DUKANE
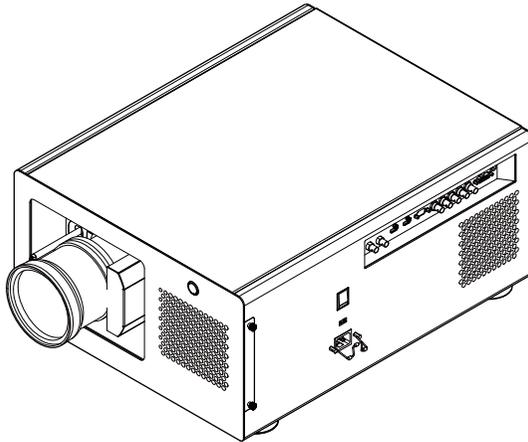
Projector
9010
User Manual

Thank you for purchasing this product.
Please read this manual before you
operate your projector.
Save it for future reference.

INDEX

Note: The Dukane model 9010 described in this document is manufactured by Hitachi and uses the same firmware, software programs, control code, and accessory parts as Hitachi model CP-WU13K.

Warning, Notices and Safety Instructions

Notice

Please write down your projector model number and serial number and keep the information for maintenance purposes in the future. Should the equipment be lost or stolen, the information could also be used for the police report.

Model number:

Serial number:

Please check the accessories that come with the projector with the following list. Should you find any missing accessory, contact your dealer immediately.

1. AC Power Cord US 110V*1
2. AC Power Cord US 200V*1
3. AC Power Cord EU*1
4. Remote control *1
5. AA battery *2
6. CD-ROM *1
7. Printed Manual *1
8. EAC Document *1
9. EU Recycle Sheet *1
10. WEEE Manual *1
11. RS232 cable(cross) *1

Description pertaining to FCC Rules Part 15e:

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment in   to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

Changes or modifications not expressly approved by the manufacturer void the user's authority to operate the equipment.

This Class A digital apparatus meets all requirements of the Canadian ICES-003 Standards.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

About Waste Electrical and Electronic Equipment

The mark is in compliance with the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE).The mark indicates the requirement NOT to dispose the equipment including any spent or discarded batteries or accumulators as unsorted municipal waste, but use the return and collection systems available. If the batteries or accumulators included with this equipment, display the chemical symbol Hg, Cd, or Pb, then it means that the battery has a heavy metal content of more than 0.0005% Mercury or more than, 0.002% Cadmium, or more than 0.004% Lead.

> **This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures**

The lamp(s) in this product contain mercury. This product could contain other electronic wastes that might be hazardous if not handled properly. Please consult your local/state/federal regulations regarding disposal or recycling.

(Hg) For more information, please contact Electronic Industries Alliance (WWW.EIAE.ORG). For information on proper lamp handling, visit WWW.LAMPRECYCLE.ORG.

Special Care for Laser Beams!

Special care should be considered when DLP projectors and high power laser equipment are used in the same room as.

Direct or indirect hit of a laser beam on to the projector lens can severely damage the Digital Mirror Devices (DMD™).

Sun light Warning

Avoid using the 9010 in direct sun light.

Sun light on the projector lens can severely damage the Digital Mirror Devices (DMD™).

Never look into the projector light source directly

This equipment contains a high brightness light source and a portion of the light emitted by the projector is ultraviolet light. Never look into the projector light source directly and pay special attention to prevent children from looking into the projector light source as it can damage their eyes.

AVOID EYE CONTACT TO THE LIGHT

Warning, Notices and Safety Instructions

CAUTION	
RISK OF ELECTRIC SHOCK **DO NOT OPEN**	

CAUTION / TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER(OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL
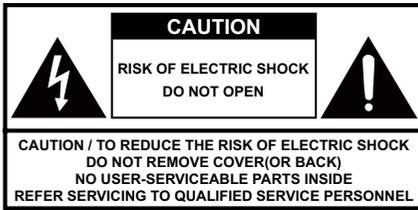
The lightning flash with an arrowhead within a triangle is intended to tell the user that inside this product may cause risk of electrical shock to persons.

The exclamation point within a triangle is intended to tell the user that important operating and/or servicing instructions are included in the technical documentation for this equipment.

Do not turn off the projector by unplugging the power cord.

Under normal operations, be sure to use the SOFT POWER button to turn off the projector. And as such, avoid shutting off AC power to turn off the projector since it could lead to lamp malfunctioning or damage.

Electric shock

To protect your projector, avoid turning on the projector during lightning storms and unplug it from the wall outlet. This will prevent sudden electrical surges caused by the lightning from damaging the projector.

Do not overload wall outlets/extension cords

Pay attention to the current load of the outlet you are using, be it wall outlet or extension cord outlet to prevent fire or electric shock.

Cleaning

When cleaning the projector, be sure to unplug it from the wall outlet to prevent electric shock.

Do not use liquid or aerosol cleaners. Use a dry/damp cloth with excessive moisture removed for cleaning. Be sure to use cleaning cloth designed to clean monitors for the projector to prevent damages to the projector casing due to abrasion.

Dampness, smoke, steam, dust, high temperature and direct exposure to sunlight

Do not operate the projector in environments where it could be expose to dampness, smoke, steam, dust, high temperature or direct sunlight. For example: bathroom, kitchen, adjacent to washing machine, damp basement rooms, electric heaters or similar environments. Keeping or operating the projector in the above-mentioned environment could lead to discoloration, mold formation, grease or damages to the projector.

Ventilation

The projector case is designed with slots and openings to remove the heat inside the projector so that it will not overheat and damage the components. Be sure to operate the projector in an environment with ideal ventilation and don't operate it on a sofa, rug or other closed-in environments that could obstruct ventilation.

Filter

Make sure to clean or replace the filter when it is required to keep the air intake clear of dust, and prevent possible over temperature issue of the projector due to the clog of filter. Please refer to Page 55 for details of filter replacement procedure.

Intrusion of foreign objects

Be sure to keep all foreign objects away from entering the projector because it could be exposed to hazardous voltages and cause parts to short circuit. This could in turn lead to fire hazard or electric shock. Examples of foreign objects include: cockroach, screws, liquid and so forth.

In addition, never spill liquid into the projector.

Carrying the projector

When moving the projector on a cart, be sure to handle the cart with care as abrupt stops, jolts of excessive force or uneven ground could lead the projector to topple.

Please install the projector on an even and stable surface

Avoid placing the projector on unstable cart, tripod, table and so forth to prevent the projector from falling, becoming damaged or causing injuries.

Servicing

Should you encounter problem with the projector, please seek assistance from your local dealer or qualified service personnel. Do not attempt to service the projector yourself so that you would not be exposed to high voltage or other potential hazards.

Should you encounter any of the following situation, please unplug your projector from the wall outlet and contact a qualified service personnel for assistance:

- Damaged power cord or power plug.
- If a foreign object has fallen into the projector or if you have spilled water or other liquid into the projector.
- If the projector has been dropped accidentally or damaged.
- If you experience noticeably poor performance or malfunctioning with the projector despite having followed instructions for normal operation.

Warning, Notices and Safety Instructions

Changing parts

Should any part of the projector be damaged, check with your servicing personnel that only manufacturer certified parts were used for replacement. Used of non-certified parts may result in damages to the projector or hazards such as fire or electric shock. After changing parts, be sure to remind the servicing personnel to perform safety inspections to ensure that the projector operates normally.

Power cord

Don't place the projector where the cord can be walked on. This may result in fraying or damage to the power cord, especially at the plug and the point of connection between the power cord and the projector.

Please use the power cord that comes with the projector or the type of power cord specified for the projector (refer to the descriptions printed on the power cord). If you are not sure of the power available at the region you are in, consult your local power company to prevent damages to the projector due to the use of wrong power cord or potential fire hazards due to current overload.

Depending on the country and region you are in, the voltage and type of socket of the wall outlet may be different from the projector. If you are unable to fit the power plug into the wall outlet, contact your local dealer and do not remove the extra pin on the power plug to forcibly fit it to the socket at the risk of your own safety.

Notices you should read prior to the installation of the projector

Safety issues related to the lamp

The lamp used in this projector contains mercury. Should the lamp be broken, please be careful when handling the glass shards and keep the surrounding environment well ventilated. Be sure to wear a mask that offers adequate protection before cleaning up to prevent inhaling mercury vapor that could cause bodily harm. For instructions on lamp replacement, refer to " Page 7 : Lamp replacement ".

Take frequent breaks to let your eyes rest

Prolonged viewing of the projector screen could strain your eyes. Please be sure to rest your eyes adequately.

Installation environment for the projector

You should avoid installing the projector at place of excessive dampness, dust or smoke. If installation in such environment is unavoidable, be sure to have the interior of the projector

cleaned routinely to prolong the projector's lifecycle. Cleaning of the projector's interior should only be performed by qualified service personnel dispatched by your local dealer and you should not attempt to clean the inside of the projector by yourself.

If other light source is directly projected onto the projector screen, the color of the image from the projector will appear to be pale and the image quality will be lower. In addition, your eyes would be more prone to fatigue. Therefore, it is recommended that the projector be installed in places without direct exposure to sunlight or other sources of intense light.

The ideal operating temperature range for the projector is between 0°C ~ 40°C (32°F ~ 104°F)

The ideal storage temperature range for the projector is between -20°C ~ 60°C (-4°F ~ 140°F)

Do not tilt the projector more than 15 degrees.

The maximum tilt angle for the projector is 15 degrees.

When the projector is tilted more than 15 degrees, it will shorten the life of the projector lamp and may lead to other unpredictable damages.

Configurations for projector operation at high altitudes

When operating the projector at higher altitudes, be sure to manually set the fan mode to "High" or it could shorten the life of the optical system in the projector. High altitude is defined as places being 1500 meters (4900 feet) or higher.

Please refer to " Page 43 : High Altitude Mode ".

Keep the projector's ventilation inlets and outlets free from obstructions

Be sure to keep objects for no less than 30cm away from the ventilation inlets and outlets of the projector and note the direction of air flow at the designated spot of installation. Do not let the hot air released from the outlet flow back to the inlet as it will prevent proper cooling and lead to damage of the projector's internal structure.

In the event of high temperature due to malfunctioning of the internal cooling fan caused by clogging at the ventilation inlets and outlets, the projector will activate its automatic protection mode and shutdown. When this happens, it does not necessary mean that the equipment is malfunctioning. Try to unplug the power cord from the wall outlet and wait for approximately 15 minutes before operating the projector again (remember to remove the objects that have caused poor ventilation so that the projector will not go into the protection mode again). Please refer to " Page 58 : LED STATUS ".

Description: The regulation of temperature inside the projector by the cooling fan is automatic. And as such, the sound of cooling fan changing its operating speed does not imply that a problem has occurred with the projector.

Protect the projector with care

When placing the projector at a high position, be sure to secure the projector firmly so that it would not fall and cause injuries. Take care to protect the projector's lens from collision, abrasion or other damages. Be sure to close the lens cover or cover the projector with a dust cover if you need to store the projector or if it will not be used for an extended time.

Warning, Notices and Safety Instructions

Name and quantity of toxic/hazardous substances/elements contained in the product

Please refer to below Table for the names and contents of the toxic or hazardous substances or elements contained in electronic information products.

Marking Styles for Names and Contents of Toxic or Hazardous Substances or Elements

Part Name	Toxic or hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Optical Engine (Al or Mg-Alloy)	×	O	O	O	O	O
Lens	×	O	O	O	O	O
Lamp	×	×	O	O	O	O
Ballast	×	O	O	O	O	O
Clip (Free cutting Phosphor Bronze)	×	O	O	O	O	O
Fans assy	×	O	O	O	O	O
Lamp cover protected switch	O	O	×	O	O	O
Temperature switch	O	O	×	O	O	O
PCB Assy	×	O	O	O	O	O
Cable	×	O	O	O	O	O
Power Cord	×	O	O	O	O	O
Power Inlet	×	O	O	O	O	O
Metal (Free cutting Phosphor Bronze, Copper nail etc.)	×	O	O	O	O	O
Remote controller	×	O	O	O	O	O

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363- 2006.

(Enterprises may further provide in this box technical explanation for marking "X" based on their actual conditions.)

Projector parts and functions

Front view

Ventilation slot

The hot air generated inside the projector is dispersed through the ventilation slot. Make sure the ventilation slot is free from obstruction.

Infrared receiver

Lens

Ventilation inlet

The internal cooling fan draws cool air from the ventilation inlet into the projector.

Adjustable foot

Adjust the height and angle of the projector with the adjustable foot

Rear view

Power switch

I → ON

O → OFF

Voltage Selector
(Default at 110V)

Power inlet

Adjustable foot

Projector Keypad

Infrared sensor

Adjustable foot

POWER ON LED

Displays the projector's power status

ERROR (LED)

Displays the cause of problem (i.e. temperature, fan, lamp or system) that has led to projector malfunction.

Refer to " Page 58 : LED STATUS ". for the detail display information.

▲▼►◄ buttons

Use these buttons to scroll, configure or adjust items on the OSD or toggle between different images.

STANDBY (LED)

The indicator that shows the projector's standby status.

ON   MENU

ERROR

LED
STATUS

ENTER
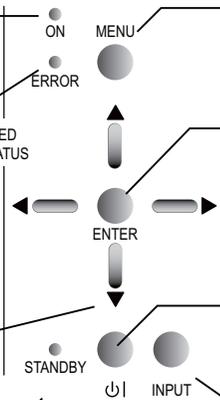
STANDBY

⏻| INPUT

MENU

Displays or hides the OSD adjustment screen

ENTER

Press this button to confirm selection of OSD item; you can choose from "Select Item" or access "Sub Menu" configurations.

⏻|*(Standby)*

Use this button to start up or shut down the projector .

INPUT

Used to toggle between different input signal source

Refer to " Page 10 : Input Selection ". for more details

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Projector parts and functions

WIRED REMOTE

Receives input signal from compatible Niles or Xantech IR repeater systems.

12V TRIGGER

(3.5-mm, mini phone jack)

Offers 12 (+/- 1.5) V of output for 350mA monitor relay with short circuit protection.

RS-232

9-pin D-sub socket. Connects your PC or automatic home theater /control system.

10/100 BASE-T

Connects the projector to your PC via network to enable direct control of the projector on your PC.

COMPONENT 1

Standard and high definition (480i/480p/ 576i/576p/720p/1080i/1080p) component input, connects to DVD/HD-DVD/BD player, HD set-top-box or other SD/HD input source.

SYNC IN

From source equipment for informing which field of signal is the Left-eye or Right-eye signal.

SYNC OUT

From projector and be connected to the 3D SYNC wireless transmitter for synchronizing the projected image with the 3D glasses.

| 10/100 BASE-T | | RS-232 | 12V TRIGGER | wired remote | | COMPONENT 1 | | | SYNC IN | SYNC OUT |
| | | | I   350mA   II | | Y | Pb | Pr | | | |

| IN | OUT | HDMI ❶ | HDMI ❷ | VGA | G/Y | B/Pb | R/Pr | H | V | STEREO DVI |
| SDI / HDSDI / 3G | | | | | | | COMPONENT 2 | | | |
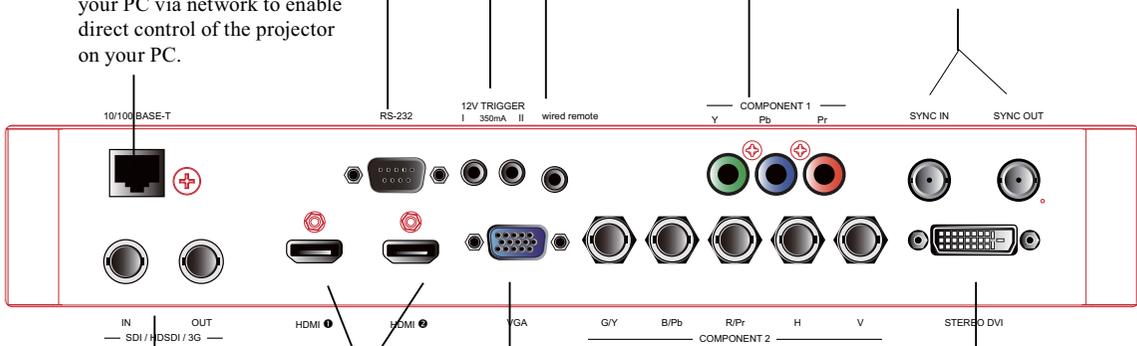
SDI/HDSDI/3G IN/OUT

Serial digital interface, use BNC connects input or output the image.

HDMI 1 & 2

HDCP compatible digital image input; connects to sources using HDMI or DVI.

VGA

Standard 15-pin VGA connection socket to connect to RGB, high-definition component input or PC. The projector will automatically detect the resolution of the input signal.

COMPONENT2

Connects to the five BNC inputs for component (YPbPr) image source and channel (Hs, Vs) source.

STEREO DVI

Use this DVI dual link to connect to a stereo 3D source – it is usually a computer with 3D Graphics card, and 3D applications.
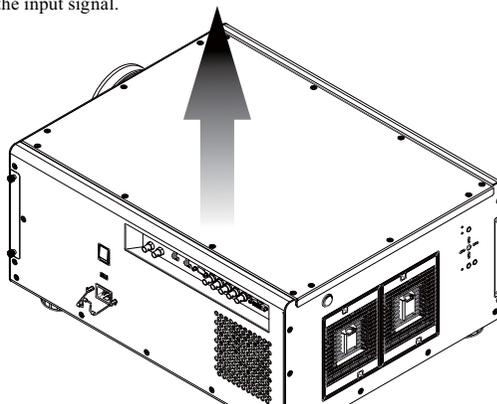
IO Control

(Input / Input control panel)

12

Bottom view
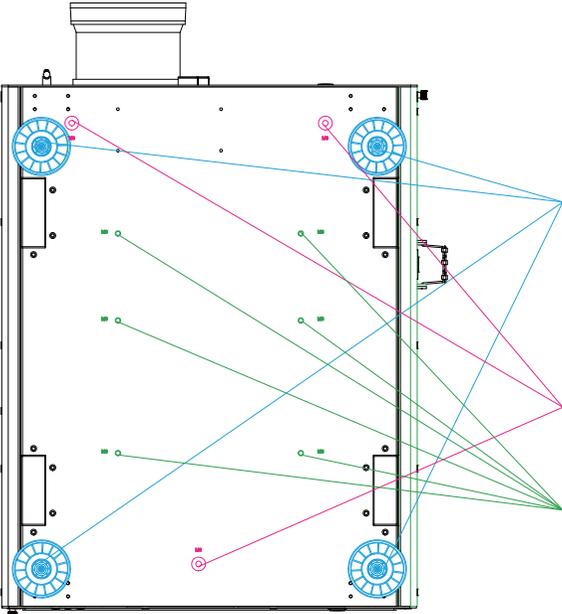
Adjustable foot

Adjust the height and angle of the projector with the adjustable foot

Mounting bracket screw hole

These screw holes are used to mount the projector to its designated mounting bracket using 3 M8x15 screws and 3 M8x40 bolts. The dimensions of the screw holes are shown in the image below.

Mounting bracket screw hole

These screw holes are used to mount the projector to its designated mounting bracket using 6 M6x15 screws. The dimensions of the screw holes are shown in the image below.
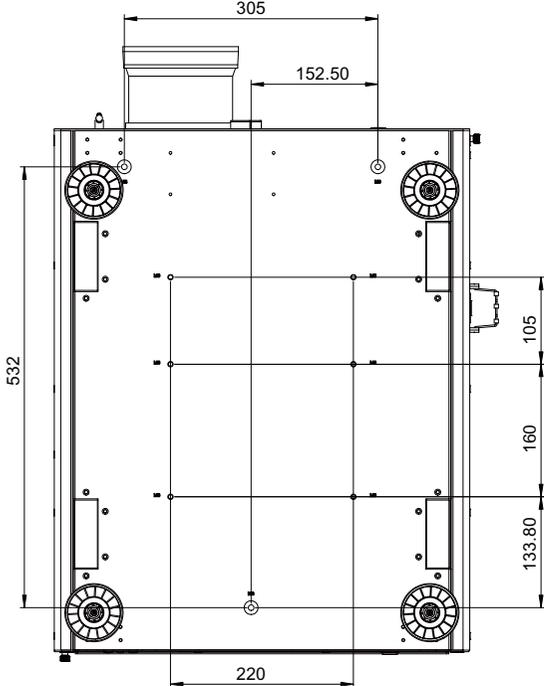
Projector parts and functions

Range of effective remote control signal reception

The diagram below illustrates the range of effective remote control signal reception (Unused new battery).
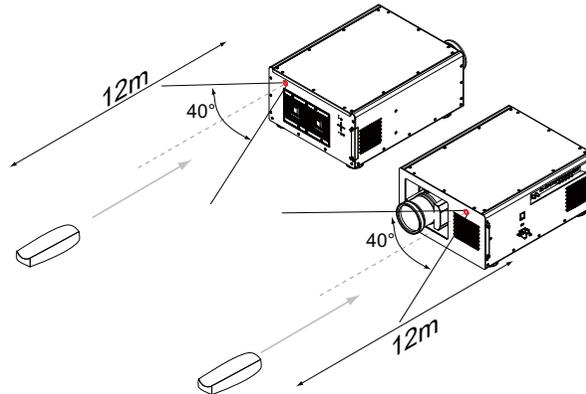
Note: Avoid placing the remote control at places of high temperature or humidity as it could cause the remote control to malfunction.

Installing batteries in the remote control

Remove the cover by sliding it in the direction indicated by the arrow.
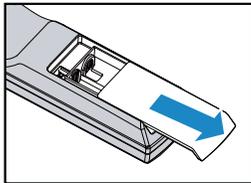
Insert two new AA batteries
 (observe the polarity).
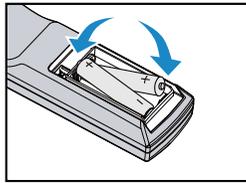
Replace the cover.
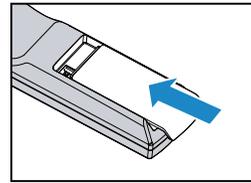
Note1: Be sure to insert the batteries in the corresponding orientations to match the polarities.
Note2: Do not mix new batteries with used batteries as it would shorten the life of new batteries or cause leakage.
Note3: Only used AA batteries as instructed; do not attempt to insert different types of batteries into the remote control.
Note4: If the remote is going to be unused for long periods of time, be sure to remove the batteries to prevent leakage, which could damage the remote control.
Note5: The liquid contents in the batteries is harmful to the skin; do not touch the leakage with your bare hands directly. When installing fresh batteries, be sure to clean up the leakage thoroughly.
Note6: Under most circumstances, you only need to point the remote control towards the screen and the IR signal would be reflected off the screen and picked up by the IR sensor on the projector. But under specific circumstances, the projector may fail to receive signals from the remote control due to environmental factors. When this happens, orient the remote control at the projector and try again.
Note7: If the range of effective remote control signal reception decreases or if the remote control stops working, replace the batteries.
Note8: If the infrared receiver is exposed to fluorescent lamp or strong sunlight, the remote control may not operate normally.
Note9: Refer to the regulations enforced by your local government on the disposal of used batteries; improper disposal could damage the environment.

Installation the projector.

1. Orient the projector towards the screen

Screen
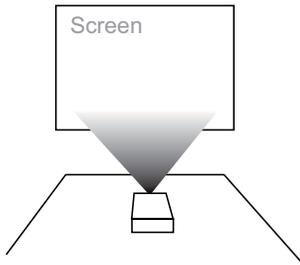
2. Connect the power cord to the projector

AC SWITCH

Please select the
correct input voltage
before removing the
warning label.
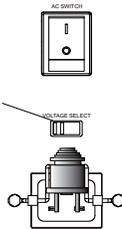
VOLTAGE SELECT

Please note that select the correct input (115V or 230V) voltage according to the area where you operate the projector before you turn on the power switch.

3. Connect the projector to your PC and flip the switch to "I" to turn on the power.

12V TRIGGER
I   350mA II   WIRED REMOTE

COMPONENT 1
Y   Pb   Pr   SYNC IN   SYNC

AC SWITCH

Desk Top or Notebook

G/Y   B/Pb   R/Pr   H   V   STEREO DVI
COMPONENT 2
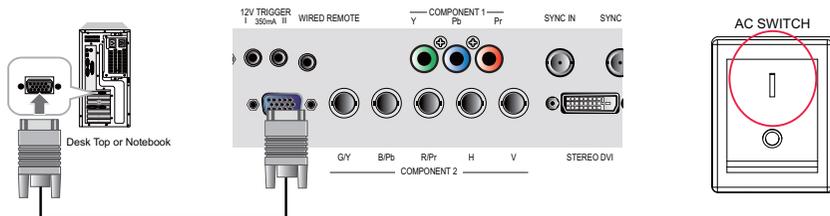
4. Remove the lens PU foam on the projector before starting it up.
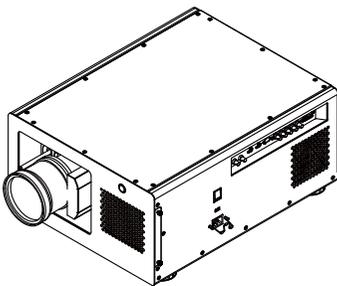
Press the ⏻| button on the projector or
the [I] button on the remote control to
start up the projector.

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Installation of the Projector

5. Adjusting the projector's angle

a. Please use the adjustable feet to change the angle of the projector in order to achieve the most suitable angle for projection on the screen.
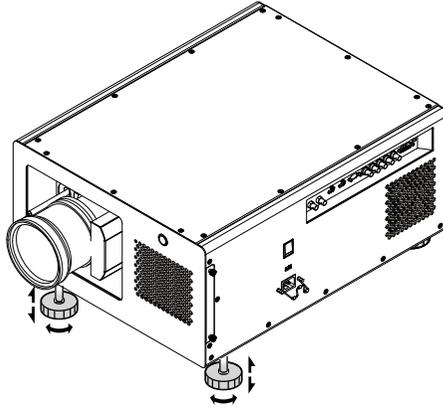
b. Adjusting the lens by horizontal and vertical lens shift

   Method 1: Press the **ENTER** button on the remote control to access Lens Control adjustment screen before pressing **ENTER** once again to access the menu and use the ▼▲▼▲ buttons to adjust the horizontal or vertical position of the lens.

Press ENTER once to adjust zoom and focus

Press ENTER again to adjust vertical and horizontal lens shift

Press ENTER once to adjust zoom and focus with cross line

Press ENTER once to Adjust Lines shift with cross line
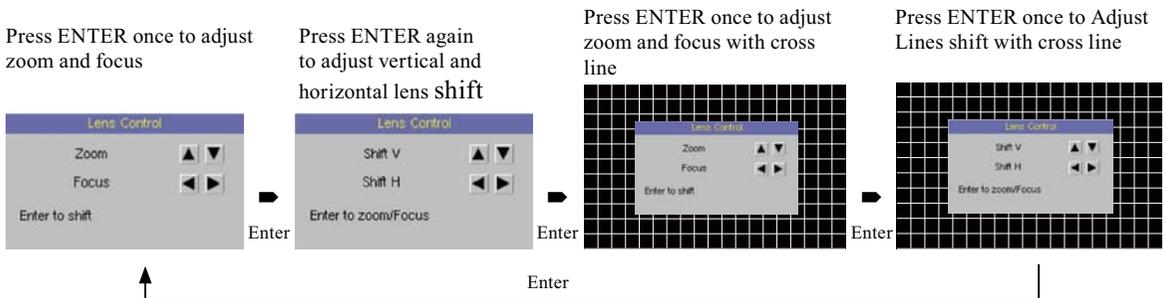
   Method 2: Press the **MENU** button on the remote control and choose Alignment → Lens Control; then use the ▼▲◄ ► buttons to adjust the horizontal or vertical position of the lens.

6. Adjusting focus and zoom.

a. Press the **MENU** button on the remote control and choose Alignment → Lens Control to activate the Lens Control OSD, press enter to go through "Zoom/Focus", "Lens Shift", "Zoom/Focus with Grid test pattern", "Lens Shift with Grid test pattern" OSD Cyclically. Stop at either "Zoom/Focus" or "Zoom/Focus" with Grid test pattern" OSD ; then use the ◄► buttons to adjust the lens' focus (clarity).
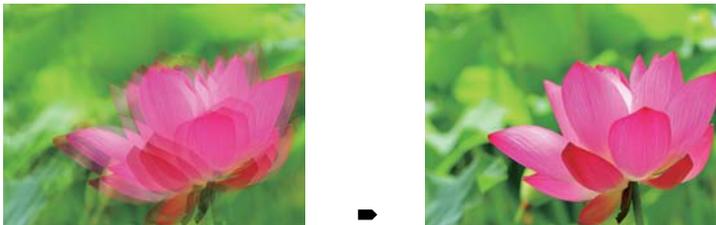
b. Press the **MENU** button on the remote control and choose Alignment → Lens Control to activate the Lens Control OSD, press enter to go through "Zoom/Focus", "Lens Shift", "Zoom/Focus with Grid test pattern", "Lens Shift with Grid test pattern" OSD Cyclically. Stop at either "Zoom/Focus" or "Zoom/Focus" with Grid test pattern" OSD; then use the ▼▲ buttons to adjust the size of the image that is projected onto the screen.

Original image size   Zoom out   Zoom in

7. Correcting keystoning caused by projection angle

a. To adjust keystoning, press the MENU button on the remote control and choose ALIGNMENT → Warp →Keystone adjust and use ▼▲ buttons to adjust Vertical Keystone.

b. To adjust keystoning, press the MENU button on the remote control and choose ALIGNMENT → Warp → Keystone adjust and use ◄► buttons to adjust Horizontal Keystone.

8. Turning off the projector

Press the ⏻│ button on the projector or the ⏻ button on the remote control at least 3 seconds to turn off the projector. When the projector has been turned off, the cooling fan will remain in operation for approximately 170 seconds.

Installation of the Projector

Throw distance

Throw Distance (TD) = Screen Width (W) x Throw Ratio (TR)
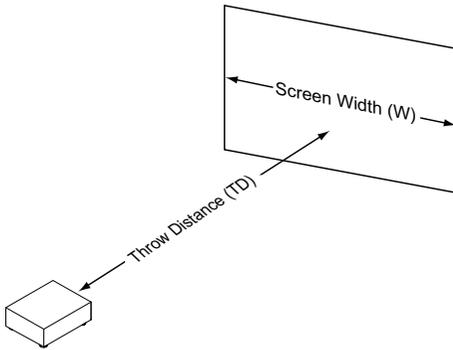
Coupled with the available projection lenses, the projector offers the following throw ratios:

- FL-K01(0.67:1)
- FL-K02(1.1:1)
- SL-K03(1.4 - 1.9:1)
- ML-K04(1.9 - 2.6:1)
- LL-K05(2.6 - 4.2:1)
- UL-K06(4.2 - 7.0:1)

Note:

Projection lenses are optional accessories. Please contact your local dealer to acquire the projection lens that suits your need most.

Modes of installation

- Install the projector in an environment below 40°C (104°F). The projector should be kept clear from sources of heat and / or ventilation openings of air conditioner.
- The projector should be kept away from devices that emit electromagnetic energy, such as motor and transformer. Common devices that emit electromagnetic energy include slideshow system, speakers, power amplifiers and elevators.
- If you choose to install the projector on the ceiling, be sure to use the ceiling installation components manufactured by manufacturer-certified vendors. For details, please contact your local dealer.

Frontal projection - desktop installation

Advantages: easy to install can be easily   moved or adjusted easy to operate.

Disadvantage: occupies floor space and limits seating capacity.
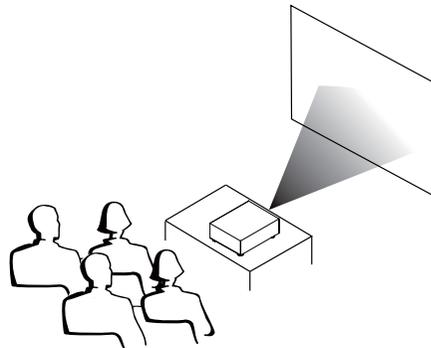
Frontal projection - ceiling mode

Advantage: does not occupy floor space does not draw attention to it.
Eliminates the possibility that someone would accidentally move the projector.

Disadvantage: stricter installation requirements and conditions; care should be taken during the installation to ensure the projector has been securely mounted. operation of the projector becomes inconvenient without the remote control.

Rear projection - desktop installation

Advantage: the projector is completely hidden from plain view the projector can be easily operated this setup usually offers better reduction of ambient noise.

Disadvantage: requires an additional room for installation relatively higher costs for installation.
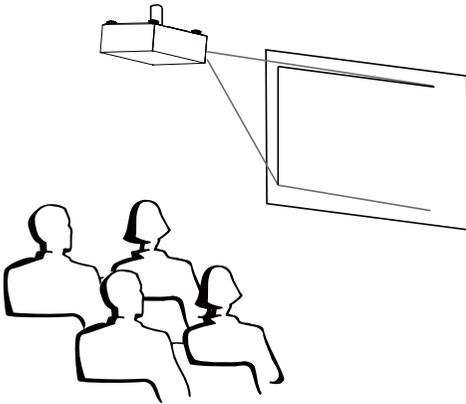
Rear projection - ceiling installation

Advantage: the projector is completely hidden from plain view this setup usually offers better reduction of ambient noise.

Disadvantage: requires an additional room for installation. Stricter installation requirements and conditions; care should be taken during the installation to ensure the projector has been securely mounted. operation of the projector becomes inconvenient without the remote control.
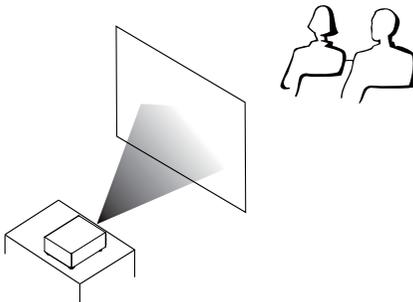
Rear projection - submersive installation

If you wish to have a rear projection setup with limited space to the rear of the projector, you can use a mirror to reflect the light path. However, both the projector and the mirror have to be precisely located. If you are considering such installation, please contact your dealer for assistance.

Advantage: the projector is completely hidden from plain view this setup usually offers better reduction of ambient noise.

Disadvantage: requires an additional room for installation relatively higher costs for installation.

Screen

Mirror
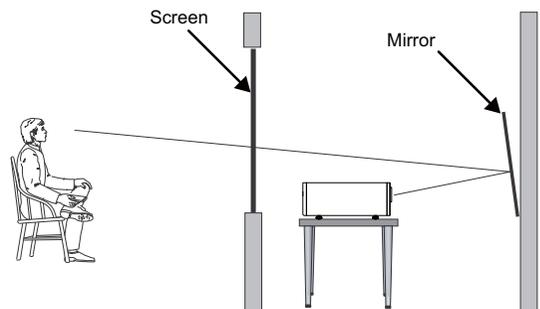
Installation of the Projector

Horizontal and vertical lens shift

In addition to using the adjustable feet to adjust projection angle, you can also use the Lens Shift function to adjust the projected image.

Moving the lens vertically

The distance of vertical lens movement is +100% , -50% of half the screen height in both directions. For instance, if you are using a 80" × 50" screen, you will be able to move the image upwards no more than 25" or downwards no more than 12.5".
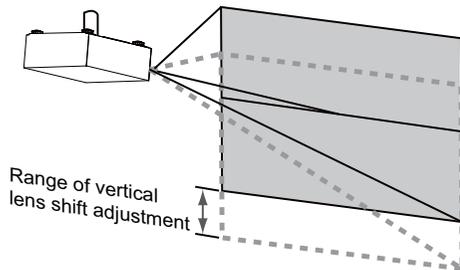
This illustration shows normal vertical lens shift without the use of special specification lens or projector.
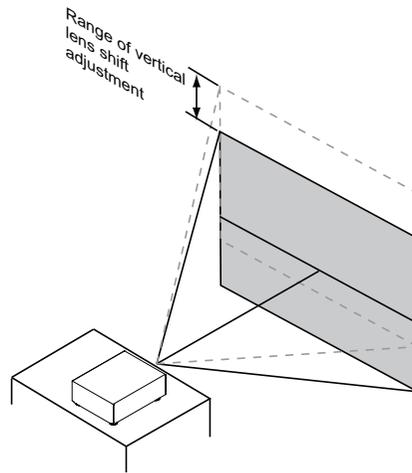
Note: Please make sure the center of lens is rectangular to the center of the screen.

Moving the lens horizontally

The distance of horizontal lens movement is 20% of half the screen width in both directions. For instance, if you are using a 80" × 50" screen, you will be able to move the image left or right by no more than 8".
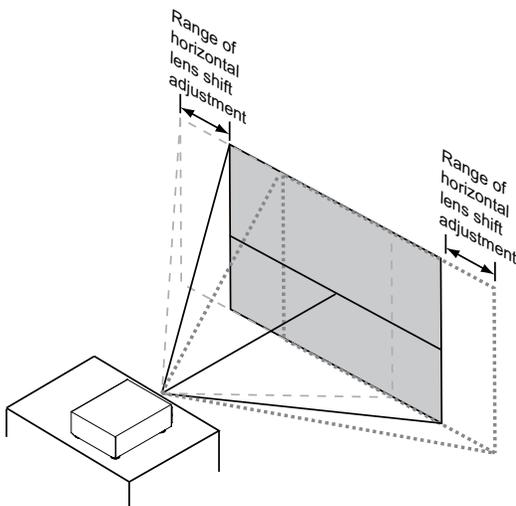
This illustration shows normal horizontal lens shift without the use of special specification lens or projector.

Note: when the lens is in the neutral position (i.e. without horizontal or vertical shift), the center of the projection should be aligned with the center of the screen.

Connecting the projector to other devices

HDMI / DVI connection

Signals from image source offer the best projection image quality when sent through HDMI. Therefore, try to use input devices with HDMI output as the source of image.

HDMI/DVI input source
(BD/HD-DVD/DVD player, HD set-top-box,
gaming consoles and so forth)
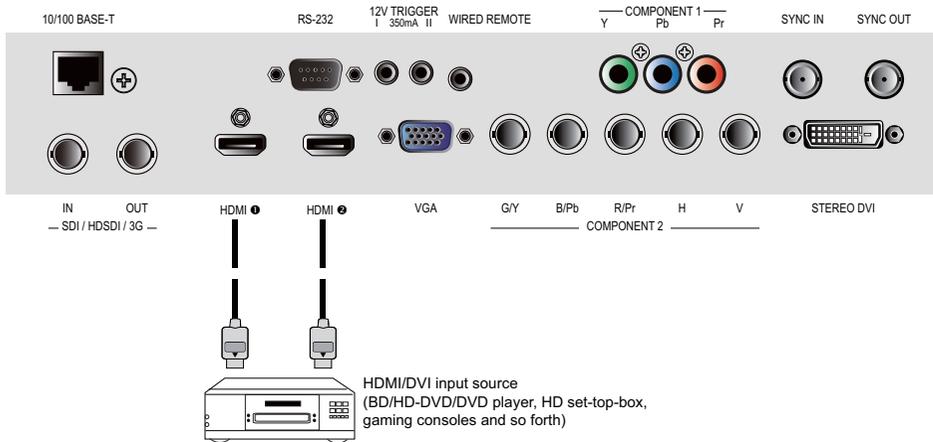
12V Trigger connection

If your home theatre system includes a projector screen, screen cover or other 12V Trigger equipment, please connect such device/equipment to the projector's 12V Trigger output as illustrated. After you have done so,

Your screen will lower automatically whenever you turn on your projector for your convenience.
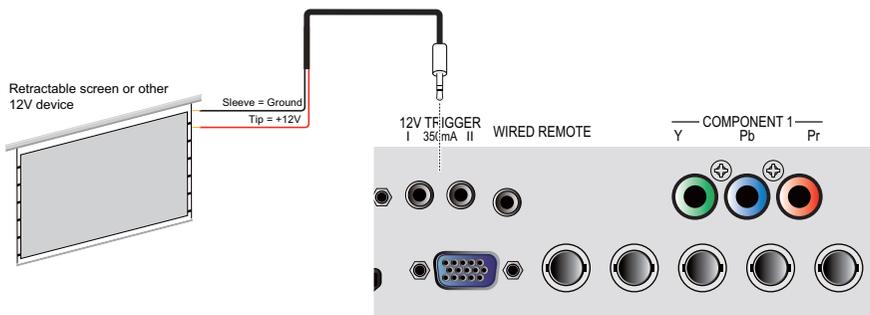
Installation of the Projector

RGB connection

Connect your PC or other devices with RGB output to the RGB input connectors on the projector to be used as the source of image input.
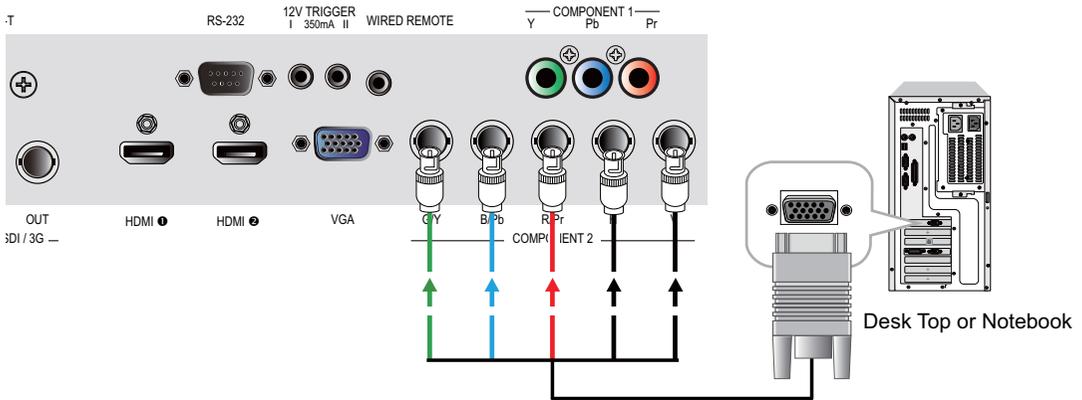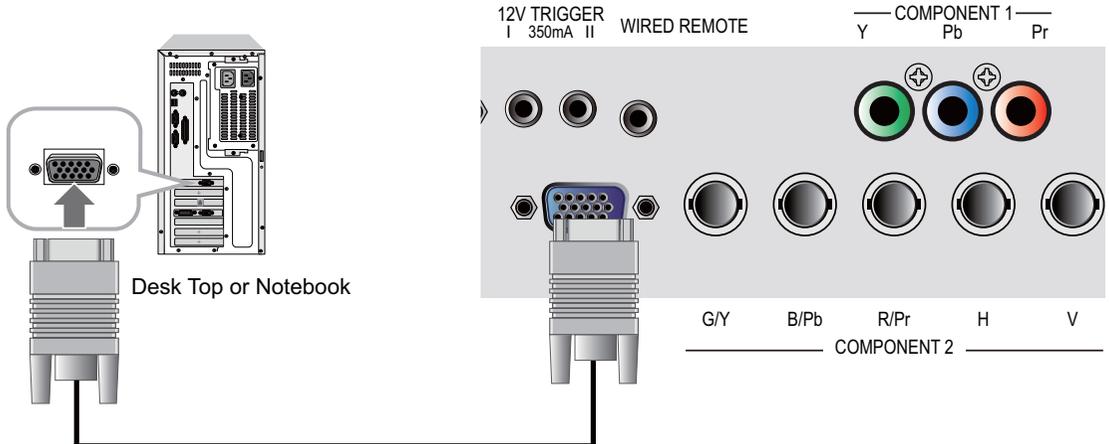
COMPONENT connection

Take the 3/5 cabled RGB component video connectors from the source equipment to the projector's COMPONENT1 or COMPONENT2 jacks.

DTV set-top-box or other component (YPbPr) input source

STEREO DVI Connection

IR EMITTER

3D Glasses

EMITTER L/R Signals

WIRED REMOTE

COMPONENT 1
Y   Pb   Pr

SYNC IN

L / R Sync signal
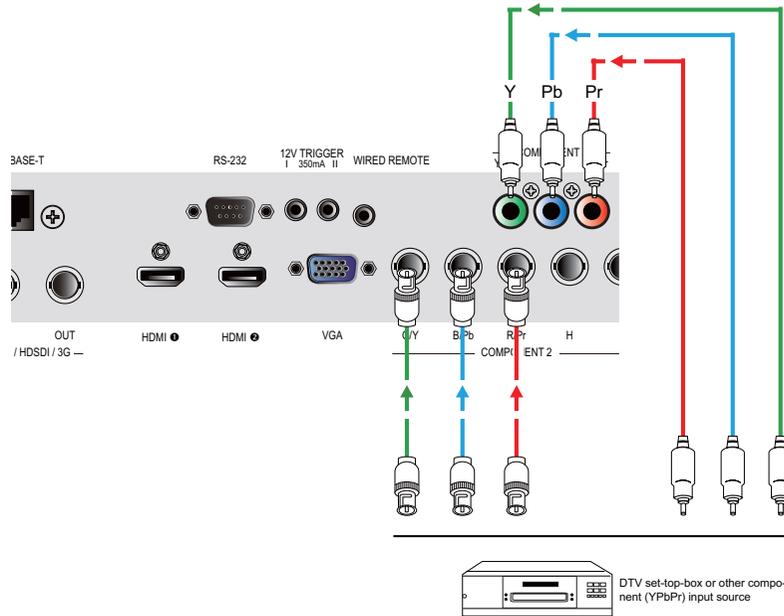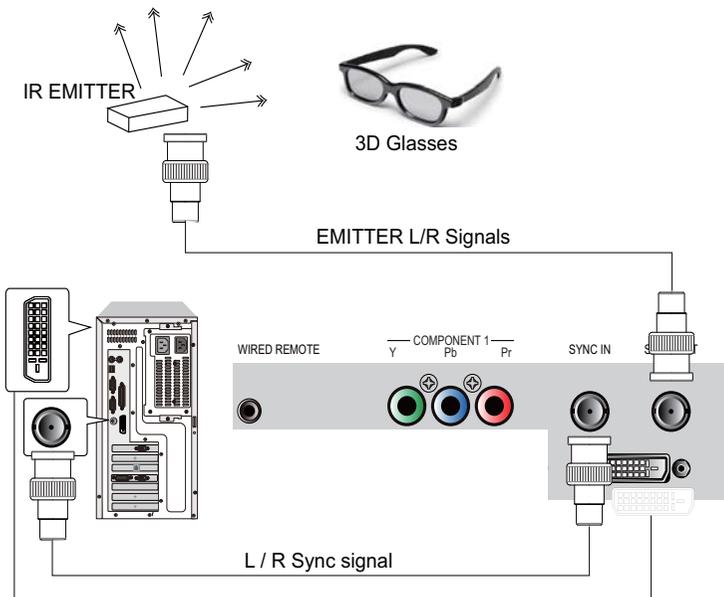
Note: Consult with dealer about IR EMITTER and 3D Glasses.

Connect the STEREO DVI to a stereo 3D source – it is usually a computer with 3D Graphics card, and 3D applications.

Installation of the Projector

3D mode

There are few ways to go to the 3D mode

- OSD menu: Go to Main Menu "Input > Input Selection", and select STEREO DVI
- Remote control: Press hot key "5" to go to STEREO DVI directly
- Network Webpage: Go to "Source/general" > "Source" and select STEREO DVI
- RS232 Commands : Use " Input Selection" to select STEREO DVI
  When this function is blanking. The 3D Mode is not available

2D mode

Please note that OSD menu is not available in 3D mode. The ways to switch back to 2D mode are:

- Remote control: Press any of the input key 1-4 will switch back to 2D mode.
- Network Webpage: Go to "Source/general" > "Source" and select any other source that are available.
- RS232 Commands: Use " Input Selection" to select any other source that are available.

Turning on the projector

Refer to the instructions covered in .

Changing OSD language

By factory default, the OSD menu of the projector is displayed in English. If you wish to switch to a different language, you can go to **MENU** → CONTROL → Language and choose the language you prefer for the OSD.

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
		Language	IR Address		<	1	>
		▪ English	Eco Network Power		<	Off	>
		Français	Network			Enter	
		Español	Menu Position		<	Center	>
		Deutsch	Start Up Logo		<	On	>
		Português	Start Up Chime		<	On	>
		简体中文	Button 1			Enter	
		繁體中文	Button 2			Enter	
		日本語	Button 3			Enter	
		한국어	Button 4			Enter	
			Button 5			Enter	
			Trigger 1		<	Auto	>
			Trigger 2		<	16:9	>
			Auto Source		<	On	>
			Language			Enter	

Adjusting screen orientation

By default, the projector is configured for "frontal projection - desktop installation". If you choose to install your projector in other setups, be sure to adjust the screen orientation to achieve the correct projection mode.

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
				Rear Projection	< Off >	
				Ceiling Mode	< Off >	
				Lens Control	Enter	
				Dynamic Contrast	< Off >	
				Gamma	< 2.5 >	
				Internal Patterns	Enter	
				Color Space	< Custom >	
				Custom Color Space	Enter	
				Lens To Midposition	Execute	
				Warp	Enter	
				Blanking	Enter	
				Edge Blend	Enter	

Front projection - ceiling mode

Press **MENU** → ALIGNMENT → Ceiling Mode and choose ON; the projector is now configured for "frontal projection - ceiling mode".

Correct Picture
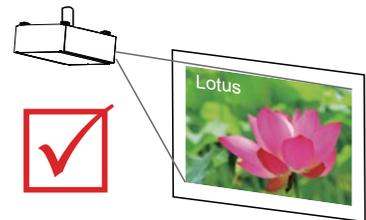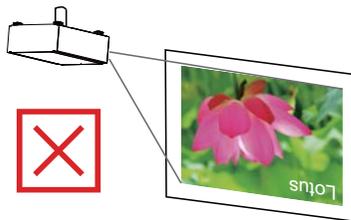
Installation of the Projector

Rear projection - desktop installation

Press **MENU** → ALIGNMENT → Rear Projection and choose ON; the projector is now configured for "rear projection - desktop installation".

Correct Picture
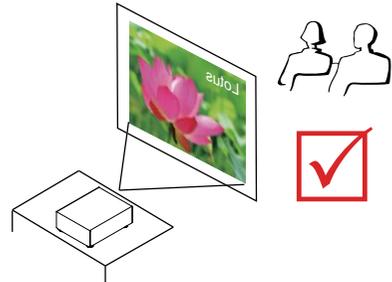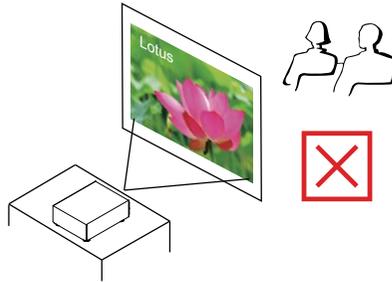
Rear projection - ceiling mode

Press **MENU** → ALIGNMENT → Rear Projection and choose ON;

press **MENU** once more → ALIGNMENT → Ceiling Mode and choose ON

Correct Picture
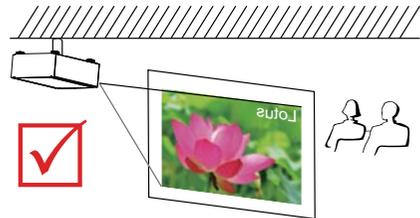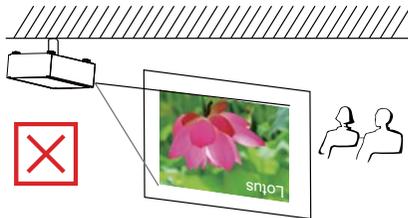
Adjusting the projector lens

Projector lens adjustment includes focus, zoom, horizontal/vertical image shift. Please refer to Page 16 : "5. Adjusting the projector's angle"., "6. Adjusting focus and zoom.". and "7. Correcting keystoning caused by projection angle". for detailed instructions.

Remote control
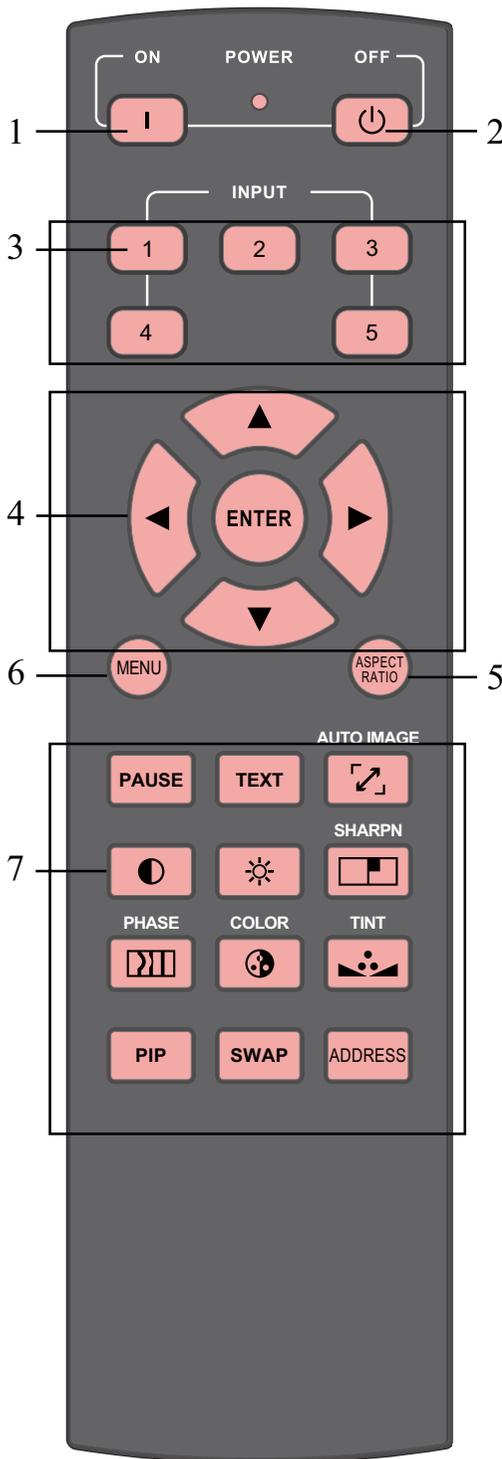
1. [I] ON

    This button is used to turn on the projector.

2. [⏻] OFF

    This button is used to turn off the projector.

3. (1) (2) (3) (4) (5)

    These buttons on the remote control are the hotkeys for different image source. By factory default, these are:

    1 = HDMI 1
    2 = RGB D-15
    3 = COMPONENT2
    4 = COMPONENT1
    5 = Stereo DVI

    Note: These buttons may not work at PIP mode.

    You can configure the input source that corresponds to each button in the OSD Menu. To do so:
    When press **MENU** > CONTROL > Button 1~5; use the ▼ ▲ buttons to choose from different sources of input. You can choose from: HDMI 1,HDMI 2,RGB D-15,YUV 1,RGBHV/YUV 2,SDI/HDSDI/3G and STEREO DVI.

    For example, if you have configured (1) as RGB

    D-15 in the OSD Menu, when you press (1) on the

    remote control, the projector will display the image from RGB D-15.

4. ▼ ▲ ◄ ►

    Use these buttons to make your selection or configure, adjust configuration or toggle between image displays.
    ENTER
    Use this button to select items in the menu or confirm the settings you have changed.
    When press ENTER , You also recall LENS ADJUST when menu is off.

5. **ASPECT RATIO**

    You can scroll through different aspect ratios by pressing this button repeatedly. For more information,

6. **MENU**

    Press this button to show or hide the OSD Menu.

7. Various image adjustment buttons

    [PAUSE] PAUSE

    Use this button to halt projection temporarily.

    [TEXT] TEXT

    When TEXT is set to ON, the user will be able to operate the OSD Menu normally.
    When TEXT is set to OFF, only ON, OFF, 1~5, SWAP, PIP, PAUSE will function normally; pressing any other buttons will not access the OSD Menu.

REMOTE CONTROL

AUTO IMAGE

This button is used to Resync the image; when the image signal becomes unstable or image quality deteriorates simply press this button and the projector will automatically adjust the screen dimension, phase, timing and so forth.(The adjustments also apply to PIP input).

CONTRAST

Adjust the level of white in the image to increase or decrease image contrast.

BRIGHTNESS

Adjust the level of black in the image to increase or decrease image brightness.

SHARPNESS

Adjust image sharpness and clarity.

PHASE

When the image flickers, doubles, distorts or appears to be wavy, press this button to adjust.

COLOR

This function not available for this model.

TINT

This function not available for this model.

PIP

Use this button to display or disable PIP.

SWAP

Use this button to switch the sources of image PIP display.

ADDRESS

Only 2 addresses are possible Press and hold the **ENTER** button and press Address button until the remote control panel flashes once (approximately 5 seconds) to change the receiving address of the remote control. If you use one remote control to operate two different projectors, you can assign different address for the two projectors so that when you operate projector A, projector B will not be affected.

Note:
Some keys may not work when STEREO DVI is selected.

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OSD Menu Tree

INPUT	Input Selection	HDMI1 HDMI2 RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G STEREO DVI
	Input Configuration	Auto YUV HD YUV STD RGB-PC RGB-Video
	Input Locking	Auto 48Hz, 50Hz, 60Hz
	Auto Power Off	On Off
	Auto Power ON	On Off
	No Signal	Logo Blue Black White
	Auto Image Adjust	Off, Auto Always

IMAGE	Contrast	0~200
	Brightness	0~200
	Sharpness	0~200
	Noise Reduction	0~200
	Color Temperature	3200K, 5400K, 6500K, 9300K, Native
	Input Balance	Black Balance Offset Red Offset Green Offset Blue Offset White Balance Red Gain Green Gain Blue Gain
	Aspect Ratio	5:4 , 4:3, 16:10 16:9, 1.88, 2.35 Letterbox, Native, unscaled
	Timings	H Total H Start H Phase V Start
	Auto Image	Execute

LAYOUT	Zoom	Off CROP ZOOM
	Main Select	HDMI1 HDMI2 RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G
	PIP Select	HDMI1 HDMI2 RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G
	PIP Position	Top Left Top Right Bottom Left Bottom Right Split L-R
	PIP	On, Off

LAMPS	Mode	Eco Normal Power
	LAMPS	Single Dual
	High Altitude Mode	On Off
	Power	0~35 (78.3% - 100%)
	Lamp1 Status	On Off
	Lamp2 Status	On Off
	Lamp1 Run Time	XX HRS
	Lamp2 Run Time	XX HRS

OSD Menu description

ALIGNMENT	Rear Projection	On Off
	Ceiling Mode	On Off
	Lens Control	Zoom/Focus Shift V Shift H
	Dynamic Contrast	On Off
	Gamma	1.8 2.0 2.2 2.35 2.5 Dicom sim
	Internal Patterns	On (1~12 Pattern) Off (0 off)
	Color Space	Native, EBU, SMPTE Custom
	Lens To Midposition	Execute
	Warp	Horizontal Keystone Vertical Keystone Rotation Pincushion / Barrel Top Left Corner Top Right Corner Bottom Left Corner Bottom Right Corner
	Blanking	Top, Bottom Left, Right, Reset

	Edge blend	Status
		White Level
		  Top
		  Bottom
		  Left
		  Right
		Black Level
		  Top
		  Bottom
		  Left
		  Right
		  All
		  Red
		  Green
		  Blue
		Reset
		Adjust Lines

Control	IR Address	1 2
	Eco Network Power	On Off
	Network	IP Address Subnet mask Gateway DHCP

Control	Menu Position	Top Left Top Right Bottom Left Bottom Right Center
	Start Up Logo	On Off
	Start Up Chime	On Off
	Button 1	HDMI1
	Button 2	HDMI2
	Button 3	RGB D-15
	Button 4	YUV1
	Button 5	RGBHV/YUV2 SDI/HDSDI/3G STEREO DVI
	Trigger 1	5:4 , 4:3, 16:10
	Trigger 2	16:9, 1.88, 2.35 Letterbox, Native, Auto unscaled
	Auto Source	On Off
	Language	English French Spanish German Portuguese Chinese Simplified Chinese Traditional Japanese Korean
Service	Model	Read-only information
	Serial Number	
	Software Version	
	Active/PIP source	
	Pixel Clock	
	Signal Format	
	H/V Refresh Rate	
	Lamp1 Run Time	
	Lamp2 Run Time	
	Lamp Hour Reset	Lamp1 Hour Reset Lamp2 Hour Reset
	Projector Run Time	Read-only information
	Blue Only	On Off
	Factory Reset	The command will be executed after confirmation in the prompt dialog box

OSD Description

1. Press the MENU button on the remote control or on the back of the projector to bring up the OSD Menu.
2. You will see seven functional menus (Input, Image, Layout, Lamp, Alignment, Control and Service). Press ◄ or ► to select the desired sub menu.
3. Press ▲ or ▼ to select the desired sub menu.
4. Your current selection in each of the sub menu will be displayed in yellow text and highlighted in blue. Press ◄ or ► to access the configuration for the selected item or press ENTER to go to another sub menu.
5. Press MENU to return to the previous menu.
6. From the main menu, press MENU to close the OSD Menu.
7. Some items do not work at the condition of Source, Input signal and Menu setting.
8. Image may be incorrect when the parameter value is exceeded.

INPUT

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
Input Selection		Enter				
Input Configuration	<	Auto	>			
Input Locking	<	Auto	>			
Auto Power Off	<	Off	>			
Auto Power On	<	Off	>			
No Signal	<	Logo	>			
Auto Image Adjust	<	Always	>			

Input Selection

Use this function to specify the source of image connected to the rear of the projector. For instance, if you have connected your PC as the video input source, you can choose RGB D-15(RGB-HV/SOG) to be the input for image projection. Options of input available on the projector include: HDMI1, HDMI2, RGB D-15, YUV1, RGBHV/YUV2,SDI/HDSDI/3G and STEREO DVI

Input Configuration

Select Input Configuration from the Advanced menu to choose the color space of the source signal for HDMI, VGA, and component connections.

The default setting, Auto, functions as follows:

- **Auto**
  The Auto setting determines the correct color space to use. If it does not, you can force the MSWU-81E to use a specific color space. Choose one of the following:
  REC709 sets the color space matrix to that defined in ITU-R BT.709.
  REC601 sets the color space matrix to that defined in ITU-R BT.601.
  RGB-PC uses RGB color space and sets black at 0,0,0 RGB and white at 255,255,255 RGB.
  RGB-Video uses RGB color space and sets black at 16,16,16 RGB and white at 235,235,235.
- **HDMI**
  For component SDTV and EDTV resolutions, YUV STD is used. For other component video resolutions, YUV HD is used.
- **VGA**
  YUV STD is used for SDTV and EDTV sources, and YUV HD for all other sources.

OSD Menu description

- **Component**

  For SDTV and EDTV resolutions, uses the YUV STD. For all other resolutions YUV HD is used.

Input Locking

Use this function to specify the frequency of the image input signal. You can let the projector determine the optimal projection frequency or force the projector to project image at the frequency you specify.

- **Auto**

  The present value for this function is **Auto**. If you specify vertical refresh frequency from the input device to be between 48~62Hz, the projector will automatically lock the frequency of the input signal so that both signal input and output will be refreshed at the same frequency in order to achieve optimal image output. If the frequency of the input signal falls between 24~31Hz, the projector will automatically double the vertical refresh frequency. If the frequency of the input signal falls between 31~48Hz or exceeds 62Hz, the projector will automatically set the frequency to 60Hz.
- **50Hz**

  Choose this option to set image output frequency at 50Hz.
- **60Hz**

  Choose this option to set image output frequency at 60Hz.

> *Note: If you enable PIP, the projector will automatically synchronize the frequency of the PIP input signal with the main input signal.*

Auto Power Off

The default value is **OFF**. If you set it to **ON**, the projector will automatically shut down after 20 minutes without input signal.

Auto Power ON

The default value is **Off**. If you set it to **ON**, the projector will automatically start up when it is connected to AC power. If you plug the projector's power cord into an AC socket with a switch, you can use this function to start up the projector using the socket's switch instead of the remote. If you do not need this function, please set it to **Off**.

No Signal

Use this function to specify the content or color to be displayed on the blank screen when no input signal is available. You can choose from **Logo**, **Blue**, **Black**, **White**. The default value is **Logo**.

Auto Image Adjust

You can configure the Auto Image Adjust function to one of the following three modes:

- **Off** =NEVER
- **Auto** =When not done before(or when done first time)
- **Always** =When new source selected or new source connected.

IMAGE

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
	Contrast		<	100	>	
	Brightness		<	100	>	
	Sharpness		<	0	>	
	Noise Reduction		<	0	>	
	Color Temperature		<	Native	>	
	Input Balance			Enter		
	Aspect Ratio		<	Native	>	
	Timings			Enter		
	Auto Image			Execute		

Contrast

Use ◄► to adjust the contrast of the projected image. You can connect the projector to an external image source to display an image resembling the one shown below for adjustment. It is recommended that you adjust the projected image according to the results shown below so that the brightness of the spectrum remains constant throughout and achieve maximum contrast between black and white.

The following image illustrates the results of direct contrast adjustment using a random image:

◄ Lowered contrast   Original image   Enhanced contrast ►

OSD Menu description

Brightness

Use ◄► to adjust the brightness of the projected image. You can connect the projector to an external image source to display an image resembling the one shown (PLUGE, Picture Line-Up Generation Equipment) for adjustment. Although there are numerous versions of PLUGE image, they are typically comprised of blocks of black, white and gray on top of a black background.

It is recommended that you adjust the image to the following status:

- The darkest black bar of the image should disappear into the background.
- The dark gray area should be barely visible.
- The light gray area should be clearly visible.
- The white area should appear real and mellow.
- The image should only display black, gray and white (with no other colors).

Contrast, Brightness, Saturation and Tint are interrelated options that affect one another; when you adjust one of them, you might have to fine tune other settings to get the best projection results.

Above Black

Below Black
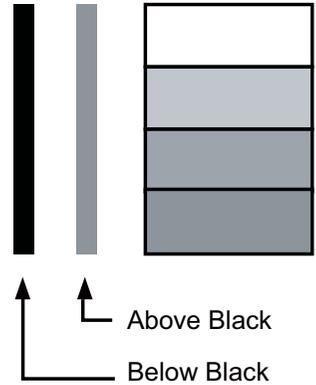
The following image illustrates the results of direct brightness adjustment using a random image:

◄ Reduced brightness   Original image   Enhanced brightness ►

Sharpness

The adjustment of sharpness primarily changes the value of high frequency detail. You can connect the projector to an external image source to display an image resembling the one shown below to adjust the image sharpness.
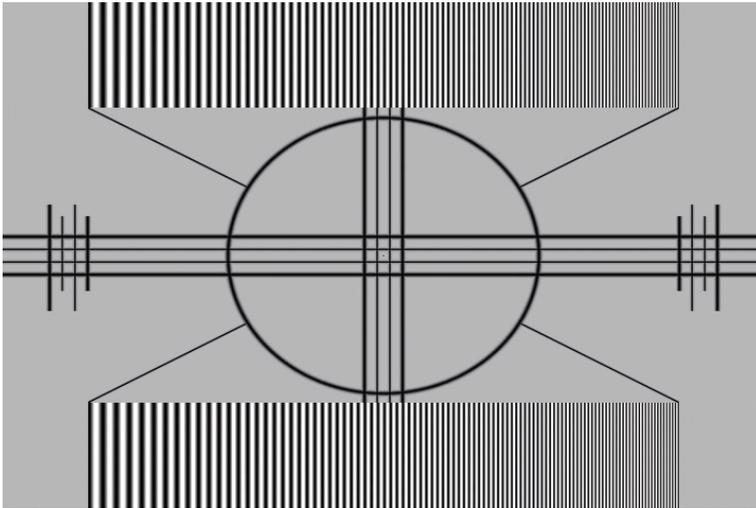
The following image illustrates the results of direct sharpness adjustment using a random image:

◀ Reduced sharpness   Original image (Value = 100)   Enhanced sharpness ▶

Noise Reduction

Use ◀▶ to adjust the noise of the projected image. This function is suitable for the elimination of image noise from interleaving SD input. Generally speaking, reducing image noise will lower the value of high frequency detail and make the image appear more mellow.

$\rightarrow$

noise reduction

OSD Menu description

Color Temperature

You can choose from **3200K, 5400K, 6500K, 9300K and Native**.

Color temperature refers to the change in light color under different energies that is perceived by the naked eye. The change of color temperature from low to high for visible light goes from orange red →

white → blue ▭ .

The projector's default color temperature is set at NATIVE and it is suitable for most situations. As color temperature rises, the image will appear to be more blue; as it decreases, the image will appear redder. When you choose "Native", the projector will disable the white adjustment function of the input device.

Input Balance

Regardless of the change in ambient light, the human eye is equipped with an automatic adjustment mechanism that makes a white object appears white and black object black. However, since no machine has such an incredible innate feature, you may need to make certain adjustments to the projector's settings when the ambient light changes so that the image will appear closer to the actual colors.
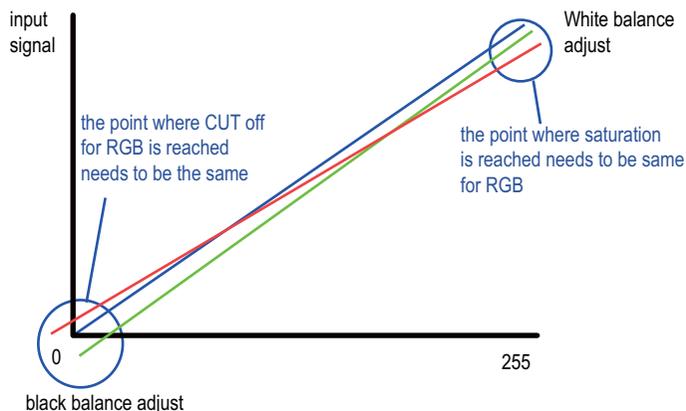
Offset

This refers to the control of color imbalance in the darker areas of the projected image. It is recommended that you use an external test image with many areas of dark and gray colors (i.e. an image of 30IRE-window). If you notice minimal amount of red, green or blue in the gray areas, adjust the offset of the corresponding color accordingly. This function will shift the entire color spectrum for the whole image and change its brightness.

Gain

This refers to the control of color imbalance in the brighter areas of the projected image. It is recommended that you use an external test image with many areas of white (i.e. an image of 80IRE-window). If you notice minimal amount of red, green or blue in the gray areas, lower the gain of the corresponding color accordingly. This function is used to increase or decrease the range of color input for the entire image.

Generally speaking, as gain increases, the contrast of the image will become lower. By increasing the offset, the image brightness will become lower.

- **Black Balance Offset**

    This function involves the adjustment of the following red, green and blue offsets. The text itself is decorative.
- **Red Offset**

Press ◀ ▶to adjust the offset of red in dark scales.
- **Green Offset**
  Press ◀ ▶ to adjust the offset of green in dark scales.
- **Blue Offset**
  Press ◀ ▶ to adjust the offset of blue in dark scales.
- **White Balance**
  This function involves the adjustment of the following red, green and blue gains. The text itself is decorative.
- **Red Gain**
  Press ◀ ▶ to adjust the gain of red in bright scales.
- **Green Gain**
  Press ◀ ▶ to adjust the gain of green in bright scales.
- **Blue Gain**
  Press ◀ ▶ to adjust the gain of blue in bright scales.

Aspect Ratio

Use this function to adjust the aspect ratio of the projected image. Use ◀ ▶ to adjust the ratio of image length and width.

The projector's full image size is 16:10 (1920×1200 dots).The following diagram illustrates the difference in various aspect ratio settings:

OSD Menu description

Native input 4:3	Output aspect ratio 5:4	Output aspect ratio 4:3	Output aspect ratio 16:9
Output aspect ratio 1.88	Output aspect ratio 2.35	Output aspect ratio Letterbox	Output aspect ratio Native
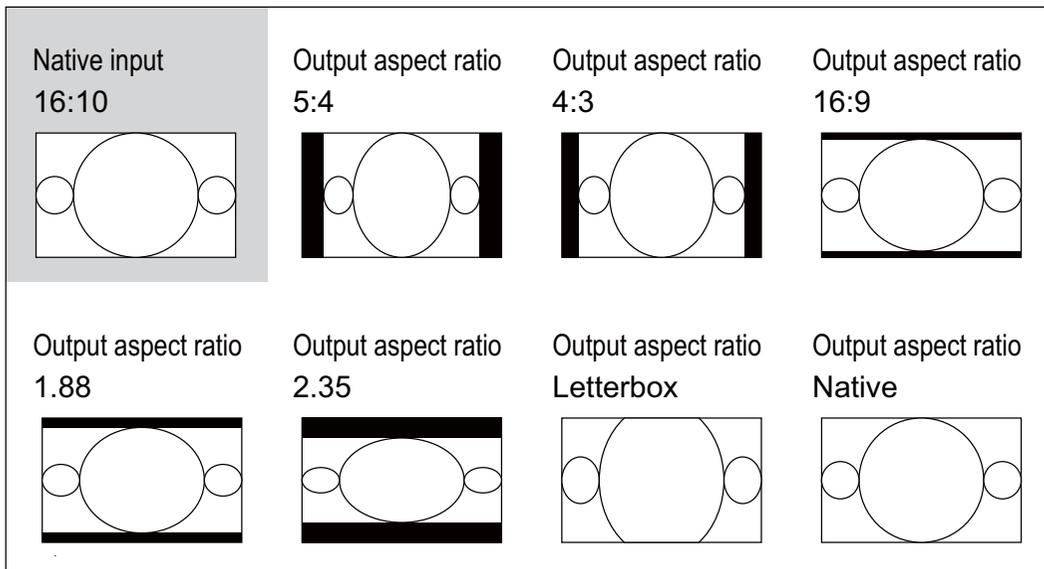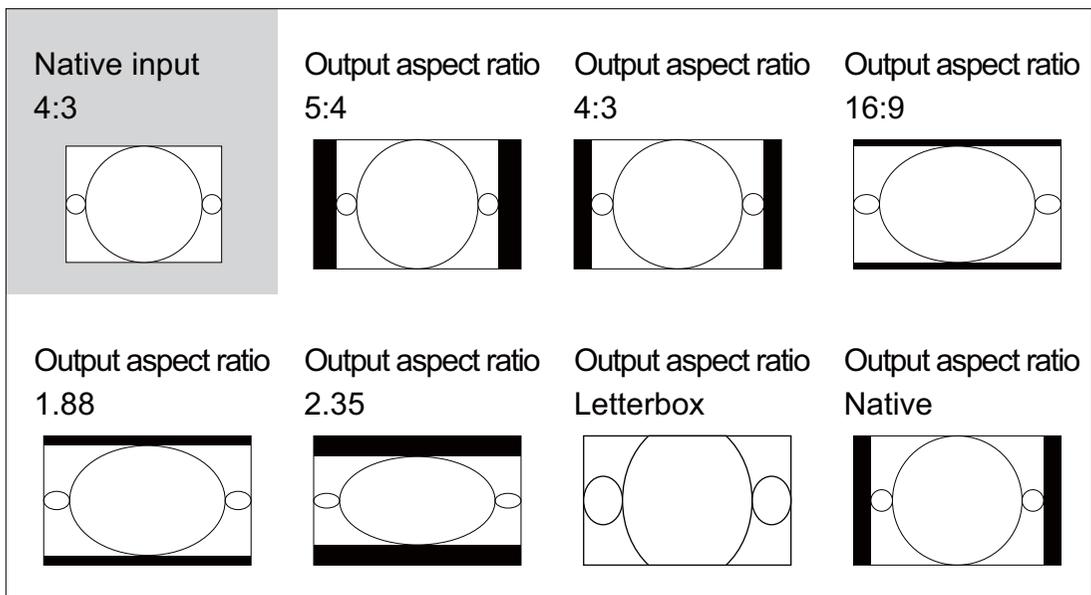
Cropped portion of the image

Note : that when used for commercial purposes, including: projection of image in movie theatres, hotels, cafeteria and other public venues, compression or extension of image achieved through the change of aspect ratio may constitute copyright infringement to the rightful owner of the image. Please do so at your own discretion.

Timings

- **H Total**

  Press ◄► to adjust the horizontal total.
  Use this function to adjust the clock frequency of pixel sampling (horizontal pixel frequency of the analog input source generated by the ADC). If you notice flickering or vertical lines in the image, it means that the pixel sampling frequency is insufficient. You can use this function to adjust the frequency to achieve consistent image quality.
  The following image is an example of test image from an external signal source:

  Adjust image quality by changing the value of horizontal total to smoothen the image.
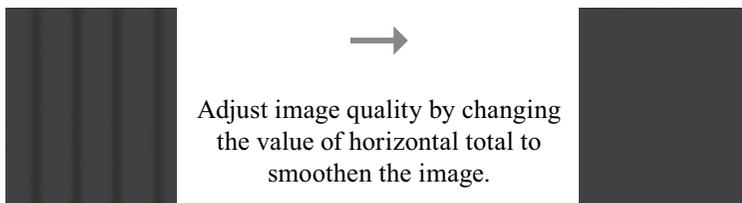
  In order to adjust timings the pattern should be used is pixel (on/off)

- **H Start**

Use ◄ ► to adjust the projected image's horizontal position.

If the projected image is not at the center of the screen (i.e. shifted to right or left) and ends up being cropped, use this function to adjust the image's horizontal position. The following image is an example of test image from an external signal source:
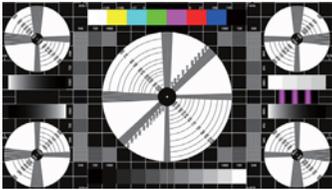
Native picture   Skewed left   Skewed right
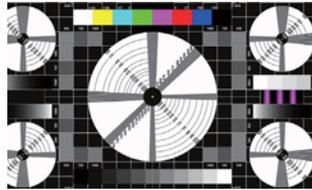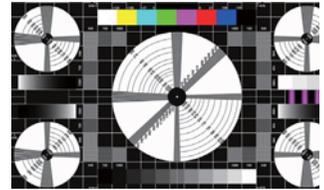
- **H Phase**

Use ◄ ► to adjust the projected image's phase.

Use this function to adjust the phase of pixel sampling clock (relative to input signal). Should the image still flicker or show noise (i.e. edges on texts) after optimization, adjust phase accordingly.

- **V Start**

Use ◄ ► to adjust the projected image's vertical position.

If the projected image is not at the center of the screen (i.e. shifted up or down) and ends up being cropped, use this function to adjust the image's vertical position. The following image is an example of test image from an external signal source:
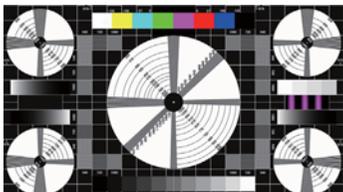
Native picture   Skewed down   Skewed Up
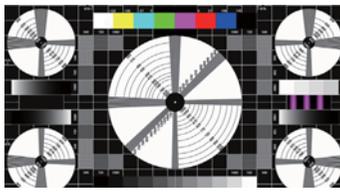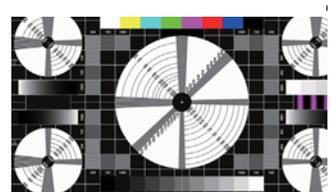
It is recommended that when adjusting the image, the horizontal total should be adjusted before the horizontal phase. However, if the image still flickers even after you have adjusted both, try lowering the image noise.

Auto Image

When Auto Image was selected in the OSD menu, press **ENTER** to execute the automatic image adjustment function.

By executing this function, the projector will resync the image. Use this function when the image source is unstable or when you notice deterioration in image quality and the projector will automatically adjust the image size, phase and timing. (The adjustment also applies to PIP input source).

This function is identical to the 🔲 button on the remote control. You can simply use the hot key on the remote control to execute this function.

OSD Menu description

LAYOUT

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
		Zoom	<	Off	>	
		Main Select		Enter		
		PIP Select		Enter		
		PIP Position	<	Top Left	>	
		PIP	<	Off	>	

Zoom

Due to the fact that some consumers may still be using older television systems, some TV programs may not display the edges of the image. Use this function to hide the image edge by choosing one of the following three options:

- **Off**

  Setting it to off makes no change to the projected image.
- **Crop**

  Setting it to "Crop" will add two "masks" equivalent to 3% of horizontal resolution on either side of the image and two similar masks above and below the projected image.
- **Zoom**

  You can use this function to enlarge the image's horizontal resolution over the 106% of the default aspect ratio. Any portion that exceeds the original image will be cropped.

When you set aspect ratio to "Native" or "Unscaled" , be sure to set Zoom to "Off" or "Crop".
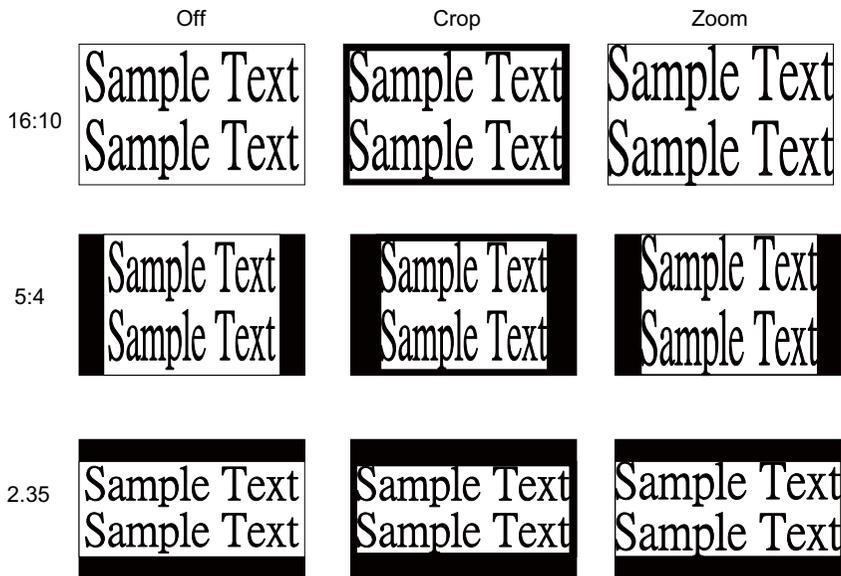
Main Select

When you want to project PIP image, use this function to specify the image source for the PIP image. This function is identical to Input Selection; for more information.

Sub picture   Main picture

PIP Select

Use this function to select the source for the sub window. You can choose from HDMI1, HDMI2, RGB D-15, YUV1 RGBHV/YUV2 and SDI/HDSDI/3G.
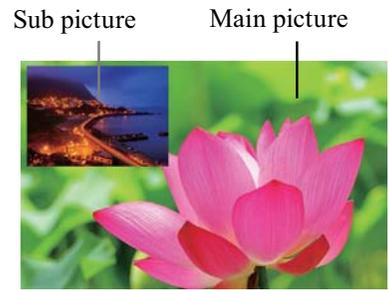
Top Left   Top Right

PIP Position

You can choose to display

the sub window
five different location over the main
picture according to your preference.

Split L-R   Bottom Left   Bottom Right

PIP

If you wish to display PIP image, you can make the configuration here. By choosing "ON", you will see two windows on the projected image; the larger one is the primary image and the smaller one is the sub image. By choosing "OFF", the PIP function will be disabled and you will only see a single image window.

please refer to the following main and PIP source matrix for a valid main and PIP source selection when PIP is ON.

Pip/main source availability		Main select					
		HDMI1	HDMI2	RGB (D15)	YUV1	RGBHV/ YUV2	SDI/ HDSDI/3G
PiP select	HDMI1		-	●	●	●	-
	HDMI2	-		●	●	●	-
	RGB(D15)	●	●		-	-	●
	YUV1	●	●	-		-	●
	RGBHV/YUV2	●	●	-	-		●
	SDI/HDSDI/3G	-	-	●	●	●	

● Source availabe   - source not availabe

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OSD Menu description

LAMP

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
			Mode	<	Normal	>
			Lamps	<	Dual	>
			High Altitude Mode	<	Off	>
			Power	<	-----	>
			Lamp1 Status :		On	
			Lamp2 Status :		On	
			Lamp1 Run Time :		1222HRS	
			Lamp2 Run Time :		1222HRS	

This chapter covers information on the projector lamp.

Mode

- **ECO**

  When set to Eco mode, the wattage of the lamp will be at 360W. If the surrounding environment is sufficiently dark or if you do not require intense brightness, you can set the lamp to Eco mode to prolong its usage life.

- **Normal**

  When set to Normal mode, the wattage of the lamp will be at 465W. If the projection environment requires brighter image, you can set the lamp to Normal for the highest projection brightness.

- **Power**

  If the image brightness at Eco mode is too dark for you and the Normal mode gets too bright, you can set it to Power to specify the power of the lamp yourself to make fine adjustments to the brightness of the projected image. you could encounter situations where the image from projector A being brighter than projector B. When this occurs, you can use this function you could encounter situations where the image from projector A being brighter than projector B. When this occurs, you can use this function to fine tune the brightness of the two projectors to achieve consistent image brightness. To access this function, go to the OSD Menu → LAMPS → Power and adjust accordingly.

    Note: ECO is automatically selected between 35~40°C(95~104°F)

LAMPS

Depending on the application condition, either single lamp or dual lamps can be selected via OSD menu. When the projector was switched from single lamp to dual lamps, an hourglass OSD will block the user from the further OSD operation for 60 seconds. When the projector was switched from dual lamp mode to single lamp, the lamps selection OSD will be blocked for 170 seconds for lamp cooling. The lamp power can be adjusted from 78% ~ 100%.

- **Single**

  When the projection environment is sufficiently dark that a single lamp could achieve the desired projection brightness, you can choose to use one single lamp.   The projector will automatically determine the usage hours for lamp1 and lamp2 and choose the lamp with lower hours for the operation.

- **Dual**

  When you require brighter image from the projector, please operate the projector with Dual lamps.

Lamp2
Lamp1
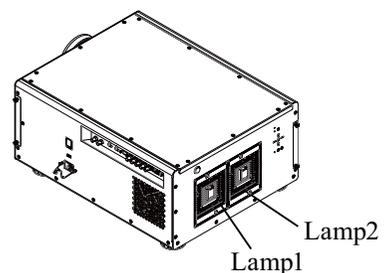
High Altitude Mode

Use this function to control the projector's cooling fan. You can set it to Off or On. The default setting is Off.

Under normal circumstances, the projector will operate normally with this function set to Off. By default, the projector will detect the temperature of the surrounding environment to regulate the speed of the cooling fan. When the ambient temperature rises, fan speed will increase (generates louder noise) to make sure the heat inside the projector gets discharged and keep the projector working normally.

However, if you were to operate the projector in environment of excessive heat or in areas of high altitude, the projector may automatically shut down. When this happens, you can enable this function by setting it to On to force the cooling fan to work at a higher speed to regulate the temperature inside the projector.

- High altitude region refers to area with elevation over 1500 meters (4900 feet).
- When operating in normal altitude environments, the projector will adjust the cooling fan according to the temperature of the working environment. When the temperature rises above 30C, the projector will automatically increase fan speed.
- According to the product specification, the maximum operating altitude for the projector is at 3000m@25C.This means that you should not be operating the projector in high altitudes when the working environment is over 25C.
  (Due to the air thinning substantially at high altitudes, the result of cooling achieved by the cooling fan is significantly reduced compared to operation on level ground. With low atmospheric pressure and high operating temperature, the cooling fan will not be able to disperse the heat adequately)

Power

This function will not be available if you have set the lamp to Eco or Normal modes, you can only adjust this setting when the lamp has been set to "Power". You can specify the lamp power in the range of 78% ~ 100%. Generally speaking, the lower the power, the dimmer the image will be but the lamp will have longer lifecycle. In contrast, the higher the power, the brighter the image will be at the cost of shorter lamp lifecycle.

Lamp1 Status

This function is limited to display purposes to inform the user of Lamp1 status (On or Off).

Lamp2 Status

This function is limited to display purposes to inform the user of Lamp2 status (On or Off).

Lamp1 Run Time

This function is limited to display purposes to inform the user of Lamp1's total run time.

Lamp2 Run Time

This function is limited to display purposes to inform the user of Lamp2's total run time.

OSD Menu description

ALIGNMENT

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
				Rear Projection	< Off >	
				Ceiling Mode	< Off >	
				Lens Control	Enter	
				Dynamic Contrast	< Off >	
				Gamma	< 2.5 >	
				Internal Patterns	Enter	
				Color Space	< Custom >	
				Custom Color Space	Enter	
				Lens To Midposition	Execute	
				Warp	Enter	
				Blanking	Enter	
				Edge Blend	Enter	

Rear Projection

The default setting is Off.

When you have set up the projector for rear projection, please set it to ON. For more information on different modes of projection, refer to " Page 18 : Modes of installation ".

Ceiling Mode

The default setting is Off.

When you have set up the projector for ceiling mode (hung from the ceiling in reverse), please set it to ON. For more information on different modes of projection, refer to " Page 18 : Modes of installation ".

Lens Control

- **Zoom**
  This function is identical to the one covered in previous sections. Refer to " Page 16 : 6. Adjusting focus and zoom. ".
- **Focus**
  This function is identical to the one covered in previous sections. Refer to " Page 16 : 6. Adjusting focus and zoom. ".
- **Shift**
  This function is identical to the one covered in previous sections. Refer to " Page 16 : 5. Adjusting the projector's angle ".

Dynamic Contrast

Use this function to configure the projector to automatically adjust image contrast from the source upon start up or shut down. When activated, the projector will dynamically adjust the image contrast from the beginning of the projection until the content has ended.

Gamma

Different Gamma settings will affect viewers' perception of the image. Generally speaking, for images that are darker, it is recommended that Gamma be set higher to yield better image quality in darker regions by sacrificing details in brighter areas. In contrast, when projecting brighter images, you can set the Gamma lower to give up details in the darker areas to make the brighter areas (i.e. clouds) more visible.

You can choose from five different gamma settings (1.8, 2.0, 2.2, 2.35, 2.5 and Dicom sim) on the projector. The projector's default gamma value is at 2.2.

Every setting has precisely defined phases to display all primary colors (red, green, blue) and secondary colors (yellow, cyan, magenta) in millions of pixels. Changing any number in the setting will change the resulting color and rearrange the color "triangle".

Internal Patterns

The projector comes with some standard built-in patterns for testers to calibrate the equipment. These include:

0 = Off	1 = Color Bars	2 = Hatch	3 = Burst	4 = Red
5 = Green	6 = Blue	7 = White	8 = Black	9 = TI-Red
10 = TI-Green	11 = TI-Blue	12 = TI-Ramp		

Color Space

Using different color space will create different color presentation in the projected image. You can choose from the following color gamma:

Native

Choose this to apply the projector's native color gamut

EBU

Choose this to apply the EBU color gamut; it is primarily suited for input devices using PAL, 576i, 576p and so forth.

SMPTE

Choose this to apply the SMPTE color gamut; it is primarily suited for input devices using NTSC, 480i, 480p and so forth.

Custom

Choose this to customize the color gamut according to your preference through projector Toolset application.

Lens To Midposition

After series of lens shift operations, this function can be used to return the lens to the center position.

OSD Menu description

Warp

The function provides distortion correction on projected images.

Horizontal Keystone

Press ▲▼ to correct horizontal keystone due to projection angle.

Please refer to " Page 16 : 7.Correcting keystoning caused by projection angle ".

Verticall Keystone

Press ▲▼ to correct Vertical keystone due to projection angle. Please refer to

" Page 16 : 7. Correcting keystoning caused by projection angle".

Rotation

Press ◄ ► to correct incorrect image angle.

Press ◄ to adjust angle to correct.   Correct angle   Press ► to adjust angle to correct.

Pincushion / Barrel

Press ◄► to correct pincushion/barrel distortion.

→

Press ◄► to correct pincushion distortion to correct image.

→

Press ◄► to correct barrel distortion to correct image.

Top Left Corner

Press ◄► to correct top left corner image bias.

→

Press ◄► to correct top left corner image bias to correct image.

Top Right Corner

Press ◄► to correct the right corner image bias.

→

Press ◄► to correct top right corner image bias to correct image.

Bottom Left Corner

Press ◄► to correct the bottom left image bias.

→

Press ◄► to correct bottom left corner image bias to correct image.

Bottom Right Corner

Press ◄► to correct the bottom left image bias.

→

Press ◄► to correct bottom right corner image bias to correct image.

Blanking

TOP

Press ▼▲ on the remote control to adjust the top blanking area on the projected image

Bottom

Press ▼▲ on the remote control to adjust the bottom blanking area on the projected image

Right

Press ◄► on the remote control to adjust the right blanking area on the projected image

Use left blanking function to block the additional image on the screen.

Reset

It will reset all the blanking functions to the default settings that is without any blanking functions enabled.

OSD Menu description

Edge blend

The function of Edge blend is applied in multiple projectors that are projecting at the same screen simultaneously to adjust the uniformity of the images on the screen.

- **Status**

  Press ENTER to select ON or OFF. The function must be set to ON in order to enable the function of Edge blend. If the function is set to OFF, the function of Edge blend is disabled.
- **White Level**→ white level is to set the line from one projector where the other projector last pixel ends. Press▲▼◄► to adjust the white level of the Top. Bottom, Left, Right direction on the projected image.

  As shown in the below drawing, the area D is the overlap area of the projected image 1 and the projected image 2.   The white level lines that is set where the other projector last pixels ends. Color adjustment for matching the images is done with projector toolset with customs color space x and y or with input balance on the OSD.
- **Black Level**→ the purpose of black level is in order to compensate the non overlap zones vs the overlap zone. It increase the black level to the brightness level of the overlap black. It is to adjust the black level of the Top, Bottom, Left, Right direction on the projected images.

  It can be set to adjust the primary color of the projector. For instance, select ALL is to adjust the primary color of Red, Greed, and Blue. Or it can be set to adjust the Red, Green and Blue independently.

  Note: The function combination of Black Level adjustment and 4 Corners is not available
  Note: The function combination of Black Level adjustment and blend along corners is not available.
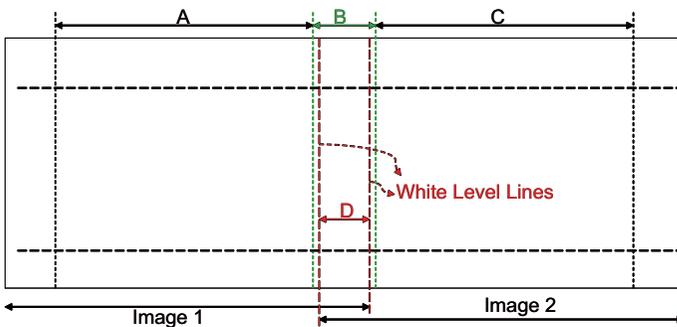
for black level adjustment a black image needs to be connected on the 2 projectors. Zone B will have the sum of the blacks of the 2 projectors. Set the adjustment line of the black level to the position where the non active DMD's of the right projector ends. Set the adjustment line of the black level to the position where the non active DMD's of the left projector ends. Adjust black level of projector A to match the black level with zone B. Adjust the projector C to match the black level with zone B.
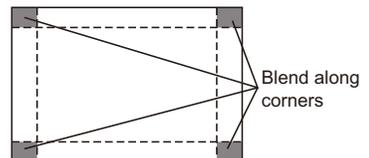
- **Reset**

  The function   can reset the Edge blend settings on the projector. It will restore to the images to the default that is without any Edge blend functions enabled.

- **Adjust Lines**

    When the function is ON, there will be adjust lines on the image in order to easily adjust multiple images. Press ▼▲◄► on the remote control to adjust the position of the lines on the image.

The image below is an example if 2 projectors are projecting at the same image.

1. Horizontally place two projectors and have the two projected images with an overlap area and use the focus/zoom and lens shift functions with test grid pattern to set aproper overlap area for blending with a matched grid size.
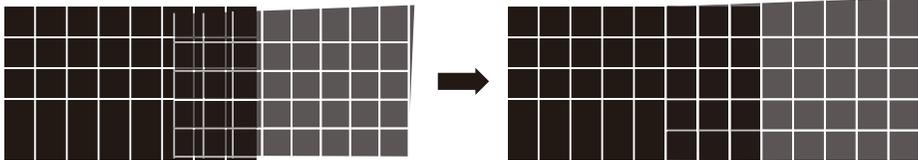
2. Color matching 2 projectors on white is done with P7 (R.G.B.C.M.Y.W) adjust in projector   toolset.

3. Brightness matching 2 projectors can be done with the lamp power(Refer to adjustment by dimming the projector with higher lumens.

4. Use Edge blend-> White level to set the blending size based on the overlap region size.
   Use Edge blend-> Black level position to adjust the start position of black level compensation.
   Use Edge blend-> Black level to raise the brightness of non-overlap zone such that the brightness of the overlap zone and non-overlap zone are matched for black level.

Note1:Please note that the following allowable warp, blanking and Edge blend combination based on the underlying chip specification
Note2:Edge blend / 4 corner combination is available when black level is not adjusted.
Note3Blend along corners is available when black level is not adjusted.

		Keystone	Rotation	Pin/Barrel	4-corner	blanking	ScenergiX White Level — Top/Bottom or Left/Right only	ScenergiX White Level — Blend along corners	ScenergiX Black Level — Black Level
	Keystone		X	X	X	X	X	X	X
	Rotation	X		X	X	X	X	X	X
	Pin/Barrel	X	X		X	X	X	X	X
	4-corner	X	X	X		OK	OK	OK	X
	blanking	X	X	X	OK		OK	OK	OK
ScenergiX White Level	Top/Bottom or Left/Right only	X	X	X	OK	OK			OK
	Blend along corners	X	X	X	OK	OK			X
ScenergiX Black Level	Black Level	X	X	X	X	OK	OK	X	

OSD Menu description

CONTROL

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
			IR Address	<	1	>
			Eco Network Power	<	Off	>
			Network		Enter	
			Menu Position	<	Center	>
			Start Up Logo	<	On	>
			Start Up Chime	<	On	>
			Button 1		Enter	
			Button 2		Enter	
			Button 3		Enter	
			Button 4		Enter	
			Button 5		Enter	
			Trigger 1	<	Auto	>
			Trigger 2	<	16:9	>
			Auto Source	<	On	>
			Language		Enter	

IR Address

Use this function to configure the projector's IR code receive commands from the remote control. The default value is 1.If you have other equipment in your home that could pick up the command from the projector's remote control, it is recommended that you set the remote control code to 2.

When you are running two projectors via serial connection, you can set the code on one projector as "1" and "2" for the other projector. By doing so, you will be able to control two projectors with the same remote control.

When you want to switch your remote control from code 1 projector to code 2 projector, press and hold the ENTER and ADDRESS buttons on the remote control simultaneously (for approximately 5 seconds); the backlight module on the remote control will blink to confirm the switch.

Eco Network Power

The projector can be connected to a network via its RS-232 port and 10/100 BASE-T port for remote operation with two separate boards to control the signal sources from RS-232 and 10/100BASE-T ports. But this function "Eco Network Power" is only available for 10/100BASE-T, will not active when the input source is RS-232.

If you do not require remote operation of the projector over a network, it is recommended that you set this function to On to activate the ECO Network Power. This will turn off the power that is used to control the 10/100 BASE-T board. However, you will not be able to operate the projector remotely over a network as long as the function remains activated.

By setting it to Off, the function will be disabled. You won't be able to conserve power but you can control the projector remotely over a network.

Network

To control the projector via network, after connecting the network cables for a PC and the projector, you can use this OSD function to view the relevant network information (such as IP Address, Subnet Mask, Gateway and DHCP) of the projector. Please configure the PC to be connected to the projector with a proper IP address with the same subnet mask, gateway as the projector. The default IP address of the projector is 192.168.0.100. The network settings of the projector can only be changed through the web-page control or projector Toolset application.

To control the projector via network, please connect to the projector via a web browser with the IP address shown on the OSD menu CONTROL -> Network.

Menu Position

You can use this function to designate which area on the image the OSD Menu will appear.

As you can see from the diagram below, there are five positions where you can choose to have the OSD Menu displayed. The default setting is "Center".
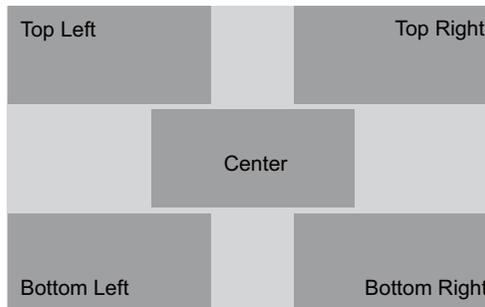
Start Up Logo

You can use this function to have the projector display the HITACHI logo in the start up screen. Set **On** to display the HITACHI logo during start up and **Off** to display a blank image.

> **Note:** The Dukane model 9010 described in this document is manufactured by Hitachi and uses the same firmware, software programs, control code, and accessory parts as Hitachi model CP-WU13K.

Start Up Chime

Set it to On to have the projector play a sound effect during start up; when it is set to off, the projector will not play any sound effect to indicate start up.

Button 1~5

Use this function to designate the image source for each corresponding button.

For example, if you have assigned Button 1 as HDMI1 and Button 2 as YUV1,

when you press **1** on the remote control, the projector will show the image from HDMI1.

when you press **1** on the remote control, the projector will switch to the image from YUV1.

You can choose from eight different input sources on the projector, namely: HDMI1, HDMI2 RGB D-15, YUV1, RGBHV/YUV2, SDI/HDSDI/3G and STEREO DVI

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OSD Menu description

Trigger1 ~2

The projector comes with two sets of Trigger output. You can configure two different devices connected to the projector via the trigger ports to be automatically turned on when the projector is on. There will be a 2-3 second delay prior to activation to prevent operation of this function when the user is choosing the desired aspect ratio.

5:4 Outputs 12V of power on Trigger1 or 2 when the user chooses the 5:4 aspect ratio.

4:3 Outputs 12V of power on Trigger1 or 2 when the user chooses the 4:3 aspect ratio.

16:10 Outputs 12V of power on Trigger1 or 2 when the user chooses the 16:10 aspect ratio.

16:9 Outputs 12V of power on Trigger1 or 2 when the user chooses the 16:9 aspect ratio.

1.88 Outputs 12V of power on Trigger1 or 2 when the user chooses the 1.88 aspect ratio.

2.35 Outputs 12V of power on Trigger1 or 2 when the user chooses the 2.35 aspect ratio.

Letterbox Outputs 12V of power on Trigger1 or 2 when the user chooses the Letterbox aspect ratio.

Native Outputs 12V of power on Trigger1 or 2 when the user chooses the native aspect ratio.

Auto Outputs 12V of power on Trigger 1 or 2 when the projector is turned on.

Auto Source

Select this function to active the projector automatically search input Imaging.

ON: default setting. By enabling this function, the projector will automatically determine the source of input every time it is turned on so that the user will not have to make the selection on the OSD Menu.

Setting the function off will require the user to specify source of image input on the OSD Menu in order for the projector to display the intended image.

This function is not available when the input source is Stereo-DVI.

Language

You can use this function to select the language you wish for the OSD Menu to be displayed in. You can choose from the following nine languages:

English, French, Spanish, German, Portuguese, Simplified Chinese, Traditional Chinese, Japanese and Korean.

SERVICE

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE

Model :   XXXXXXX
Serial Number :   1234567890123
Software Version :   NE06-GD07-13.3-07-07-31-HTAD02
Active/PIP Source :   HDMI1   / RGB D15
Pixel Clock :   154.08MHz
Signal Format :   1920x1200@60Hz
H/V Refresh Rate :   H:74.074KHZ, V:60HZ
Lamp1 Run Time :   122 HRS
Lamp2 Run Time :   122 HRS
Lamp Hour Reset   Enter
Projector Run Time :   122 HRS
Blue Only   <   Off   >
Factory Reset   Enter

Service

The functions covered in this unit relate to the display of some basic information about the projector.

> *Memory of the custom timing files will be erased in the Factory Reset operation.*

- Model: the designated model number of the projector.
- Serial Number: the designated serial number of the projector.
- Software Version: the version of software installed on the projector.
- Active/PIP Source: displays the current PIP sources.
- Pixel Clock: displays the pixel clock of the current input signal.
- Signal Format: displays the format of the current input signal.
- H/V Refresh Rate: displays the horizontal and vertical refresh rates for the current image.
- Lamp1 Run Time: displays Lamp1's current run time.
- Lamp2 Run Time: displays Lamp2's current run time.

> *Notice! When a lamp's run time has reached 1200 hours or when you notice the projected image to be noticeably dimmer, please replace the lamp.*

- Projector Run Time: displays the projector's total operating hours.

Lamp Hour Reset

Use this function to reset the hours for lamp1 and lamp2 to zero.

> *After replacing the lamp, remember to reset the lamp hours to ensure the accuracy of lamp hours displayed in the OSD Menu.*

Blue Only

Enabling this option will make the projector display only blue color to facilitate the process of image inspection for the service personnel. For detailed instructions on how to use this function, consult a qualified service personnel.

Factory Reset

Use this function to restore the configurations in the OSD Menu back to factory default. Note that this function will not apply to items including no signal, network, Projector control, startup Logo, language, High Altitude mode and lamp hours.

> *When Factory Reset is executed, all source memories created by the projector (i.e. timings files) will be erased.*

Lamp and Filter Maintenance

Lamp replacement

From the OSD Menu, you can go to " Page 43 : Lamp1 Run Time ". to check how long a lamp has been used. You should also replace the lamp when the projected image gets noticeably darker. Contact your local dealer to purchase new certified lamps for your projector.

Lamp PN: 456-9010

To replace the projector lamp

1. Turn off the projector and unplug the power cord. Let the projector cool for approximately 45 minutes before removing the lamp module for replacement.

   When you turn off the projector, the lamp inside the projector will still be very hot (approximately 200 ~ 300°C). If you attempt to replace the lamp without allowing the projector to cool, you could risk scalding yourself. This is why you should wait for no less than 45minutes for the lamp to cool down in order to perform the replacement safely.

2. Loosen the Projector lamp cover.
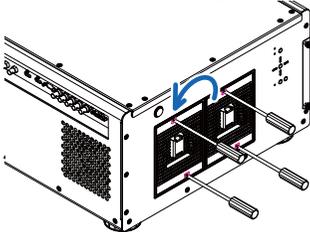
3. Remove the lamp cover.
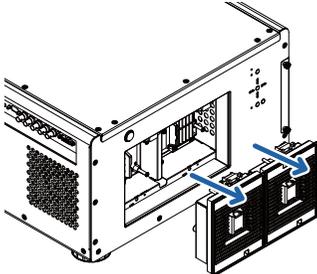
4. Use a screw driver to loosen the screws as shown in the illustration.
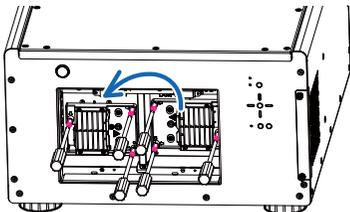
5. Grasp the metal rod on the lamp cover and pull the lamp out.
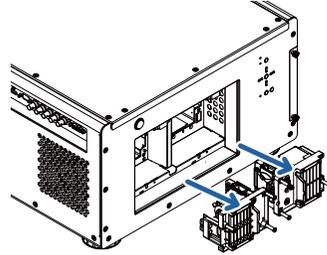
6. Insert the new lamp in the direction shown in the illustration into the lamp assembly; tighten the two screws using a screw driver and make sure the lamp is firmly secured to prevent the lamp from shaking or poor contact.
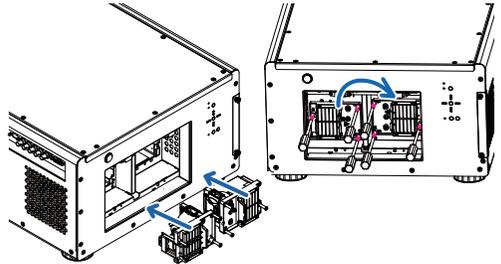
7. Replace the lamp cover and firmly secure the two screws on the lamp cover.
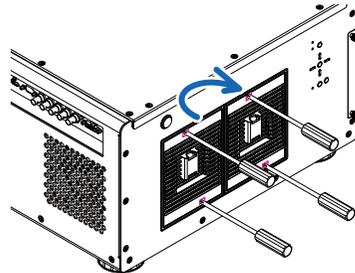
8. Reconnect power to the projector and reset the lamp usage timer. Refer to " Page 43 : Lamp2 Run Time "."Lamp2 Run Time".

Replace the filter

Make sure to replace the filter when it is required to keep the air intake clear of dust, and prevent possible over temperature issue of the projector due to the clog of filter.

To clean the filter at the ventilation slots, refer to the following illustration:

1. Loosen the screws on the projector.
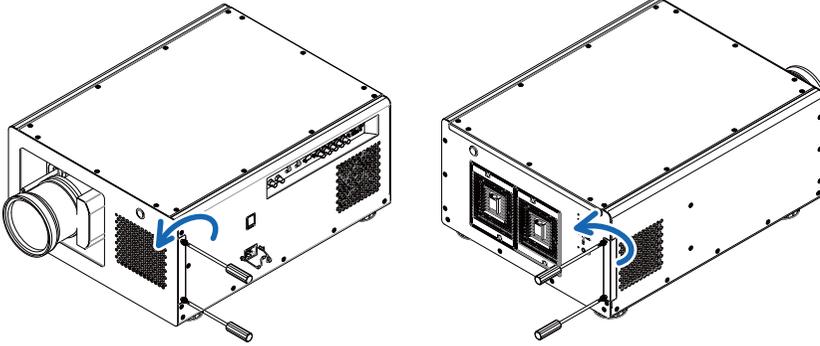
2. Move out the filter's cover.
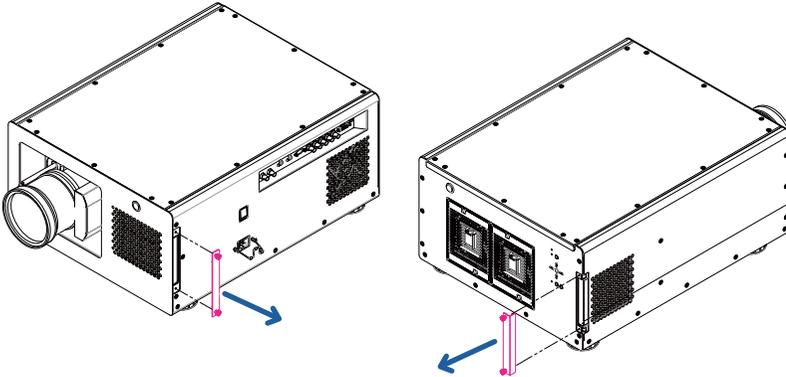
3. Take out the old filter.
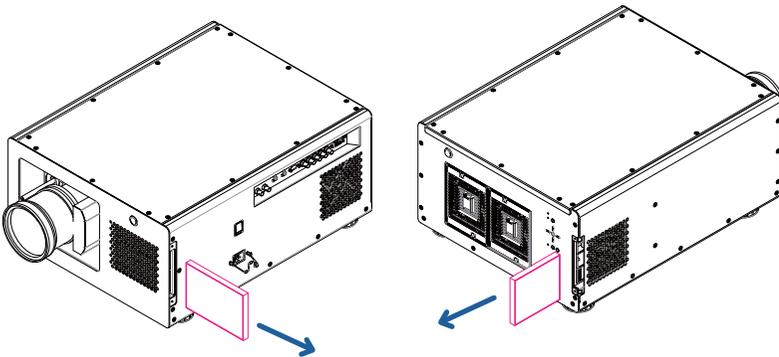
Lamp and filter maintenance

4.   Insert new filter.

Black side

Black side
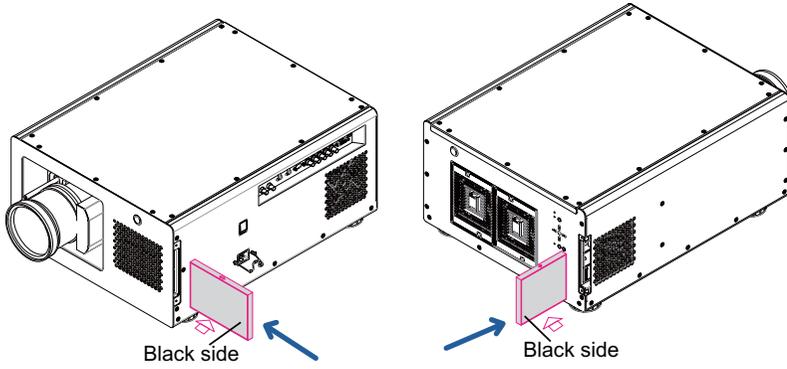
5.   Tighten the screws on the filter cover.
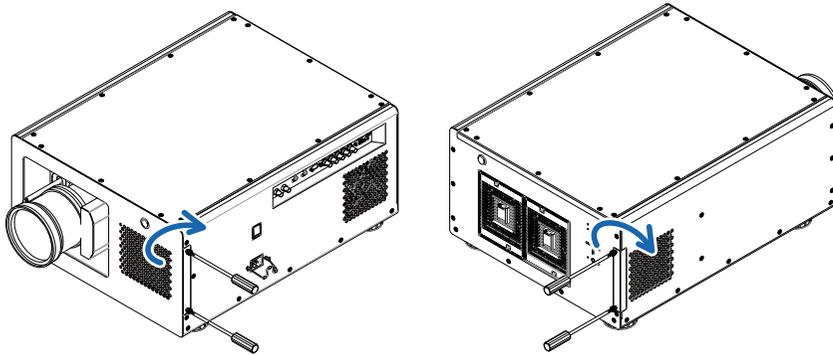
Simple troubleshooting and definitio of the LED indicators

The following table offers a list of common problems with projectors and how to troubleshoot. If the recommended solutions fail to resolve your problem, contact your local dealer to arrange for servicing; do not attempt to service the projector by yourself.

Problem	Possible cause	Solution
You cannot turn on the projector	1. The projector may be unplugged 2. Check the AC POWER SWITCH on the back of the projector and see if it is flipped to ON. 3. The AC socket may be faulty 4. The lens cover is not replaced properly	1. Plug the projector's power cord into a wall outlet 2. Flip the power switch to "I". 3. Make sure the AC socket is working properly. 4. Make sure the lens cover has been properly replaced.
You cannot turn on the projector after turning it off	1. You will not be able to turn on the projector within two minutes after you have just turned it off. This feature is designed to protect the lamp.	1. Wait for the projector to cool down completely before starting it up again (the projector's STAND BY indicator will turn blue)
The remote control does not operate normally	1. The battery might have run out 2. You might have inserted the batteries in the wrong orientations 3. You may be operating the remote control too far away from the projector's IR sensor or exceeded the maximum angle of signal reception ; there might be an obstacle between the projector and the remote control or there might be a source of intense light near the IR receiver. 4. Ø 3.5mm A wired remote connector might be connected to the projector's 3.5mm port. 5. The remote control's address is not consistent with the projector's address.	1. Replace new batteries 2. Make sure the batteries are inserted in the right orientation. 3. Adjust the distance/angle between the projector and the remote control and try again; if there are obstacles between the projector and the remote or source of intense light near the IR sensor resolve these situations and try again. 4. Remove the wired remote cable or operate the projector using wired remote. 5. Press the ENTER button on the remote control followed by the Address button until the panel of the remote control flashes once (approximately 5 seconds) and try again.
You are able to turn on the projector and access the OSD Menu but no picture appears.	1. The projector may not be turned on properly or you have not selected the correct input source. 2. You might not have connected the source device correctly or the source might not be connected to the projector at all.	1. Make sure the projector is turned on properly and select the correct input source. 2. Check the connection between the projector and the input device.
You have connected the projector to a DVD player as the input source but the image appears broken or split in halves.	The DVD player is connected to the projector through component cables (RGB-S or COMPONENT2) and you have set it to progressive scan.	Disable the progress scanning function on the DVD player.
The picture looks dim	1. The image brightness, contrast, color and tint might need proper adjustment. 2. The lamp is due for replacement.	1. Adjust the image brightness, contrast, color and tint. 2. Replace the projector lamp.
The image is too bright or the bright areas are blurry	The contrast might have been set too high.	Lower contrast settings.
The image appears washed out or the dark areas appear too bright	The image brightness might have been set too high.	Lower brightness settings.
The image is blurry	1. The lens may not be in focus. 2. The temperature or humidity of the projector's working environment may have changed in mid operation (i.e. going from cold to warm or dry to humid), leading to condensation of moisture inside the projector.	1. Adjust Lines focus. 2. Turn of the projector first and wait for the moisture in the projector to evaporate.
The color of the image looks pale	The input signal type (RGB-S/COMPONENT2) might not have been connected properly	Check to make sure that the connections between the projector and the input device are correct.
The image flashes occasionally	1. The cables might not have been properly connected or the input device itself may be faulty. 2. If the problem persists, it may also mean the lamp might be faulty.	1. Make sure the connector and the input device have been properly connected; check to see if the input device is in normal working order. 2. Replace the projector lamp.
The colors of the projected image are out of place (i.e. displaying red as blue)	The G/Y, R/Pr, B/Pb cables from the input might have been incorrectly connected to the input.	Please make sure the input source has been correctly connected to the projector.
The noise from the cooling fan suddenly grew louder	The temperature inside the projector might have risen.	When the temperature inside the projector rises, the cooling fan will operate at a higher speed to discharge the internal heat more rapidly.

Simple troubleshooting and definition of the LED indicators

The LED indicator on the projector's rear panel is blinking in red	The lamp or the cooling fan could be faulty.	Refer to the definition of " Page 58 : LED STATUS ".
1. During projection, the lamp suddenly goes off and the picture disappears. 2.The lamp does not turn on even when the projector has been turned on.	The lamp might have been damaged; check the LED indicator on the rear panel of the projector and see if it is blinking in red.	The lamp has reached the end of its service life; please replace it.

LED STATUS
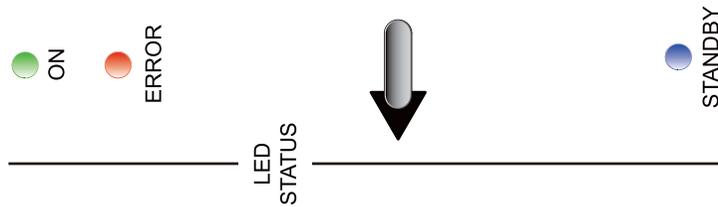
STAND BY

Turns blue	Indicates that the projector is in standby mode; this also means the projector has not been turned on by pressing the SOFT POWER button but has been connected to power.
The indicator is off	This indicates that the projector has either been turned on and is working normally or the projector is not connected to power.

ON

Turns green	This indicates that the projector has been turned on and is working normally.
Flashes in green	This indicates that the projector is currently warming up or cooling down and will not respond to button operations.
The indicator is off	This indicates that the projector is currently in standby mode.

ERROR

Flashes once in red	The projector lamp is faulty; check to see if the lamp is damaged or if it hasn't been properly installed.
Flashes twice in red	The lamp cover is not properly replaced.
Flashes three times in red	The cooling fan inside the projector is not working; seek assistance from a qualified service personnel.
Flashes four times in red	The projector temperature is too high; try cleaning the ventilator slots or unplugging the power cord to resolve the issue.
Turns Red	Please contact your dealer or service company.

Warning

Flashes once in green and red: The lamp is approaching the Replacement Life Cycle. It should be replaced with a new lamp.

Note;   Replacement Life Cycle varies depending upon selected operation mode, environmental conditions and usage.

Status	Blue (Standby)	Green (Power)	Red (Issue)
1. Standby	ON		
2. Lamp is approaching the Replacment Life Cycle		blink — repeat	blink — repeat
3. Cooling / Warm up		blink — repeat	
4. Power on / Normal		ON	
5. Lamp fail			blink (1 pulse) — repeat
6. Lamp door open			blink (2 pulses) — repeat
7. Fan fail			blink (3 pulses) — repeat
8. Over Temperature			blink (4 pulses) — repeat
9. System Error			ON

Remark:

The time period of each step in the above LED blinking pattern is 500 milliseconds, e.g., for "Cooling / Warm up" state, the green LED will ON for 500 milliseconds, and then OFF 500 milliseconds, and then repeat the above LED pattern.

Projector specifications

Specifications

Description	Specifications
Resolution	1920 × 1200 (Native)
Micro display	3 × DLP 0.96" DMD
Contrast	2000:1 (Typical)
Luminance uniformity	≤90%
Lamp	2 × 465W UHB
Projection lens - projection ratio	FL-K01(0.67:1) FL-K02(1.1:1) SL-K03(1.4 - 1.9:1) ML-K04(1.9 - 2.6:1) LL-K05(2.6 - 4.2:1) UL-K06(4.2 - 7.0:1)
Input/Output ports	1 × COMPONENT1 1 x Sync In 1 x Sync Out 2 × HDMI 1 x DVI (dual link) 1 × COMPONENT2 1 × 10/100 BASE-T 1 × RS-232 2 × 12V Trigger 1 × IR ext. 1 x SDI/HDSDI/3G
Primary voltage range	100V - 130V (±10%) 200V - 240V (±10%)
Standby power consumption	2W max power when RJ45 is disable ; 3W when RJ45 is enable
Maximum input resolution	1920 × 1200
Operating temperature	0~40°C Note 1: The normal operating temperature of the DMD is between 10~65°C Note 2: The DMD may operate normally for approximately 10 minutes under 0~10°C short operation under such temperature will not result in DMD damage.
Noise level under normal operation	< 48 dBA
Noise level under Eco mode	< 44 dBA
Weight	34 kg (Without PJ Lens, PD units)

Supported Signal Input Modes

Signal Format	Resolution	Frame Rate	3RCA Y-Pr-Pb	5BNC Y-Pr-Pb	HD15 - RGBHV	HD15 - YUV	HDMI RGB	HDMI YUV 8-bit	HDMI YUV 10-bit	HDMI YUV 12-bit	HD/SDI/3G
PC	640x480	59.94		X	X		X				
	640x480	74.99		X	X		X				
	640x480	85		X	X		X				
	800x600	60.32		X	X		X				
	800x600	75		X	X		X				
	800x600	85.06		X	X		X				
	848x480	47.95		X	X		X				
	848x480	59.94		X	X		X				
	1024*768	60		X	X		X				
	1024*768	75		X	X		X				
	1024*768	85		X	X		X				
	1280x720	47.95		X	X		X				
	1280x1024	60.02		X	X		X				
	1280x1024	75.02		X	X		X				
	1280x1024	85.02		X	X		X				
	1600x1200	60		X	X		X				
	1920x1080	47.95		X	X		X				
	1680x1050	59.94		X	X		X				
	1920x1200	50		X	X		X				
	1920x1200	59.94		X	X		X				
	1920x1200	60		X	X		X				
	1400X1050	60		X	X		X				
	1366x768	60			X		X				
	1440x900	60			X		X				
	1280x768	60			X		X				
	1280x800	60			X		X				
	1280x960	60			X		X				
Apple Mac	640x480	66.59			X		X				
	832x624	74.54			X		X				
NTSC	NTSC (M, 4.43)	59.94									
PAL	PAL (B,G,H,I)	50									
	PAL (N)	50									
	PAL (M)	59.94									
SECAM	SECAM (M)	50									
SDTV	RGBS	50									
	480i	59.94	X								X
	1440x480i	60					X	X	X	X	
	1440x576i	50					X	X	X	X	
	576i	50	X								X
EDTV	480p	59.94	X	X	X	X	X	X	X	X	
	576p	50	X	X	X	X	X	X	X	X	
HDTV	1035i	60	X	X	X	X	X	X	X	X	X
	1080i	50	X	X	X	X	X	X	X	X	X
	1080i (Aus)	50	X	X	X	X	X	X	X	X	
	1080i	59.94	X	X	X	X	X	X	X	X	X
	1080i	60	X	X	X	X	X	X	X	X	X
	720p	50	X	X	X	X	X	X	X	X	X
	720p	59.94	X	X	X	X	X	X	X	X	X
	720p	60	X	X	X	X	X	X	X	X	X
	1080p	23.98	X	X	X	X	X	X	X	X	X
	1080p	24	X	X	X	X	X	X	X	X	X
	1080p	25	X	X	X	X	X	X	X	X	X
	1080p	29.97	X	X	X	X	X	X	X	X	x
	1080p	30	X	X	X	X	X	X	X	X	X
	1080p	50	X	X	X	X	X	X	X	X	X
	1080p	59.94	X	X	X	X	X	X	X	X	X
	1080p	60	X	X	X	X	X	X	X	X	X
new for SDI	1080sf	30									X
	1080sf	25									X

Projector specifications

SDI formats

Timing	SDI Link mode	Signal Standards	Color Encode	Sampling Structure	Bit Depth
NTSC	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:2	10
PAL	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:2	10
1035i60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080i59	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080i60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080P30	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080P25	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080i50	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080P24	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
720P60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
720P50	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080Sf25	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080Sf30	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:2	10
1080P50	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10
1080P59	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10
1080P60	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:2	10
1080P50	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10
1080P59	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10
1080P60	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:2	10

Test Cable: Belden 1694A

DVI dual-link for 3D

Signal Type	Resolution	Frame rate	DVI single-link	DVI dual-link	Reference
PC	1920x 1080	120Hz		V	
	1920x 1080	100Hz		V	
	1920x1200	120Hz		V	Reduced Blanking
	1920x1200	100Hz		V	Reduced Blanking
	1920x 1080	60Hz	V		
	1920x1200	60Hz	V		Reduced Blanking

Dimensions

500mm

295mm

295mm
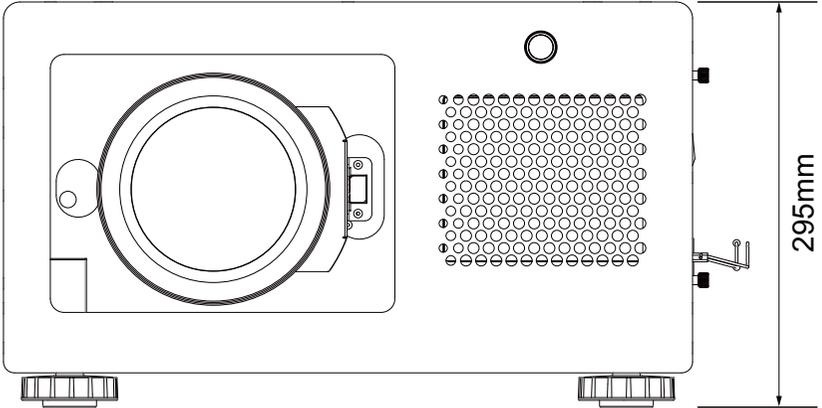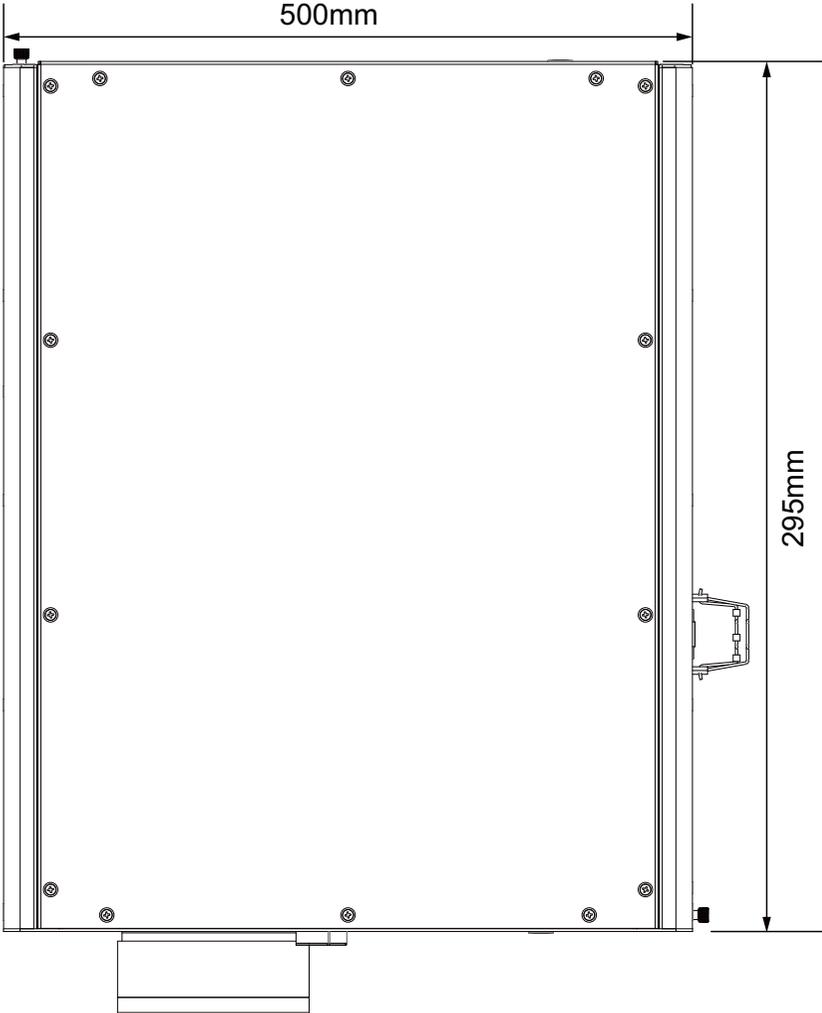
Communication settings

RS-232 Communication

When the projector connects to the computer by RS-232 communication, the projector can be controlled with RS-232 commands from the computer. For details of RS-232 commands, refer to RS-232 Communication command table.

Connection

1. Turn off the projector and the computer.
2. Connect the projector's RS232 port and the computer's RS-232 port with a RS-232 cable (straight) . Use the cable that fulfills the specification shown in the figure
3. Turn the computer on, and after the computer has started up turn the projector on.

RS-232 cable
(**straight**)

RS-232 port of the computer   RS-232 port of the projector

RS-232 port of the computer	RS-232 port of the projector
CD (1)	(1) —
RD(2)	(2) TD
TD (3)	(3) RD
DTR (4)	(4) —
GND (5)	(5) GND
DSR (6)	(6) —
RTS (7)	(7) CTS
DTS (8)	(8) RTS
RI (9)	(9) —
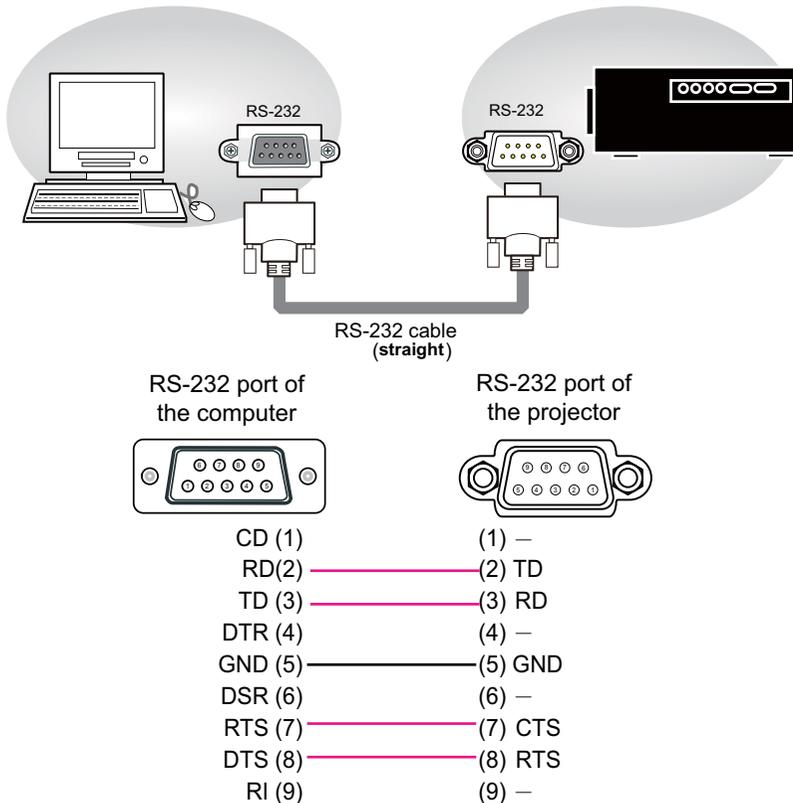
Note: In case of replacement and RS-232 cable (cross) has been installed, please add a packed RS-232 cable (cross) to make connection correctly.

1. Protocol

19200bps,8N1

2. Command format

("h" shows hexadecimal)

Byte Number	0	1	2	3	4	5	6	7	8	9	10	11	12
Command	Header							Data					
	Header code		Packet	Data size		CRC flag		Action		Type		Setting code	
Action	L	H		L	H	L	H	L	H	L	H	L	H
<SET>Change setting to desired value [(cL)(cH)] by [(bL)(bH)].	BEh	EFh	03h	06h	00h	(aL)	(aH)	01h	00h	(bL)	(bH)	(cL)	(cH)
<GET>Read projector internal setup value [(bL)(bH)] .						(aL)	(aH)	02h	00h	(bL)	(bH)	00h	00h
<INCREMENT> Increment setup value [(bL)(bH)] by 1.						(aL)	(aH)	04h	00h	(bL)	(bH)	00h	00h
<DECREMENT> Decrement setup value [(bL)(bH)] by 1.						(aL)	(aH)	05h	00h	(bL)	(bH)	00h	00h
<EXECUTE> Run a command [(bL)(bH)].						(aL)	(aH)	06h	00h	(bL)	(bH)	00h	00h

[Header code] [Packet] [Data size]

Set [BEh, EFh, 03h, 06h, 00h] to byte number 0~4.

[CRC flag]

For byte number 5, 6, refer to RS-232 Communication command table.

[Action]

Set functional code to byte number 7, 8.

<SET> = [01h, 00h], <GET> = [02h, 00h], <INCREMENT> =[04h, 00h]
<DECREMENT> = [05h, 00h], <EXECUTE> = [06h, 00h]

Refer to RS232 Communication command table

[Type] [Setting code]

For byte number 9~12 , , refer to RS-232 Communication command table.

3. Response code / Error code

("h" shows hexadecimal)

4. ACK reply : 06h
   When the projector receives the Set, Increment, Decrement or Execute , command correctly, the projector changes the setting data for the specified , item by [Type], and it returns the code.

5. NAK reply : 15h
   When the projector cannot understand the received command, the projector , returns the error code. In such a case, check the sending code and send the same command again.

6. Error reply : 1Ch + 0000h
   When the projector cannot execute the received command for any reasons, the projector returns the error code. In such a case, check the sending code and the setting status of the projector

7. Data reply : 1Dh + xxxxh
   When the projector receives the GET command correctly, the projector returns the response code and 2 bytes of data.

Note
-For connecting the projector to your devices, please read the manual for each devices, and connect them correctly with suitable cables.
-Operation cannot be guaranteed when the projector receives an undefined command or data.
-Provide an interval of at least 40ms between the response code and any other code.
-The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
-Commands are not accepted during warm-up.
-When the data length is greater than indicated by the data length code, the projector ignore the excess data code. Conversely when the data length is shorter than indicated by the data length code, the projector returns the error code to the computer.

RS-232 Communication command table

Function			Operation	Header Data (7 bytes)				Command Data (6 bytes)			Description
							CRC	Action	Type	Setting Code	
INPUT	Input Selection	Set	HDMI 1	BE EF	03	06 00	0E D2	01 00	00 20	03 00	
			HDMI 2	BE EF	03	06 00	6E D6	01 00	00 20	0D 00	
			RGB D-15	BE EF	03	06 00	FE D2	01 00	00 20	00 00	
			YUV 1	BE EF	03	06 00	AE D1	01 00	00 20	05 00	
			RGBHV/YUV2	BE EF	03	06 00	3E D0	01 00	00 20	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	5E DE	01 00	00 20	12 00	
			STEREO DVI	BE EF	03	06 00	AE D4	01 00	00 20	09 00	
			Get	BE EF	03	06 00	CD D2	02 00	00 20	00 00	
	Input Configuration	Set	Auto	BE EF	03	06 00	02 68	01 00	71 22	00 00	
			YUV HD	BE EF	03	06 00	92 69	01 00	71 22	01 00	
			YUV STD	BE EF	03	06 00	62 69	01 00	71 22	02 00	
			RGB-PC (0 - 255)	BE EF	03	06 00	F2 68	01 00	71 22	03 00	
			RGB-Video (16 - 235)	BE EF	03	06 00	C2 6A	01 00	71 22	04 00	
			Get	BE EF	03	06 00	31 68	02 00	71 22	00 00	
	Input Locking	Set	Auto	BE EF	03	06 00	5B D7	01 00	14 30	01 00	
			48 Hz	BE EF	03	06 00	CB C2	01 00	14 30	30 00	
			50 Hz	BE EF	03	06 00	AB C3	01 00	14 30	32 00	
			60 Hz	BE EF	03	06 00	CB C7	01 00	14 30	3C 00	
			Get	BE EF	03	06 00	F8 D6	02 00	14 30	00 00	
	Auto Power Off	Set	Off	BE EF	03	06 00	3B 86	01 00	10 31	00 00	
			On	BE EF	03	06 00	3B 89	01 00	10 31	14 00	
			Get	BE EF	03	06 00	08 86	02 00	10 31	00 00	
	Auto Power On	Set	Off	BE EF	03	06 00	3B 89	01 00	20 31	00 00	
			On	BE EF	03	06 00	AB 88	01 00	20 31	01 00	
			Get	BE EF	03	06 00	08 89	02 00	20 31	00 00	
	No Signal	Set	Logo	BE EF	03	06 00	CB E3	01 00	04 30	40 00	
			Blue	BE EF	03	06 00	FB D2	01 00	04 30	03 00	
			Black	BE EF	03	06 00	AB D1	01 00	04 30	06 00	
			White	BE EF	03	06 00	5B D1	01 00	04 30	05 00	
			Get	BE EF	03	06 00	38 D2	02 00	04 30	00 00	
	Auto Image Adjust	Set	Off	BE EF	03	06 00	A2 D5	01 00	19 20	00 00	
			Auto	BE EF	03	06 00	32 D4	01 00	19 20	01 00	
			Always	BE EF	03	06 00	62 D8	01 00	19 20	10 00	
			Get	BE EF	03	06 00	91 D5	02 00	19 20	00 00	
IMAGE	Contrast		Increment	BE EF	03	06 00	9B D3	04 00	04 20	00 00	
			Decrement	BE EF	03	06 00	4A D2	05 00	04 20	00 00	
			Get	BE EF	03	06 00	FD D3	02 00	04 20	00 00	
	Brightness		Increment	BE EF	03	06 00	EF D2	04 00	03 20	00 00	
			Decrement	BE EF	03	06 00	3E D3	05 00	03 20	00 00	
			Get	BE EF	03	06 00	89 D2	02 00	03 20	00 00	
	Sharpness		Increment	BE EF	03	06 00	97 72	04 00	01 22	00 00	
			Decrement	BE EF	03	06 00	46 73	05 00	01 22	00 00	
			Get	BE EF	03	06 00	F1 72	02 00	01 22	00 00	
	Noise Reduction		Increment	BE EF	03	06 00	7F 70	04 00	0F 22	00 00	
			Decrement	BE EF	03	06 00	AE 71	05 00	0F 22	00 00	
			Get	BE EF	03	06 00	19 70	02 00	0F 22	00 00	
	Color Temperature	Set	3200K	BE EF	03	06 00	3B EC	01 00	B0 30	20 00	
			5400K	BE EF	03	06 00	5B E2	01 00	B0 30	36 00	
			6500K	BE EF	03	06 00	AB C5	01 00	B0 30	41 00	
			9300K	BE EF	03	06 00	6B CD	01 00	B0 30	5D 00	
			Native	BE EF	03	06 00	0B B4	01 00	B0 30	FF 00	
			Get	BE EF	03	06 00	C8 F5	02 00	B0 30	00 00	
	Input Balance - Red Offset		Increment	BE EF	03	06 00	62 F5	04 00	B5 30	00 00	
			Decrement	BE EF	03	06 00	B3 F4	05 00	B5 30	00 00	
			Get	BE EF	03	06 00	04 F5	02 00	B5 30	00 00	
	Input Balance - Green Offset		Increment	BE EF	03	06 00	26 F5	04 00	B6 30	00 00	
			Decrement	BE EF	03	06 00	F7 F4	05 00	B6 30	00 00	
			Get	BE EF	03	06 00	40 F5	02 00	B6 30	00 00	
	Input Balance - Blue Offset		Increment	BE EF	03	06 00	DA F4	04 00	B7 30	00 00	
			Decrement	BE EF	03	06 00	0B F5	05 00	B7 30	00 00	
			Get	BE EF	03	06 00	BC F4	02 00	B7 30	00 00	
	Input Balance - Red Gain		Increment	BE EF	03	06 00	52 F4	04 00	B1 30	00 00	
			Decrement	BE EF	03	06 00	83 F5	05 00	B1 30	00 00	
			Get	BE EF	03	06 00	34 F4	02 00	B1 30	00 00	
	Input Balance - Green Gain		Increment	BE EF	03	06 00	16 F4	04 00	B2 30	00 00	
			Decrement	BE EF	03	06 00	C7 F5	05 00	B2 30	00 00	
			Get	BE EF	03	06 00	70 F4	02 00	B2 30	00 00	
	Input Balance - Bluie Gain		Increment	BE EF	03	06 00	EA F5	04 00	B3 30	00 00	
			Decrement	BE EF	03	06 00	3B F4	05 00	B3 30	00 00	
			Get	BE EF	03	06 00	8C F5	02 00	B3 30	00 00	

Communication settings

RS-232 Communication command table (continue)

Function	Operation			Header Data (7 bytes)			CRC	Command Data (6 bytes)			Description
								Action	Type	Setting Code	
IMAGE	Aspect Ratio	Set	5:4	BE EF	03	06 00	AE D7	01 00	08 20	0B 00	
			4:3	BE EF	03	06 00	9E D0	01 00	08 20	00 00	
			16:10	BE EF	03	06 00	3E D6	01 00	08 20	0A 00	
			16:9	BE EF	03	06 00	0E D1	01 00	08 20	01 00	
			1.88	BE EF	03	06 00	9E D5	01 00	08 20	0C 00	
			2.35	BE EF	03	06 00	0E D4	01 00	08 20	0D 00	
			Letterbox	BE EF	03	06 00	AE D2	01 00	08 20	07 00	
			Native	BE EF	03	06 00	5E DD	01 00	08 20	10 00	
			Unscaled	BE EF	03	06 00	5E D7	01 00	08 20	08 00	
			Get	BE EF	03	06 00	AD D0	02 00	08 20	00 00	
	Timings - H Total		Increment	BE EF	03	06 00	D3 82	04 00	02 21	00 00	
			Decrement	BE EF	03	06 00	02 83	05 00	02 21	00 00	
			Get	BE EF	03	06 00	B5 82	02 00	02 21	00 00	
	Timings - H Start		Increment	BE EF	03	06 00	97 82	04 00	01 21	00 00	
			Decrement	BE EF	03	06 00	46 83	05 00	01 21	00 00	
			Get	BE EF	03	06 00	F1 82	02 00	01 21	00 00	
	Timings - H Phase		Increment	BE EF	03	06 00	2F 83	04 00	03 21	00 00	
			Decrement	BE EF	03	06 00	FE 82	05 00	03 21	00 00	
			Get	BE EF	03	06 00	49 83	02 00	03 21	00 00	
	Timings - V Start		Increment	BE EF	03	06 00	6B 83	04 00	00 21	00 00	
			Decrement	BE EF	03	06 00	BA 82	05 00	00 21	00 00	
			Get	BE EF	03	06 00	0D 83	02 00	00 21	00 00	
	Auto Image Execute		Execute	BE EF	03	06 00	91 D0	06 00	0A 20	00 00	
LAYOUT	Zoom	Set	Off	BE EF	03	06 00	AB D4	01 00	1C 30	00 00	
			Crop	BE EF	03	06 00	3B D5	01 00	1C 30	01 00	
			Zoom	BE EF	03	06 00	CB D5	01 00	1C 30	02 00	
			Get	BE EF	03	06 00	98 D4	02 00	1C 30	00 00	
	Main Select	Set	HDMI 1	BE EF	03	06 00	3E 23	01 00	04 23	03 00	
			HDMI 2	BE EF	03	06 00	5E 27	01 00	04 23	0D 00	
			RGB D-15	BE EF	03	06 00	CE 23	01 00	04 23	00 00	
			YUV 1	BE EF	03	06 00	9E 20	01 00	04 23	05 00	
			RGBHV/YUV2	BE EF	03	06 00	0E 21	01 00	04 23	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	6E 2F	01 00	04 23	12 00	
			Get	BE EF	03	06 00	FD 23	02 00	04 23	00 00	
	PIP Select	Set	HDMI 1	BE EF	03	06 00	B6 23	01 00	02 23	03 00	
			HDMI 2	BE EF	03	06 00	D6 27	01 00	02 23	0D 00	
			RGB D-15	BE EF	03	06 00	46 23	01 00	02 23	00 00	
			YUV 1	BE EF	03	06 00	16 20	01 00	02 23	05 00	
			RGBHV/YUV2	BE EF	03	06 00	86 21	01 00	02 23	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	E6 2F	01 00	02 23	12 00	
			Get	BE EF	03	06 00	75 23	02 00	02 23	00 00	
	PIP Position	Set	Top left	BE EF	03	06 00	02 23	01 00	01 23	00 00	
			Top right	BE EF	03	06 00	92 22	01 00	01 23	01 00	
			Bottom left	BE EF	03	06 00	62 22	01 00	01 23	02 00	
			Bottom right	BE EF	03	06 00	F2 23	01 00	01 23	03 00	
			Split L-R	BE EF	03	06 00	C2 2E	01 00	01 23	10 00	
			Get	BE EF	03	06 00	31 23	02 00	01 23	00 00	
	PIP	Set	Off	BE EF	03	06 00	3E 26	01 00	10 23	00 00	
			On	BE EF	03	06 00	5E 27	01 00	10 23	02 00	
			Get	BE EF	03	06 00	0D 26	02 00	10 23	00 00	
LAMPS	Mode	Set	ECO	BE EF	03	06 00	AB 22	01 00	00 33	01 00	
			Normal	BE EF	03	06 00	3B 23	01 00	00 33	00 00	
			Power	BE EF	03	06 00	FB 2E	01 00	00 33	10 00	
			Get	BE EF	03	06 00	08 23	02 00	00 33	00 00	
	Lamps	Set	Single	BE EF	03	06 00	DF 2C	01 00	0B 33	10 00	
			Dual	BE EF	03	06 00	1F 21	01 00	0B 33	00 00	
			Get	BE EF	03	06 00	2C 21	02 00	0B 33	00 00	
	High Altitude Mode	Set	Off	BE EF	03	06 00	E3 12	01 00	00 4C	00 00	
			On	BE EF	03	06 00	73 13	01 00	00 4C	01 00	
			Get	BE EF	03	06 00	D0 12	02 00	00 4C	00 00	
	Lamp Power		Get	BE EF	03	06 00	7C 22	02 00	07 33	00 00	
			Increment	BE EF	03	06 00	1A 22	04 00	07 33	00 00	
			Decrement	BE EF	03	06 00	CB 23	05 00	07 33	00 00	
	Lamp1 Status		Get	BE EF	03	06 00	E0 21	02 00	0E 33	00 00	
	Lamp2 Status		Get	BE EF	03	06 00	1C 20	02 00	0F 33	00 00	

RS-232 Communication command table (continue)

Function	Operation			Header Data (7 bytes)			CRC	Command Data (6 bytes)			Description
								Action	Type	Setting Code	
ALIGNMENT	Rear Projection / Ceiling Mode	Set	Front / Desktop	BE EF	03	06 00	C7 D2	01 00	01 30	00 00	
			Rear / Desktop	BE EF	03	06 00	57 D3	01 00	01 30	01 00	
			Rear / Ceiling	BE EF	03	06 00	A7 D3	01 00	01 30	02 00	
			Front / Ceiling	BE EF	03	06 00	37 D2	01 00	01 30	03 00	
			Get	BE EF	03	06 00	F4 D2	02 00	01 30	00 00	
	Lens Control - Zoom		Increment	BE EF	03	06 00	96 92	04 00	01 24	00 00	
			Decrement	BE EF	03	06 00	47 93	05 00	01 24	00 00	
	Lens Control - Focus		Decrement	BE EF	03	06 00	BB 92	05 00	00 24	00 00	
			Increment	BE EF	03	06 00	6A 93	04 00	00 24	00 00	
	Lens Control - Shift V		Increment	BE EF	03	06 00	D2 92	04 00	02 24	00 00	
			Decrement	BE EF	03	06 00	03 93	05 00	02 24	00 00	
	Lens Control - Shift H		Increment	BE EF	03	06 00	2E 93	04 00	03 24	00 00	
			Decrement	BE EF	03	06 00	FF 92	05 00	03 24	00 00	
	Dynamic Contrast	Set	Off	BE EF	03	06 00	FE 5A	01 00	80 22	00 00	
			On	BE EF	03	06 00	6E 5B	01 00	80 22	01 00	
			Get	BE EF	03	06 00	CD 5A	02 00	80 22	00 00	
	Gamma	Set	1.8	BE EF	03	06 00	3B 86	01 00	A0 30	B4 00	
			2.0	BE EF	03	06 00	FB A6	01 00	A0 30	C8 00	
			2.2	BE EF	03	06 00	FB A9	01 00	A0 30	DC 00	
			2.35	BE EF	03	06 00	CB BF	01 00	A0 30	EB 00	
			2.5	BE EF	03	06 00	9B B3	01 00	A0 30	FA 00	
			DICOM SIM.	BE EF	03	06 00	8B F0	01 00	A0 30	FF FF	
			Get	BE EF	03	06 00	08 F1	02 00	A0 30	00 00	
	Internal Patterns	Set	Off	BE EF	03	06 00	FB FA	01 00	80 30	00 00	
			Color Bars	BE EF	03	06 00	AB F6	01 00	80 30	11 00	
			Hatch	BE EF	03	06 00	5B F6	01 00	80 30	12 00	
			Burst	BE EF	03	06 00	CB F7	01 00	80 30	13 00	
			Red	BE EF	03	06 00	FB F5	01 00	80 30	14 00	
			Green	BE EF	03	06 00	6B F4	01 00	80 30	15 00	
			Blue	BE EF	03	06 00	9B F4	01 00	80 30	16 00	
			White	BE EF	03	06 00	0B F5	01 00	80 30	17 00	
			Black	BE EF	03	06 00	FB F0	01 00	80 30	18 00	
			TI-Red	BE EF	03	06 00	6B F1	01 00	80 30	19 00	
			TI-Green	BE EF	03	06 00	9B F1	01 00	80 30	1A 00	
			TI-Blue	BE EF	03	06 00	0B F0	01 00	80 30	1B 00	
			TI-Ramp	BE EF	03	06 00	3B F2	01 00	80 30	1C 00	
			Get	BE EF	03	06 00	C8 FA	02 00	80 30	00 00	
	Color Space	Set	Native	BE EF	03	06 00	FE 69	01 00	70 22	00 00	
			EBU	BE EF	03	06 00	6E 68	01 00	70 22	01 00	
			SMPTE	BE EF	03	06 00	9E 68	01 00	70 22	02 00	
			Custom	BE EF	03	06 00	0E 69	01 00	70 22	03 00	
			Get	BE EF	03	06 00	CD 69	02 00	70 22	00 00	
	Lens To Midposition		Execute	BE EF	03	06 00	B8 93	06 00	04 24	00 00	
	Warp - H Keystone		Increment	BE EF	03	06 00	8F D0	04 00	0B 20	00 00	
			Decrement	BE EF	03	06 00	5E D1	05 00	0B 20	00 00	
			Get	BE EF	03	06 00	E9 D0	02 00	0B 20	00 00	
	Warp - V Keystone		Increment	BE EF	03	06 00	DF D3	04 00	07 20	00 00	
			Decrement	BE EF	03	06 00	0E D2	05 00	07 20	00 00	
			Get	BE EF	03	06 00	B9 D3	02 00	07 20	00 00	
	Warp - Rotation		Increment	BE EF	03	06 00	AB 99	04 00	70 21	00 00	
			Decrement	BE EF	03	06 00	7A 98	05 00	70 21	00 00	
			Get	BE EF	03	06 00	CD 99	02 00	70 21	00 00	
	Warp - Pincushion / Barrel		Increment	BE EF	03	06 00	57 98	04 00	71 21	00 00	
			Decrement	BE EF	03	06 00	86 99	05 00	71 21	00 00	
			Get	BE EF	03	06 00	31 98	02 00	71 21	00 00	
	Warp - Top left corner - x		Increment	BE EF	03	06 00	57 89	04 00	21 21	00 00	
			Decrement	BE EF	03	06 00	86 88	05 00	21 21	00 00	
			Get	BE EF	03	06 00	31 89	02 00	21 21	00 00	
	Warp - Top left corner - y		Increment	BE EF	03	06 00	13 89	04 00	22 21	00 00	
			Decrement	BE EF	03	06 00	C2 88	05 00	22 21	00 00	
			Get	BE EF	03	06 00	75 89	02 00	22 21	00 00	
	Warp - Top right corner - x		Increment	BE EF	03	06 00	EF 88	04 00	23 21	00 00	
			Decrement	BE EF	03	06 00	3E 89	05 00	23 21	00 00	
			Get	BE EF	03	06 00	89 88	02 00	23 21	00 00	
	Warp - Top right corner - y		Increment	BE EF	03	06 00	9B 89	04 00	24 21	00 00	
			Decrement	BE EF	03	06 00	4A 88	05 00	24 21	00 00	
			Get	BE EF	03	06 00	FD 89	02 00	24 21	00 00	
	Warp - Bottom left corner - x		Increment	BE EF	03	06 00	67 88	04 00	25 21	00 00	
			Decrement	BE EF	03	06 00	B6 89	05 00	25 21	00 00	
			Get	BE EF	03	06 00	01 88	02 00	25 21	00 00	
	Warp - Bottom left corner - y		Increment	BE EF	03	06 00	23 88	04 00	26 21	00 00	
			Decrement	BE EF	03	06 00	F2 89	05 00	26 21	00 00	
			Get	BE EF	03	06 00	45 88	02 00	26 21	00 00	
	Warp - Bottom right corner		Increment	BE EF	03	06 00	DF 89	04 00	27 21	00 00	
			Decrement	BE EF	03	06 00	0E 88	05 00	27 21	00 00	
			Get	BE EF	03	06 00	B9 89	02 00	27 21	00 00	

Communication settings

RS-232 Communication command table (continue)

Function		Operation		Header Data (7 bytes)				Command Data (6 bytes)			Description
							CRC	Action	Type	Setting Code	
ALIGNMENT	Warp - Bottom right corner	Increment		BE EF	03	06 00	CB 8A	04 00	28 21	00 00	
		Decrement		BE EF	03	06 00	1A 8B	05 00	28 21	00 00	
		Get		BE EF	03	06 00	AD 8A	02 00	28 21	00 00	
	Warp - Reset	Execute		BE EF	03	06 00	F1 99	06 00	72 21	00 00	
	Warp - Recover	Execute		BE EF	03	06 00	0D 98	06 00	73 21	00 00	
	Blanking - Top	Increment		BE EF	03	06 00	8A DA	04 00	2B 30	00 00	
		Decrement		BE EF	03	06 00	5B DB	05 00	2B 30	00 00	
		Get		BE EF	03	06 00	EC DA	02 00	2B 30	00 00	
	Blanking - Bottom	Increment		BE EF	03	06 00	FE DB	04 00	2C 30	00 00	
		Decrement		BE EF	03	06 00	2F DA	05 00	2C 30	00 00	
		Get		BE EF	03	06 00	98 DB	02 00	2C 30	00 00	
	Blanking - Left	Increment		BE EF	03	06 00	02 DA	04 00	2D 30	00 00	
		Decrement		BE EF	03	06 00	D3 DB	05 00	2D 30	00 00	
		Get		BE EF	03	06 00	64 DA	02 00	2D 30	00 00	
	Blanking - Right	Increment		BE EF	03	06 00	46 DA	04 00	2E 30	00 00	
		Decrement		BE EF	03	06 00	97 DB	05 00	2E 30	00 00	
		Get		BE EF	03	06 00	20 DA	02 00	2E 30	00 00	
	Blanking - Reset	Execute		BE EF	03	06 00	58 DA	06 00	2F 30	00 00	
	Edge Blend - Status	Set	Off	BE EF	03	06 00	FB A0	01 00	A0 31	00 00	
			On	BE EF	03	06 00	6B A1	01 00	A0 31	01 00	
		Get		BE EF	03	06 00	C8 A0	02 00	A0 31	00 00	
	Edge Blend - White Level - Top	Increment		BE EF	03	06 00	52 A1	04 00	A1 31	00 00	
		Decrement		BE EF	03	06 00	83 A0	05 00	A1 31	00 00	
		Get		BE EF	03	06 00	34 A1	02 00	A1 31	00 00	
	Edge Blend - White Level - Bottom	Increment		BE EF	03	06 00	16 A1	04 00	A2 31	00 00	
		Decrement		BE EF	03	06 00	C7 A0	05 00	A2 31	00 00	
		Get		BE EF	03	06 00	70 A1	02 00	A2 31	00 00	
	Edge Blend - White Level - Left	Increment		BE EF	03	06 00	EA A0	04 00	A3 31	00 00	
		Decrement		BE EF	03	06 00	3B A1	05 00	A3 31	00 00	
		Get		BE EF	03	06 00	8C A0	02 00	A3 31	00 00	
	Edge Blend - White Level - Right	Increment		BE EF	03	06 00	9E A1	04 00	A4 31	00 00	
		Decrement		BE EF	03	06 00	4F A0	05 00	A4 31	00 00	
		Get		BE EF	03	06 00	F8 A1	02 00	A4 31	00 00	
	Edge Blend - Black Level - Top	Increment		BE EF	03	06 00	62 A0	04 00	A5 31	00 00	
		Decrement		BE EF	03	06 00	B3 A1	05 00	A5 31	00 00	
		Get		BE EF	03	06 00	04 A0	02 00	A5 31	00 00	
	Edge Blend - Black Level - Bottom	Increment		BE EF	03	06 00	26 A0	04 00	A6 31	00 00	
		Decrement		BE EF	03	06 00	F7 A1	05 00	A6 31	00 00	
		Get		BE EF	03	06 00	40 A0	02 00	A6 31	00 00	
	Edge Blend - Black Level - Left	Increment		BE EF	03	06 00	DA A1	04 00	A7 31	00 00	
		Decrement		BE EF	03	06 00	0B A0	05 00	A7 31	00 00	
		Get		BE EF	03	06 00	BC A1	02 00	A7 31	00 00	
	Edge Blend - Black Level - Right	Increment		BE EF	03	06 00	CE A2	04 00	A8 31	00 00	
		Decrement		BE EF	03	06 00	1F A3	05 00	A8 31	00 00	
		Get		BE EF	03	06 00	A8 A2	02 00	A8 31	00 00	
	Edge Blend - Black Level - Red	Increment		BE EF	03	06 00	32 A3	04 00	A9 31	00 00	
		Decrement		BE EF	03	06 00	E3 A2	05 00	A9 31	00 00	
		Get		BE EF	03	06 00	54 A3	02 00	A9 31	00 00	
	Edge Blend - Black Level - Green	Increment		BE EF	03	06 00	76 A3	04 00	AA 31	00 00	
		Decrement		BE EF	03	06 00	A7 A2	05 00	AA 31	00 00	
		Get		BE EF	03	06 00	10 A3	02 00	AA 31	00 00	
	Edge Blend - Black Level - Blue	Increment		BE EF	03	06 00	8A A2	04 00	AB 31	00 00	
		Decrement		BE EF	03	06 00	5B A3	05 00	AB 31	00 00	
		Get		BE EF	03	06 00	EC A2	02 00	AB 31	00 00	
	Edge Blend - Black Level - All	Increment		BE EF	03	06 00	FE A3	04 00	AC 31	00 00	
		Decrement		BE EF	03	06 00	2F A2	05 00	AC 31	00 00	
		Get		BE EF	03	06 00	98 A3	02 00	AC 31	00 00	
	Edge Blend - Reset	Execute		BE EF	03	06 00	E0 A3	06 00	AD 31	00 00	
	Edge Blend - Adjust Lines	Set	Off	BE EF	03	06 00	13 A2	01 00	AE 31	00 00	
			On	BE EF	03	06 00	83 A3	01 00	AE 31	01 00	

RS-232 Communication command table (continue)

Function		Operation		Header Data (7 bytes)				Command Data (6 bytes)			Description
							CRC	Action	Type	Setting Code	
CONTROL	IR Address	Set	remote code 1	BE EF	03	06 00	0F 31	01 00	08 26	01 00	
			remote code 2	BE EF	03	06 00	FF 31	01 00	08 26	02 00	
			Get	BE EF	03	06 00	AC 30	02 00	08 26	00 00	
	Eco Network Power	Set	Off (RJ45 Power On)	BE EF	03	06 00	D6 D2	01 00	01 60	00 00	
			On (RJ45 Power Off)	BE EF	03	06 00	46 D3	01 00	01 60	01 00	
			Get	BE EF	03	06 00	E5 D2	02 00	01 60	00 00	
	IP Address - 1st Octet		Get	BE EF	03	06 00	F3 07	02 00	11 29	00 00	
	IP Address - 2nd Octet		Get	BE EF	03	06 00	B7 07	02 00	12 29	00 00	
	IP Address - 3rd Octet		Get	BE EF	03	06 00	4B 06	02 00	13 29	00 00	
	IP Address - 4th Octet		Get	BE EF	03	06 00	3F 07	02 00	14 29	00 00	
	Subnet Mask - 1st Octet		Get	BE EF	03	06 00	C3 06	02 00	15 29	00 00	
	Subnet Mask - 2nd Octet		Get	BE EF	03	06 00	87 06	02 00	16 29	00 00	
	Subnet Mask - 3rd Octet		Get	BE EF	03	06 00	7B 07	02 00	17 29	00 00	
	Subnet Mask - 4th Octet		Get	BE EF	03	06 00	6F 04	02 00	18 29	00 00	
	Default Gateway - 1st Octet		Get	BE EF	03	06 00	93 05	02 00	19 29	00 00	
	Default Gateway - 2nd Octet		Get	BE EF	03	06 00	D7 05	02 00	1A 29	00 00	
	Default Gateway - 3rd Octet		Get	BE EF	03	06 00	2B 04	02 00	1B 29	00 00	
	Default Gateway - 4th Octet		Get	BE EF	03	06 00	5F 05	02 00	1C 29	00 00	
	DHCP	Set	Off	BE EF	03	06 00	3C 06	01 00	10 29	00 00	
			On	BE EF	03	06 00	AC 07	01 00	10 29	01 00	
			Get	BE EF	03	06 00	0F 06	02 00	10 29	00 00	
	Menu Position	Set	Top left	BE EF	03	06 00	57 D5	01 00	1D 30	00 00	
			Top right	BE EF	03	06 00	C7 D4	01 00	1D 30	01 00	
			Bottom left	BE EF	03	06 00	37 D4	01 00	1D 30	02 00	
			Bottom right	BE EF	03	06 00	A7 D5	01 00	1D 30	03 00	
			center	BE EF	03	06 00	97 D7	01 00	1D 30	04 00	
			Get	BE EF	03	06 00	64 D5	02 00	1D 30	00 00	
	Start Up Logo	Set	Off	BE EF	03	06 00	13 D5	01 00	1E 30	00 00	
			On	BE EF	03	06 00	83 D4	01 00	1E 30	01 00	
			Get	BE EF	03	06 00	20 D5	02 00	1E 30	00 00	
	Start Up Chime	Set	Off	BE EF	03	06 00	EF D4	01 00	1F 30	00 00	
			On	BE EF	03	06 00	7F D5	01 00	1F 30	01 00	
			Get	BE EF	03	06 00	DC D4	02 00	1F 30	00 00	
	Button 1	Set	HDMI 1	BE EF	03	06 00	CA 33	01 00	00 36	03 00	
			HDMI 2	BE EF	03	06 00	AA 37	01 00	00 36	0D 00	
			RGB D-15	BE EF	03	06 00	3A 33	01 00	00 36	00 00	
			YUV 1	BE EF	03	06 00	6A 30	01 00	00 36	05 00	
			RGBHV/YUV2	BE EF	03	06 00	FA 31	01 00	00 36	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	FA 57	01 00	00 36	8C 00	
			STEREO DVI	BE EF	03	06 00	6A 35	01 00	00 36	09 00	
			Get	BE EF	03	06 00	09 33	02 00	00 36	00 00	
	Button 2	Set	HDMI 1	BE EF	03	06 00	36 32	01 00	01 36	03 00	
			HDMI 2	BE EF	03	06 00	56 36	01 00	01 36	0D 00	
			RGB D-15	BE EF	03	06 00	C6 32	01 00	01 36	00 00	
			YUV 1	BE EF	03	06 00	96 31	01 00	01 36	05 00	
			RGBHV/YUV2	BE EF	03	06 00	06 30	01 00	01 36	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	06 56	01 00	01 36	8C 00	
			STEREO DVI	BE EF	03	06 00	96 34	01 00	01 36	09 00	
			Get	BE EF	03	06 00	F5 32	02 00	01 36	00 00	
	Button 3	Set	HDMI 1	BE EF	03	06 00	72 32	01 00	02 36	03 00	
			HDMI 2	BE EF	03	06 00	12 36	01 00	02 36	0D 00	
			RGB D-15	BE EF	03	06 00	82 32	01 00	02 36	00 00	
			YUV 1	BE EF	03	06 00	D2 31	01 00	02 36	05 00	
			RGBHV/YUV2	BE EF	03	06 00	42 30	01 00	02 36	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	42 56	01 00	02 36	8C 00	
			STEREO DVI	BE EF	03	06 00	D2 34	01 00	02 36	09 00	
			Get	BE EF	03	06 00	B1 32	02 00	02 36	00 00	
	Button 4	Set	HDMI 1	BE EF	03	06 00	8E 33	01 00	03 36	03 00	
			HDMI 2	BE EF	03	06 00	EE 37	01 00	03 36	0D 00	
			RGB D-15	BE EF	03	06 00	7E 33	01 00	03 36	00 00	
			YUV 1	BE EF	03	06 00	2E 30	01 00	03 36	05 00	
			RGBHV/YUV2	BE EF	03	06 00	BE 31	01 00	03 36	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	BE 57	01 00	03 36	8C 00	
			STEREO DVI	BE EF	03	06 00	2E 35	01 00	03 36	09 00	
			Get	BE EF	03	06 00	4D 33	02 00	03 36	00 00	

Communication settings

RS-232 Communication command table (continue)

				Header Data (7 bytes)				Command Data (6 bytes)			Description
Function		Operation					CRC	Action	Type	Setting Code	
CONTROL	Button 5	Set	HDMI 1	BE EF	03	06 00	FA 32	01 00	04 36	03 00	
			HDMI 2	BE EF	03	06 00	9A 36	01 00	04 36	0D 00	
			RGB D-15	BE EF	03	06 00	0A 32	01 00	04 36	00 00	
			YUV 1	BE EF	03	06 00	5A 31	01 00	04 36	05 00	
			RGBHV/YUV2	BE EF	03	06 00	CA 30	01 00	04 36	04 00	
			SDI/HDSDI/3G	BE EF	03	06 00	CA 56	01 00	04 36	8C 00	
			STEREO DVI	BE EF	03	06 00	5A 34	01 00	04 36	09 00	
			Get	BE EF	03	06 00	39 32	02 00	04 36	00 00	
	Trigger 1	Set	5:4	BE EF	03	06 00	CF 8E	01 00	70 24	0B 00	
			4:3	BE EF	03	06 00	FF 89	01 00	70 24	00 00	
			16:10	BE EF	03	06 00	5F 8F	01 00	70 24	0A 00	
			16:9	BE EF	03	06 00	6F 88	01 00	70 24	01 00	
			1.88	BE EF	03	06 00	FF 8C	01 00	70 24	0C 00	
			2.35	BE EF	03	06 00	6F 8D	01 00	70 24	0D 00	
			Letterbox	BE EF	03	06 00	CF 8B	01 00	70 24	07 00	
			Native	BE EF	03	06 00	3F 84	01 00	70 24	10 00	
			Unscaled	BE EF	03	06 00	3F 8E	01 00	70 24	08 00	
			Auto	BE EF	03	06 00	3F B8	01 00	70 24	40 00	
			Get	BE EF	03	06 00	CC 89	02 00	70 24	00 00	
	Trigger 2	Set	5:4	BE EF	03	06 00	33 8F	01 00	71 24	0B 00	
			4:3	BE EF	03	06 00	03 88	01 00	71 24	00 00	
			16:10	BE EF	03	06 00	A3 8E	01 00	71 24	0A 00	
			16:9	BE EF	03	06 00	93 89	01 00	71 24	01 00	
			1.88	BE EF	03	06 00	03 8D	01 00	71 24	0C 00	
			2.35	BE EF	03	06 00	93 8C	01 00	71 24	0D 00	
			Letterbox	BE EF	03	06 00	33 8A	01 00	71 24	07 00	
			Native	BE EF	03	06 00	C3 85	01 00	71 24	10 00	
			Unscaled	BE EF	03	06 00	C3 8F	01 00	71 24	08 00	
			Auto	BE EF	03	06 00	C3 B9	01 00	71 24	40 00	
			Get	BE EF	03	06 00	30 88	02 00	71 24	00 00	
	Auto Source	Set	Off	BE EF	03	06 00	B6 D6	01 00	16 20	00 00	
			On	BE EF	03	06 00	26 D7	01 00	16 20	01 00	
			Get	BE EF	03	06 00	85 D6	02 00	16 20	00 00	
	Language	Set	English	BE EF	03	06 00	F7 D3	01 00	05 30	00 00	
			French	BE EF	03	06 00	67 D2	01 00	05 30	01 00	
			Spanish	BE EF	03	06 00	07 D3	01 00	05 30	03 00	
			German	BE EF	03	06 00	97 D2	01 00	05 30	02 00	
			Portuese	BE EF	03	06 00	C7 D1	01 00	05 30	07 00	
			Chinese Simplified	BE EF	03	06 00	A7 D5	01 00	05 30	09 00	
			Chinese Traditional	BE EF	03	06 00	37 DE	01 00	05 30	10 00	
			Japanese	BE EF	03	06 00	37 D4	01 00	05 30	08 00	
			Korean	BE EF	03	06 00	57 D5	01 00	05 30	0A 00	
			Get	BE EF	03	06 00	C4 D3	02 00	05 30	00 00	
SERVICE	Lamp 1 Time		Get	BE EF	03	06 00	C2 FF	02 00	90 10	00 00	
	Lamp 2 Time		Get	BE EF	03	06 00	02 AE	02 00	90 11	00 00	
	Lamp 1 Time Reset		Execute	BE EF	03	06 00	58 DC	06 00	30 70	00 00	
	Lamp 2 Time Reset		Execute	BE EF	03	06 00	68 DD	06 00	34 70	00 00	
	Projector Run Time		Get	BE EF	03	06 00	A2 CE	02 00	68 10	00 00	
	Factory Reset		Execute	BE EF	03	06 00	98 8D	06 00	30 71	00 00	
Other	Pause	Set	Off	BE EF	03	06 00	F3 93	01 00	05 24	00 00	
			On	BE EF	03	06 00	63 92	01 00	05 24	01 00	
			Get	BE EF	03	06 00	C0 93	02 00	05 24	00 00	
	Power	Set	On	BE EF	03	06 00	BA D2	01 00	00 60	01 00	Get Status
			Off	BE EF	03	06 00	2A D3	01 00	00 60	00 00	0: Off (Standby)
			Get	BE EF	03	06 00	19 D3	02 00	00 60	00 00	1: On (Imaging)
	Text.mode	Set	Off	BE EF	03	06 00	4F DB	01 00	17 30	10 00	
			On	BE EF	03	06 00	1F D7	01 00	17 30	01 00	
			Get	BE EF	03	06 00	BC D6	02 00	17 30	00 00	
	Error Status		Get	BE EF	03	06 00	D9 D8	02 00	20 60	00 00	Get Status 0: Normal 1: Lamp Door Open 2: Fan Fail 4: Over Temperature 19: Lamp 1 Fail 35: Lamp 2 Fail 128: SystemError

Copyright information

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Warranty and after-service

If an abnormal operation (such as smoke, strange odor or excessive sound) should occur, stop using the projector immediately.

Otherwise if a problem occurs with the projector, first refer to "Troubleshooting", and run

through the suggested checks.

If this does not resolve the problem, please consult your dealer or service company. They

will tell you what warranty condition is applied.

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