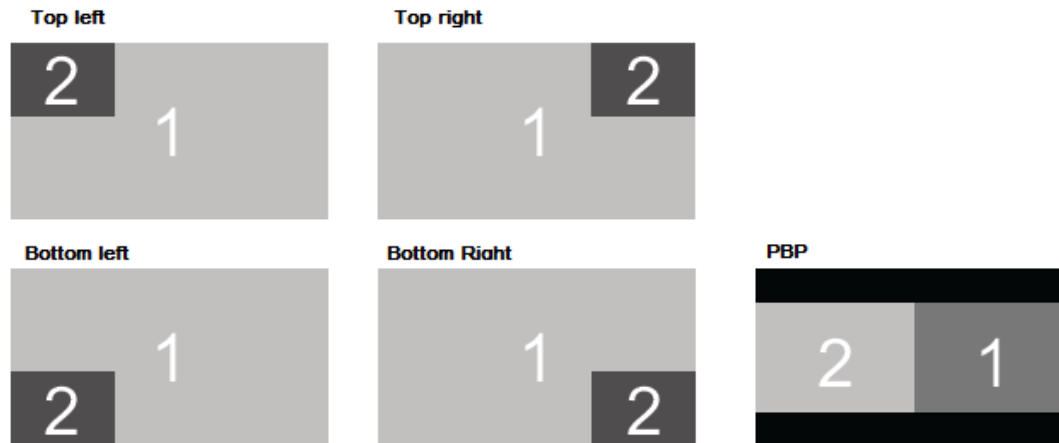
Auto Source

The Auto Source functions "ON" lets projector automatically search for the input signal.

Color Space

This function allows you to change the corresponding color space for the input signal in most cases, the default is Auto.

Auto: The projector detects the input signal and switches to the corresponding color space automatically.

YPbPr: Set the color space to ITU-R BT 601.

YCbCr: Set the color space to ITU-R BT 709.

RGB-PC: Use the RGB color space and set the black to 0, 0, 0 RGB, while set the white to 255, 255, 255 RGB (if an 8-bit image is used).

RGB-Video: Use the RGB color space and set the black to 16, 16, 16 RGB while set the white to 235, 235, 235 (if an 8-bit image is used) to correspond to the luminance value defined in the digital component standard.

Aspect Ratio

This function allows the user to adjust the aspect ratio of the projection image by ◄ ► keys.

Overscan

Noise may appear on the edge of the projected image or image may be small than projected image, select below option to hide the noise or extend the image.

Off: Display the original image.

Crop: Hide the edge of the image

Zoom: Extend the image to fit the projected area as possible.

VGA Setup

Set the H Total, H Start, H Phase and V Start for the VGA signal by ENTER key.

Test Pattern

The built-in images are provided for installation and adjustment. You can select Test Pattern on OSD or the TEST PATTERN button on the remote control to show the test pattern. Press the ◄ or ► to select pattern or press EXIT key again to exit the test pattern. The available test pattern options are White, Green, Crosshatch, Color Bar, Black, Blue, H-Burst, Red, Chess Board and V Burst.

3D

This function is to set the 3D format and sync method. The projector detects the type of input signals and provides relevant options for setting. Before performing 3D setting, make sure that the input signal is connected.

3D Format

Off: Turn off the 3D Display Mode. When Auto, Side by Side, Top and Bottom, or Frame Sequential is selected, the 3D Mode will be turned on. To turn off the 3D Mode, select "Off" and press "ENTER".

Auto: Allow the 3D format to automatically detect the formats of Frame Packing, Top and Bottom, and Side by Side. The input signal is HDMI 1.4a 3D.

Side by Side (Half): This option is only applicable to input signal HDMI 1.4a 3D or HDMI signal sent by HDBaseT Transmitter.

Top and Bottom: This option is only applicable to input signal HDMI 1.4a 3D or HDMI signal sent by HDBaseT Transmitter.

Frame Sequential: Set input format under Frame Sequential.

Eye Swap: If the 3D image transmitted to the 3D glasses is reverse, you can set the Eye Swap to "Reverse" to normalize the image. Otherwise, keeping mode of "Normal" would be suggested.

DLP Link: This function is to activate or deactivate the DLP Link sync.

Dark Time: Manually switch the Dark time for glasses tolerance, the available options are 0.65ms, 1.3ms and 1.95ms.

Sync Reference: The projector provides DLP Link and 3D IR sync for 3D display, you can specify the built-in DLP Link or external 3D IR transmitter to synchronize the signal of the 3D glasses, or select Auto to set the sync signal depended on the 3D format and if external 3D sync device is connected. This function is only applied to the condition that 3D Format is Frame Sequential or external 3D sync device is connected to the projector.

External: Signal is sent from external 3D sync signal receiver.

Internal: Signal is sent by the projector, 3D sync signal is DLP Link.

Auto: Projector select 3D sync signal depended on the 3D format and if the extend 3D sync device is connected.
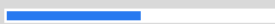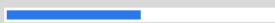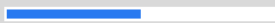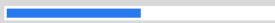
Auto Sync

You can use this function to execute signal source auto synchronization.

Important reminders:
- People with the following conditions should view 3D image with great care:
- Children under six years in age
- People who are allergic to light, unhealthy and have the history of cardiovascular diseases
- People who are tired or lack of sleep
- People who are under the impact of drug or alcohol
- Normally, it is safe to watch 3D images. However, some people might feel uncomfortable.
- Refer to the guidelines revised and released by the 3D League on December 10, 2008 who match 3D images need to take a break for at least 5 to 15 minutes every thirty minutes or one hour.

OSD MENU – PICTURE

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Picture Mode		<	High Bright	>
Brightness			████████░░░░	100
Contrast			████████░░░░	100
Saturation			████████░░░░	100
Hue			████████░░░░	100
Sharpness			░░░░░░░░░░░░	0
Color Temperature		<	Native	>
Gamma		<	2.2	>
Input Balance				↵／▶
HSG				↵／▶
Noise Reduction			░░░░░░░░░░░░	0
Dynamic Black			Off	↵／▶

EXIT = Back	Item Adjust ◄►	Scroll ▲▼

Picture Mode
Use ◄or► to select desired picture mode

High Bright: The highest brightness output mode is suitable for the application where the highest brightness output is needed.

Presentation: The best projection effect is suitable for the presentation or picture.

Video: The mode is suitable for playing video content.

Brightness
Press ENTER, and use ◄ or ► to increase or decrease the level of brightness.

Contrast
Press ENTER, and use ◄ or ► to adjust the contrast of the projected image.

Saturation
Press ENTER, and use ◄ or ► to adjust the level of saturation.

Hue
Press ENTER, and use ◄ or ► to adjust the level of hue.

Sharpness
Press ENTER, and use ◄ or ► to adjust the sharpness, which changes the high-frequency details.

Color Temperature
The default of color temperature is Native, and it is suitable for most situations. As color temperature rises, the picture will appear bluer, while as the color temperature decreases, the picture will appear redder. The available options are Native, 5400K, 6500K, 7500K and 9300K

Gamma
When the ambient light is so bright that may affect the projection of the details in the dim area of the image, you can change the gamma to adjust the chrominance. The available options are 1.0, 1.8, 2.0, 2.2, 2.35, 2.5 and S-Curve.

Input Balance
When ambient light is too bright or changes, the projected image details may be affected, you can adjust the option to make the projected colors of image closer to desired colors. There are two options for fine tuning Red, Green and Blue.

Offset: These three options will shift the color spectrum for the whole image and change its brightness, if minimal amount of red, green or blue appears in the gray areas, you can adjust the offset of the corresponding color accordingly. By increasing the offset, the image brightness will become lower.

Gain: These three options are used to increase or decrease the range of color input for the entire image. If minimal amount of red, green or blue appears in the gray areas, lower the gain of the corresponding color accordingly. As gain increases, the contrast of the image will become lower.

HSG

HSG is a function to adjust Hue, Saturation and Gain independently, it allows for specified color adjustments that are more intuitive. You can adjust Hue, Saturation and Gain for Red, Green, Blue, Cyan, Magenta, Yellow and white independently.

Noise Reduction

Use ◄► to adjust the noise of the projected image. This function is used to remove the noise of the image with interlaced scanning input. Generally, noise reduction can lower the high-frequency details and make the image softer.

Dynamic Black

This is function can be used to enhance the black level of the projected image.

OSG MENU – ALIGNMENT

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Lens Lock			Off	↵／►
Lens Control				↵／►
Lens Type			non-UST Lens	↵／►
Lens Memory				↵／►
Center Lens				↵／►
Digital Zoom				↵／►
Warp				↵／►
Blanking				↵／►
Edge Blend				↵／►
Screen Format			16:10	
EXIT = Back		Item Adjust ◄►		Scroll ▲▼

Lens Lock

This function can be used to disable lens control for preventing unauthorized operation or disoperation in lens control related functions including Lens Shift, Zoom/Focus Adjustment and Center Lens. Recommend to turn on Lens Lock function to disable the Lens control after lens adjustment is done.

Lens Control

Select this function to open Lens Control menu for adjustment of Zoom, Focus, or Shift. You can use the ENTER button to switch the Zoom / Focus or Shift menu. Use ▲or▼ to adjust zoom and vertical shift of the lens, or use ◄ ► to adjust focus and horizontal shift of the lens.

Lens Type

There are eight projections lens can be used in DU8090Z, the initial projection position of Ultra Short Throw (UST) Lens is different to other seven projection lenses. The projector preset two initial projection positions for these two types accordingly, Center Lens function can moves the lens to the initial position (center) automatically per the setting. Please set this option to UST Lens if Ultra Short Throw Lens is installed in the projector, otherwise please set it to

> **Note:**
> - The lens will moved to the position which is lower than the initial projection of Ultra Short Throw Lens after performing Center Lens function, and cause the projected image is blocked by the top cover of the projector if it's set to Non-UST Lens. In this case, please perform the Lens shift function to move up the Lens till the image can be projected normally.
> - If Ultra Short Throw Lens is installed and UST Lens is selected, you can perform Center Lens to move Lens to initial projection position automatically.
> - When using non-UST lens and lens shift range is limited, please make sure Lens type setting is set to Non-UST Lens.

Lens Memory

This projector supports Lens Memory function, Lens shift, Zoom and Focus memory can be stored in the projector up to 10 sets. You can load the stored memory setting to set up the lens automatically.

Load Memory: Use ▲▼ to select the desired memory setting then press ENTER button to execute the lens setting, the projector will adjust the Lens position, Zoom and Focus automatically.

Save Memory: Use ▲▼ to select the memory set for storing the setting then press ENTER button to confirm.

Clear Memory: Select the memory set to be cleared then press ENTER button to confirm clearing memory set.

Center Lens

This is the lens calibration function, the projector calibrates the lens shift, focus and zoom parameters for the precise lens memory function. After performing this function, the lens will be moved to the center position as factory default setting.

> **Note:**
> - There are two default center positions for UST (Ultra Short Throw) Lens and non-UST Lens, make sure Lens Type setting is correct before performing this function.
> - If Ultra Short Throw Lens is installed, make sure the support kit is detached before performing Center Lens.

Digital Zoom

Press ENTER button to select the options to enlarge the image or shift the image.

Digital Zoom: Use ◄► to enlarge the projected image.

Digital Pan: Use ◄► to move the projected image horizontally. This function is only available when projected image is enlarged.

Digital Scan: Use ◄► to move the projected image vertically. This function is only available when projected image is enlarged.

Reset: The setting will be reset to default value.

Warp

This function is used to correct the distortion of image.

Keystone: Press ◄► to correct horizontal distortion or ▲▼ to correct vertical distortion.

Rotation: Press ◄► to correct incorrect angle of image.

Pincushion / Barrel: Press ◄► to correct pincushion/barrel distortion.

Top Left Corner: Press ◄► to correct the distortion at top-left of the picture.

Top Right Corner: Press ◄► to correct the distortion at top-right of the picture.

Bottom Left Corner: Press ◄► to correct the distortion at bottom-left of the picture.

Bottom Right Corner: Press ◄► to correct the distortion at bottom-right of the picture.

Blanking: This function can adjust the edges of the image and hide surplus sections of the projection.

    Top: Press▲ ▼ to adjust the top blanking area on the projected picture.

    Bottom: Press▲ ▼ to adjust the bottom blanking area on the projected picture.

    Left: Press ◄► to adjust the left blanking area on the projected picture.

    Right: Press ◄► to adjust the right blanking area on the projected picture.

Reset

All the settings toward blanking will set to default.

Edge Blend

Edge Blend function requires multiple projectors to simultaneously project on the same screen. Use this function to adjust the uniformity of image. To use this function, Edge Blending must be enabled on both projectors. The functions as follows can be only adjusted when Edge Blend is turned on.

    Edge Blend: If the user would like to function Edge Blend, turn this function to On.

    Align Pattern: If user turns this function to On, the projector will show pattern for user to adjust the overlapping part of projection.

    White Level: White Level is used to set the overlapped area for blending in multi-projection application, the overlapping When projecting White, the area where the two images overlap is projected twice the projectors' white output levels. The solution is to adjust the White Level. First make sure that the units connected to the projectors are outputting black. Then increase the White Level (Top, Bottom, Left, and Right) until the non-overlap area's brightness matches the overlap area.

    Black Level: The purpose of Black Level is to increase the black level of non-overlapping area. When projecting black, the area where the two images overlap projects twice the projectors' black output levels. The solution is to adjust the Black Level. First make sure that the units connected to the projectors are outputting black. Then increase the Black Level (Top, Bottom, Left, and Right) until the non-overlap area's brightness matches the overlap area.

    Reset: All the settings toward edge blend will set to default.

Screen Format: Sleet the screen format to 16:10, 16:9 and 4:3.

OSD MENU – CONTROL

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Language			English	↵／▶
Projection Mode			Auto	↵／▶
Cooling Condition			Front	↵／▶
High Altitude			Auto	↵／▶
Auto Power Off		< Off >		
Auto Power On		< Off >		
Network				↵／▶
Light Power			Normal	↵／▶
Custom Power Level			92%	
Background			Logo	↵／▶
Startup Logo		< On >		
Remote Control			On	↵／▶
Trigger		< Off >		
OSD Settings				↵／▶
EXIT = Back		**Item Adjust ◀▶**		**Scroll ▲▼**

Language

Select desisted OSD language, the available languages options are English, Española, Deutsch, Portuguese, 简体中文, 繁體中文, 日本語, 한국어.

Projection Mode

Use The projection mode option can be used to change the direction of the projected image.

Front: Install the projector on the table and project the image on the screen forward.

Ceiling + Front: Mount the projector on the ceiling and project the image on the screen forward, the image is overturned.

Rear: Install the projector on the table and project the image from the rear of the screen.

Ceiling + Rear: Mount the projector on the ceiling and project the image from the rear of the screen, the image is overturned.

Auto: Built-in sensor detects the projector orientation and switch corresponding projection mode, note this function is applicable for front projection only, the image orientation when projecting from rear has to be adjusted manually.

Cooling Condition

The projector is equipped with orientation sensor for switching cooling condition automatically; you can set it to Auto or adjust the cooling condition by manual.

Front: The projector is installed on the table.

Ceiling + Front: The Projector is mounted on the ceiling.

Freetilt: The projector is installed with tile angle; the angle is over 30 degree.

Auto: Built-in sensor detects the installation orientation and switches to corresponding cooling condition.

Note:

- ◆ Incorrect Projection Mode setting may affect hot air exhausting from the projector, the heat and high temperature may cause the projector to enter system protection or damage component.

High Altitude

Use this function to adjust the cooling fan of the projector to get well cooling if the projector is installed in an area over 5000 feet. The projector is equipped with altitude sensor which is capable of detecting atmosphere pressure for estimating altitude; it can adjust automatically to corresponding setting based on estimated altitude if this option is set to Auto. If you

prefer to set it by manual, you can select On or Off.

Off: Turn off High Altitude mode if the projector is installed in an area under 5000 feet.

On: Turn on High Altitude mode if the projector is installed in an area over 5000 feet.

Auto: Set up this mode automatically by estimated altitude.

> **Note:**
> ◆   Estimate Altitude is calculated by atmosphere pressure, it may have the tolerance comparing to actual altitude.
> If any over temperature or system protection message, please adjust High Altitude by Manual.
> ◆   In some application, regular cooling fan setting may not supply enough cold air for system cooling even

Auto Power Off

This function is set to OFF by default. When it is set to ON and no input signal is received within 20 minutes, the projector will turn off automatically.

Auto Power On

This function is set to OFF by default. When it is set to ON, the projector will turn on automatically when y AC power is turned on next time. You can use this function and the power switch (instead of the remote control) to turn on the projector. Set this function to OFF if it's unnecessary.

Network

Use this function to configurator the network settings so that you can control the projector via the network.

Press ▲▼ and Enter button to select Network and network settings. Please refer to Remote Communication Manual for further information.

Standby Power

This option allows you to set up power consumption at standby status,

On: Projector maintains in the standby at higher power consumption (< 6W) for projector control via LAN. In this mode, the projector can be turned on by RS-232 command or web control.

Off: Projector maintains in the standby at lowest power consumption (<0.5W), the projector can be turned on by the power button on the remote control or control panel only.

DHCP: Set DHCP to ON/OFF. When DHCP is set to ON, the DHCP server of the domain will assign an IP address to the projector. The IP address will appear on the IP address window without need to make any input. If the domain cannot assign any IP address, 0.0.0.0 will be shown on the IP address window.

IP Address: To specify an IP address, press the Enter button to show the IP address input window. Use the ◄► button to select the number in the address to change. Use the ▲▼ button to increase or decrease the number in the IP address. Network IP Address 172. xxx. xxx. xxx.

Subnet Mask: Set the submask. The input method is the same as the setting for IP address.

Gateway: Set the gateway. The input method is the same as the setting for IP address.

DNS: Set the DNS. The input method is the same as the setting for IP address.

MAC Address: Show projector's MAC Address.

Light Power

Use the ◄► function to select the Eco, Normal or Custom Power Level mode.

Eco: Projection operates in the energy-saving mode, which is equivalent to 80 % power of light source.

Normal: Projection operating with normal lamp power can obtain the brightest projection display.

Custom Power Level: User can decide the power level depending on his or her preference.

Custom Power Level

Use the ◄► function to select the Custom Power Level. This function is available only when the Light Power is set to Custom Power Level, which range is allowed to adjust from 20% to 100% of normal mode, and it cannot be selected under the Normal or Eco mode.

Background

User can use this function to specify the image displayed on the blank screen when there is no input signal. The selectable items are Logo, Black and Blue, the default setting is Logo.

Startup Logo

Press ENTER button, and use the ◄► function to turn on / off the Startup Logo.

Remote Sensor

The default is On. However, there are three conditions that will be suggested to turn off "Remote Sensor"; the possible condition is that if the user uses wired control, he or she can set this function to Off, or that if the projector IR location is exposed to the bright sunlight or fluorescence, or that projector control is not controlled by remote. If the user would like to reset to On, user can only set by OSD panel or RS-232.

Trigger

The projector is provided with a set of trigger output. User can connect the trigger to the screen with projector by the cable. If user does so, once the projector is powered, the screen would be automatically turned on as well. There is a 2-3 second delay to activate this function. The selectable aspect ratios are as follows:

    Off: Turn off screen trigger.

    5:4: Outputs 12V of power on Trigger when Aspect Ratio is set to 5:4.

    4:3: Outputs 12V of power on Trigger when Aspect Ratio is set to 4:3.

    16:10: Outputs 12V of power on Trigger when Aspect Ratio is set to 16:10.

    16:9: Outputs 12V of power on Trigger when Aspect Ratio is set to 16:9.

    1.88: Outputs 12V of power on Trigger when Aspect Ratio is set to 1.88.

    2.35: Outputs 12V of power on Trigger when Aspect Ratio is set to 2.35.

    Letterbox: Outputs 12V of power on Trigger when Aspect Ratio is set to Letterbox.

    Native: Outputs 12V of power on Trigger when Aspect Ratio is set to Native.

    Unscaled: Outputs 12V of power on Trigger when Aspect Ratio is set to Unscaled.

    Auto: Outputs 12V of power on Trigger automatically.

OSD Settings

    Menu Position: Adjust menu position through this function, the available position options are at Top-Left: Top-Right, Bottom-Left, Bottom-Right and center of the screen.

    Menu Transparency: Change the transparency of OSD Menu, the background color of the OSD can be adjusted from darker to lighter if you want to display complete projected image.

    Time Out: Set up the timer to exit OSD menu, the available options are Always On, 10 Seconds, 30 Seconds and 60 Seconds.

Message Box

This function allows you to disable the pop-up message at bottom-right of the screen.

OSD MENU – SERVICE

INPUT	PICTURE	ALIGNMENT	CONTROL	SERVICE
Model			DU8090Z	
Serial Number			WDU80905410010	
Software Version 1			MD03-SD01-FD03	
Software Version 2			LE07-18-RE01-3092	
Active Source			VGA	
Signal Format			1280x800@60Hz	
H/V Refresh Rate			49.702 KHz / 59.81 Hz	
Pixel Clock			83.500 MHz	
Light Time			00009 HRS	
Thermal Status				↵/▶
Factory Reset				↵/▶

EXIT = Back	Item Adjust ◄►	Scroll ▲▼

Model

Display the project model name.

Serial Number

Display the serial number of the projector.

Software Version 1 / Software Version 2

Display the software version in the projector.

Active Source

Display the current input source information.

Signal Format

Display current input source format

.

H/V Refresh Rate

Display horizontal and vertical refresh rate of the current picture.

Pixel Clock

Display pixel clock of the current input signal.

Light Time

Display accumulated usage of projection light source

Thermal Status

Display current of the thermal management components.

Factory Reset

The user can use this function to reset all the settings to factory default; light time.

Product Specification

Display Type	Single Chip 0.67" DLP Technology
Brightness	8,000 ANSI Lumens
Native Resolution	WUXGA (1920 x 1200)
Maximum Resolution	WUXGA (1920 x 1200)@60Hz (Reduced Blanking)
Contrast Ratio	10,000:1
Illumination Type	Laser Phosphor
Throw Ratio*	1.73 - 2.27:1
Image Size (Diagonal)*	40" - 500"
Projection Distance*	1.45 - 24.85m (4.77ft to 81.52ft)
Projection Lens*	F = 1.7 - 1.9, f = 26 - 34mm
Zoom Ratio*	1.3x
Aspect Ratio	16:10
Offset	Motorized Lens Shift
Keystone Correction	Horizontal ±60°, Vertical ±40° (individual adjustable range)
Horizontal Frequency	15, 30 – 90Hz
Vertical Scan Rate	50 - 85Hz
Edge Blending	Yes (Built-In)
Warping	Yes (Built-In)
3D Functionality	Yes (DLP® Link™, HDMI v1.4 (Blu-ray, side by side, frame packing, top and bottom))
Adjustable Lens Shift Range	Vertical: -30 - +50%, Horizontal: ±10%
I/O Connection Ports	HDMI v1.4a (x2) DVI-D, Component (5 BNC), VGA-In, 3G-SDI-In/Out, RS-232, VGA-Out, 3D-Sync In/Out, 12v Trigger, Wired Remote, HDBaseT™/LAN (Shared)
Projection Method	Table Top, Ceiling Mount (Front or Rear)
Security Solutions	Kensington® Security Slot, Security Bar, Anti-Theft Lens Screw
Dimensions (WxDxH)	500 x 580 x 205mm (19.7" x 22.8" x 8.1")
Weight	28kg (61.7lbs)
Available Colours	White (DU8090Z-WH), Black (DU8090Z-BK)
Noise Level	40dB (Normal Mode)
Power Supply	AC 100-240V, 50/60Hz
Power Consumption	850W (Normal Mode), 675W (Eco. Mode), <6W (Network Standby), <0.5W (Eco Standby Mode)
Standard Accessories	AC Power Cord, Remote Control w/Batteries, Lens Cap, Anti-Theft Lens Screw, Documentation Kit
Optional Accessories	Interchangeable Lens Options

*Note: Standard Lens

**Note: Lens shift compatibility with all lenses except D88-WF18501 Wide Fixed Lens (3797745100-SVK) and D88-UST01 Ultra-Short Throw Lens (3797855700-SVK)

Supported Signal Input Timing

Signal Format	Resolution	Frame Rate (HZ)	VGA, BNC		HDMI / HDBaseT				HD/SDI/3G
			SOG	RGBHV	RGB	YUV			
						8-bit	10-bit	12-bit	
PC	640x480	59.94		O	O				
	640x480	74.99		O	O				
	640x480	85		O	O				
	800x600	60.32		O	O				
	800x600	75		O	O				
	800x600	85.06		O	O				
	848x480	47.95		O	O				
	848x480	59.94		O	O				
	1024*768	60		O	O				
	1024*768	75		O	O				
	1024*768	85		O	O				
	1280x720	47.95		O	O				
	1280x1024	60.02		O	O				
	1280x1024	75.02		O	O				
	1280x1024	85.02		O	O				
	1600x1200	60		O	O				
	1920x1080	47.95		O	O				
	1680x1050	59.94		O	O				
	1920x1200 RB	50		O	O				
	1920x1200 RB	60		O	O				
	1400X1050	60		O	O				
	1366 x 768	60		O	O				
	1440 x 900	60		O	O				
	1280 x 768	60		O	O				
	1280 x 800	60		O	O				
	1280 x 960	60		O	O				
Apple Mac	640x480	66.59		O	O				
	832x624	74.54		O	O				
SDTV	480i	59.94	O						O
	1440x480i	60			O	O	O	O	
	1440x576i	50			O	O	O	O	
	576i	50	O						O
EDTV	480p	59.94	O	O	O	O	O	O	
	576p	50	O	O	O	O	O	O	
HDTV	1035i	60	O	O	O	O	O	O	O
	1080i	50	O	O	O	O	O	O	O
	1080i	59.94	O	O	O	O	O	O	O
	1080i	60	O	O	O	O	O	O	O

	720p	50	O	O	O	O	O	O	O
	720p	59.94	O	O	O	O	O	O	O
	720p	60	O	O	O	O	O	O	O
	1080p	23.98	O	O	O	O	O	O	O
	1080p	24	O	O	O	O	O	O	O
	1080p	25	O	O	O	O	O	O	O
	1080p	29.97	O	O	O	O	O	O	O
	1080p	30	O	O	O	O	O	O	O
	1080p	50	O	O	O	O	O	O	O
	1080p	59.94	O	O	O	O	O	O	O
	1080p	60	O	O	O	O	O	O	O
PsF formats	1080sf	30							O
	1080sf	25							O

Supported 3D Signal

| 3D Format		Resolution	V-Freq (Hz)	V-Total	H-Freq (kHz)	HDMI I, HDMI II
720p50	Frame Packing	1280x720	50.00	1470	37.50	O
720p59	Frame Packing	1280x720	59.94	1470	44.96	O
720p60	Frame Packing	1280x720	60.00	1470	45.00	O
720p50	Top-and-Bottom	1280x720	50.00	750	37.50	O
720p59	Top-and-Bottom	1280x720	59.94	750	44.96	O
720p60	Top-and-Bottom	1280x720	60.00	750	45.00	O
1080p23	Frame Packing	1920x1080	23.98	2205	26.97	O
1080p24	Frame Packing	1920x1080	24.00	2205	27.00	O
1080i50	Side-by-Side (Half)	1920x1080	50.00	1125	56.25	O
1080i59	Side-by-Side (Half)	1920x1080	59.94	1125	67.43	O
1080i60	Side-by-Side (Half)	1920x1080	60.00	1125	67.50	O
1080p50	Side-by-Side (Half)	1920x1080	50.00	1125	56.25	O
1080p59	Side-by-Side (Half)	1920x1080	59.94	1125	67.43	O
1080p60	Side-by-Side (Half)	1920x1080	60.00	1125	67.50	O
1080p50	Top-and-Bottom	1920x1080	50.00	1125	56.25	O
1080p59	Top-and-Bottom	1920x1080	59.94	1125	67.43	O
1080p60	Top-and-Bottom	1920x1080	60.00	1125	67.50	O
1080p50	Frame Sequential	1920x1080	50.00	1125	56.25	O
1080p59	Frame Sequential	1920x1080	59.94	1125	67.43	O
1080p60	Frame Sequential	1920x1080	60.00	1125	67.50	O

*3D Glasses Refreshing Rate: 96/100/120Hz

*3D Sync signal: DLP Link, IR

Product Dimensions
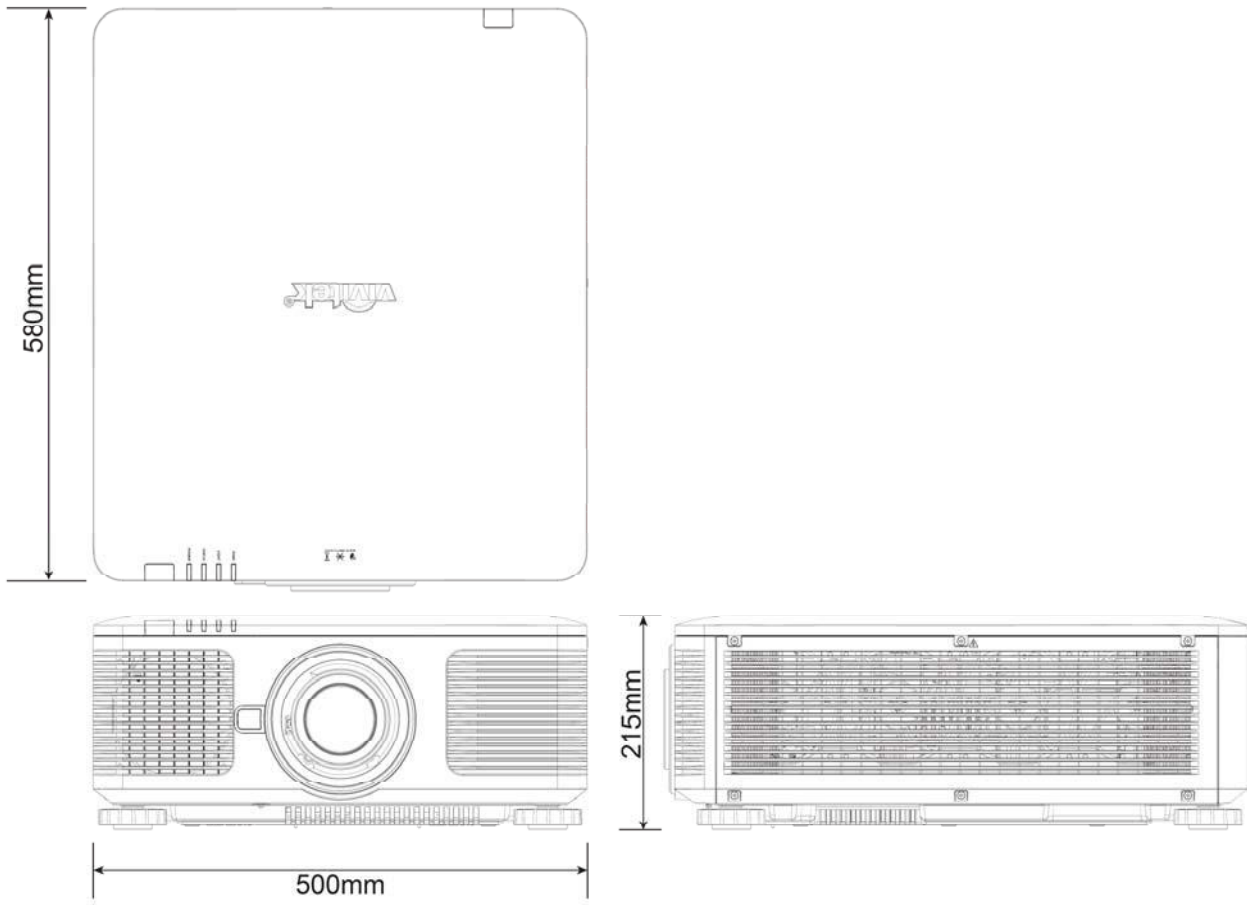
LED Indication

Several indicators messages are used to display the current projector status or alert the abnormal message.
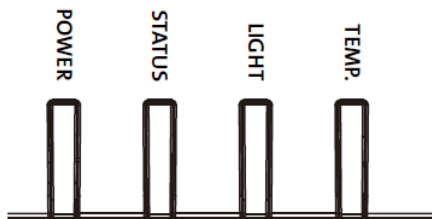
Power LED

LED Display		Projector status	Procedure
Off		AC Power is turned off	
Flashing	Green	Projector is turning on.	wait till projector start displaying
	Orange	Projector is under cooling	wait until cooling finish (~ 120 sec)
On	Red	Standby mode	
	Green	Projector is on	

Status LED

LED Display		Projector status	Procedure
Off		Normal status	
Flashing	Red (Cycles of 1)	Cover is opened.	Check if the top cabinet is installed properly.
	Red (Cycles of 4)	Cooling fan error	Contact with your nearest authorized dealer or service center.
On	Red	System Error	Contact with your nearest authorized dealer or service center.

Light Source LED

LED Display		Projector status	Procedure
Off		Light source is off	
Flashing	Green	Projector is turning on.	
	Red (Cycles of 6)	Light source lit fail	Contact with your nearest authorized dealer or service center.
On	Red	Light source is end-of-life	Contact with your nearest authorized dealer or service center.
	Green	Light source is on	

Temp LED

LED Display		Projector status	Procedure
Off		Normal status	
Flashing	Red	Over temperature error	Contact with your nearest authorized dealer or service center.

About the VIVITEK Support

If you cannot find solutions from this user guideline, please contact us using the contact information below:

North America
Vivitek Service Center
15700 Don Julian Road, Suite B
City of Industry, CA. 91745
U.S.A
Tel: 855-885-2378 (Toll-Free)
Email: T.services1@vivitekcorp.com
URL: www.vivitekusa.com

Europe and Africa
Vivitek Service & Support
Zandsteen 15
2132 MZ Hoofddorp
The Netherlands
Tel: +31 20 655 0960
Email: support@vivitek.eu
URL: www.vivitek.eu

China
Vivitek Service Center
201209, Room 1802, 18/F, Cimic Tower, No.1090, Century Avenue, Pudong, Shanghai
Tel: 400-888-3526 (Toll-Free)
Tel: 021-58360088-142 (Direct)
Email: service@vivitek.com.cn
URL: www.vivitek.com.cn

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