CU105 Control Unit

User Manual

[Note] The pictures of Optical Engine and control unit used in this manual are for reference only. If there is something different from the actual product, please subject to the actual product.

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Version: V07

Date: 2018/02/14

1. Safety Instructions

Always follow these safety instructions when setting up and using the Control Unit:

1. Do not place this device in tilted position.
2. Do not place the Control Unit on an unstable trolley, stand or table.
3. Do not use the Control Unit near water or source of heat.
4. Use attachments only as recommended.
5. Do not block slots and openings in the Control Unit case as poor ventilation may lead to overheated Control Unit.
6. Never push any objects into cabinet slots. Never allow liquid of any kind to spill into the Control Unit.
7. Except as specifically instructed in this User Manual, do not attempt to operate this product by yourself. Opening or removing covers may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
8. In case of the following situations, please unplug the Control Unit and refer servicing to licensed service personnel:
   - If liquid is spilled into it or the Control Unit has been exposed to rain or water.
9. Potential difference should be checked with a meter before installation to avoid equipment damage and personal injury due to electric shock. <Note> Please refer this task to a qualified technician to avoid potential risks
   - Before you connect and control the video signal, use the voltmeter to verify the connectors or device to be connected for any potential difference
   - Measure the RS-232, DVI, VGA or video signal connectors of the device to be connected using the meter. (For measurement method, please refer to FAQ 7.5)
   - If the measured potential difference is more than 10 V, please contact qualified service personnel for troubleshooting
   - Using the device at a potential difference of larger than 10 V may cause risk of device damage and electric shock

<Note>: Using an incorrect battery type in the remote control may result in breakdown. Follow local instructions on how to dispose of used batteries.

■ Precautions

Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

	Note Risk of Electric Shock Do not remove cover	
Caution: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel.		

This is a Class A product. In a residential environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

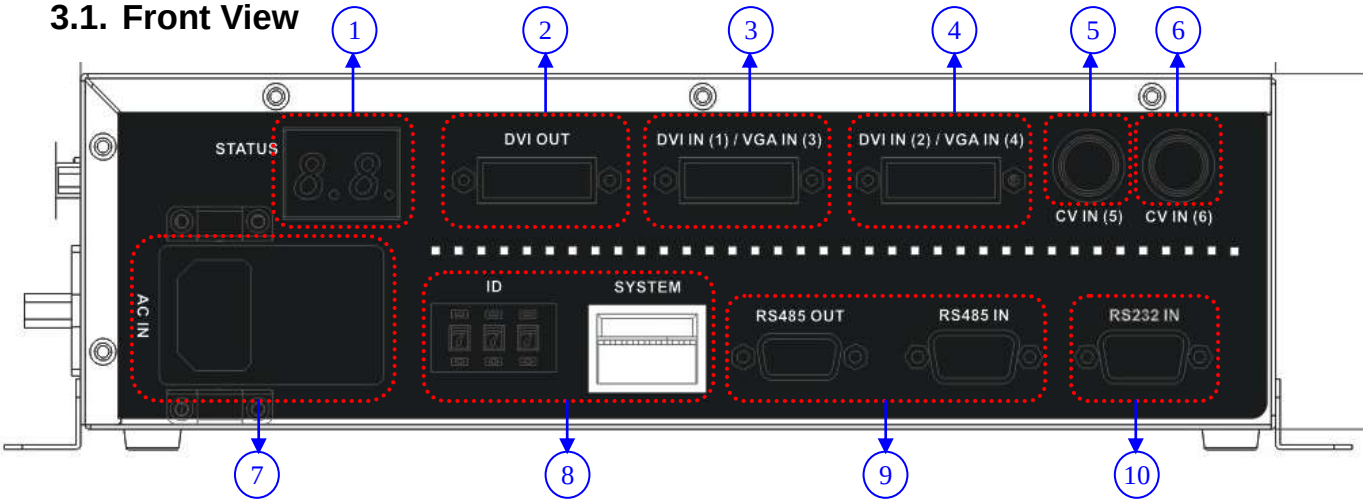
2. Package Contents

The following accessories are included:

2.1. Power cord
2.2. RS485 cable
2.3. DVI cable
2.4. DVI adapter
2.5. IR extension cord
2.6. Metal plate
2.7. Fan connector
2.8. Holding plate + M4 hex socket cap screw
2.9. Fuse x 1

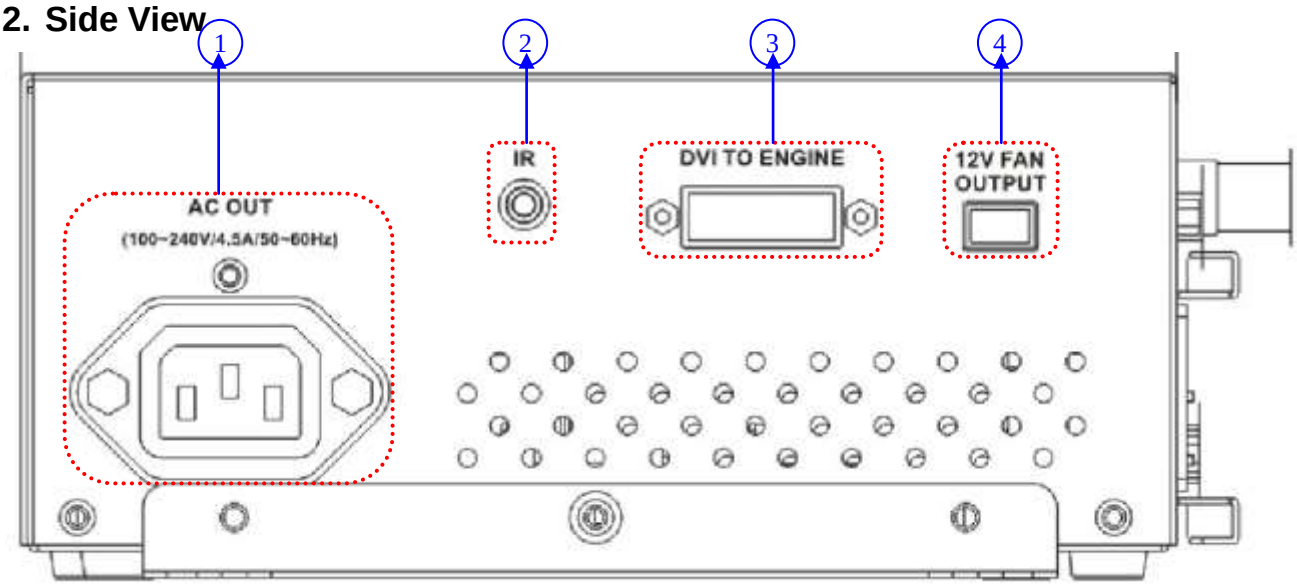
3. Port Description

3.1. Front View



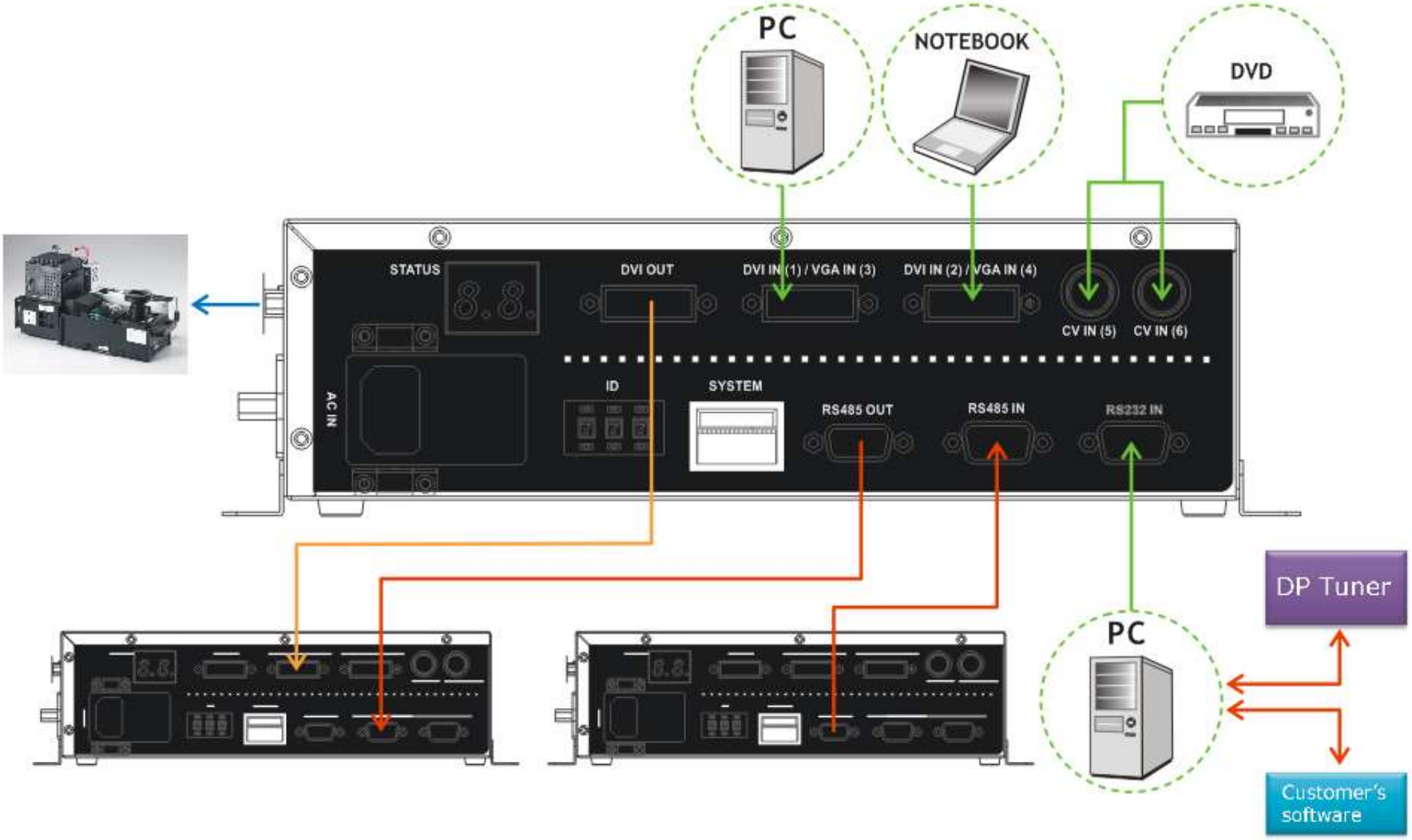
1. LED indicator
2. DVI OUT port
3. DVI (1)/VGA (3) IN port
4. DVI (2)/VGA (4) IN port
5. CV (5) IN port
6. CV (6) IN port
7. Power IN port
8. ID/SYSTEM DIP switch setting
9. RS485 IN/OUT port
10. RS232 IN port

3.2. Side View



1. Power OUT port
2. IR connector
3. DVI to Engine
4. 12 V fan output socket

4. System diagram

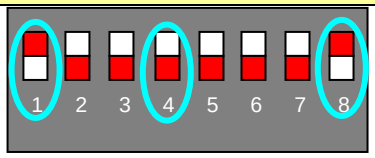
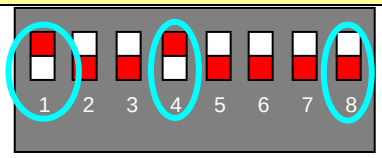


5. DIP SWITCH Setting

5.1. SYSTEM DIP SWITCH Setting

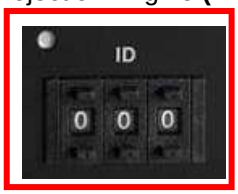
Set up the first and last RS485.

<Remark> Right-hand System: Provide system setup and debug mode. The white colored position is for jumping setup.

RS485: The first DLP Projection Engine setup This is the Host unit	RS485: The last DLP Projection Engine setup This is the Last unit
	

5.2. ID DIP SWITCH Setting

Define the **ID number** of each DLP Projection Engine **(ID address);**



5.2.1. Set up ID of DLP Projection Engine by its sequence

<Note> Set limits

※The Host ID number must be 000.

※The ID number must be in consecutive, rather than broken, sequence (i.e. 000 → 001 → 002 → …).

5.2.1.1. Recommended ID number setup sequence (blue arrow indicates series connection of RS-485). Take 3 x 8 DLP Projection Engine for example.

First machine ID number 000	Second machine ID number 001	Third machine ID number 002	Fourth machine ID number 003	Fifth machine ID number 004	Sixth machine ID number 005	Seventh machine ID number 006	Eighth machine ID number 007
Ninth machine ID number 015	Tenth machine ID number 014	Eleventh machine ID number 013	Twelfth machine ID number 012	Thirteenth machine ID number 011	Fourteenth machine ID number 010	Fifteenth machine ID number 009	Sixteenth machine ID number 008
Seventeenth machine ID number 016	Eighteenth machine ID number 017	Nineteenth machine ID number 018	Twentieth machine ID number 019	Twenty-first machine ID number 020	Twenty-second machine ID number 021	Twenty-third machine ID number 022	Twenty-fourth machine ID number 023

6. Starting Installation

6.1. Install the Fan connector

6.2. Install the holding plate of the Control Unit

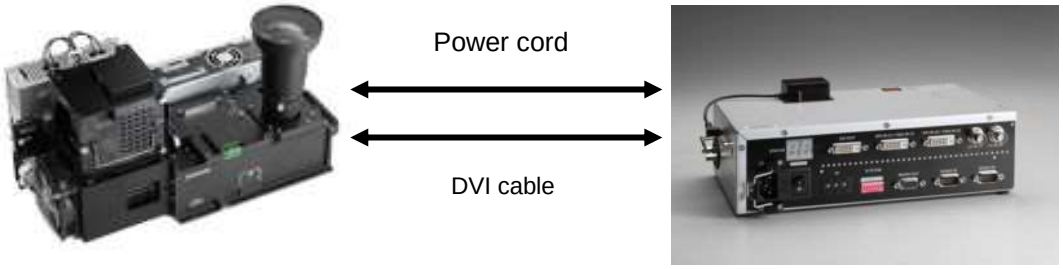
6.2.1. Install with a holding plate and M4 hex socket cap screws

6.3. Attach the Control Unit to the DLP Projection Engine

6.4. Connect Optical Engine & Control Unit

6.4.1. Use the long DVI cable, male to female AC power cord

Optical Engine **Control Unit**



6.5. Wait until all the Control Units are installed

7. Preliminary Test

7.1. Turn on Control Unit
7.2. Turn on your CU with Remote
7.3. Confirm correct display
7.4. Confirm all the LED indicators light green

8. LED Indicator Overview

8.1. Description of ON status messages

Code	Status	Code	Status
A0	Control Unit in standby mode	A5	Ignition fails; restarting
A1	Starts	A6	Firmware updating (Master)
A2	Illuminating	A7	Searching Control Unit and Optical Engine
A3	Lamp in normal operation (on)	A8	Master firmware available for direct download
A4	Wait for lamp to cool when the system is powered off		

8.2. Description of error messages (UHP)

Code	Status	Code	Status
00	Lamp A ignition fails	09	DMD fan stops running
01	Lamp B ignition fails	0A	DLP fan stops running
02	Lamp A lights off during normal operation	0B	Both lamps are not at ignition position; it cannot smoothly switch to lamp A
03	Lamp B lights off during normal operation	0C	Both lamps are not at ignition position; it cannot smoothly switch to lamp B
04	PWR fan stops running	0D	Both lamps stay at original positions; it cannot smoothly switch to lamp A
05	BRN fan stops running	0E	Both lamps stay at original positions; it cannot smoothly switch to lamp B
06	LP fan stops running	0F	In the lighting program, CW does not run normally
07	BLA fan stops running	10	IRIS initialization (search for Home point) fails
08	BLB fan stops running	11	Abnormal Color Sensor calibration parameter

8.3. Description of error messages (LE912/LE922)

Code	Status	Code	Status
0	Ignition fails	0C	G LED Over Temperature protection
1	Lights off during operation	0d	B LED Over Temperature protection
2	Abnormal DMD fan	0E	R LED has no action
3	Abnormal A2D1 fan	0F	G LED has no action

4	Abnormal A2D2 fan	10	B LED has no action
5	Abnormal HP fan	11	DDP3021 cannot communicate normally
6	Abnormal D2D1 fan	12	ENV temperature is over specification (> 40°C)
7	Abnormal D2D2 fan	13	DMD temperature is over specification (> 50°C)
8	Abnormal DRV1 fan	14	LED Driver temperature is over specification (> 85°C)
9	Abnormal DRV2 fan	15	R LED over 95°C
0A	DMD Over Temperature protection (> 60°C)	16	G LED over 145°C
0b	R LED Over Temperature protection	17	B LED over 135°C

8.4. Description of error messages (LE9x3)

Code	Status	Code	Status
0	LEDs Ignition Failure	0E	Red LED InActive
1	LEDs Turn Off With Something Wrong	0F	Green LED InActive
2	DMD Fan Error	10	Blue LED InActive
3	Reserved	11	DDP3021 Failed
4	Reserved	12	ENV Temperature Over spec.
5	HP Fan Error	13	The temperature of DMD over spec.
6	Reserved	14	The temperature of LED Driver over spec.
7	Reserved	15	The temperature of R LED over spec.
8	Reserved	16	The temperature of G LED over spec.
9	Reserved	17	The temperature of B LED over spec.
0A	DMD Over Temperature Shut Down	18	DLP Fan Error (for LE933 only)
0B	Red LED Over Temperature Shut Down	19	PWR Fan Error
0C	Green LED Over Temperature Shut Down	1A	Turn off LED Lamp because of Driver Temperature over specification.
0D	Blue LED Over Temperature Shut Down		

8.5. Description of error messages (LE-T)

Code	Status	Code	Status
0	Ignition fails	11	Reserved
1	Light is abnormally out	12	High environment temperature alert
2	DMD fan aging (life) alert	13	High DMD temperature alert
3	DMD fan not-running alert	14	High LASER Driver temperature alert
4	LASER(HP) Fan aging (life) alert	15	Reserved
5	LASER (HP) fan not-running alert	16	High LASER temperature alert
6	Reserved	17	LASER temperature too high; run protection mode
7	Reserved	18	PWR fan aging (life) alert
8	Reserved	19	PWR fan not-running alert

9	Reserved	1A	LASER Driver temperature too high; run protection mode
0A	DMD temperature too high; run protection mode	1B	Fluorescent wheel stops abnormally; run protection mode
0B	Reserved	1C	Color wheel stops abnormally; run protection mode
0C	Reserved	1D	Abnormal fluorescent wheel or color wheel
0D	Reserved	1E	Unstable power supply
0E	Reserved	1F	High temperature of power supply module alert
0F	Reserved	20	Temperature of power supply module too high; run protection mode
10	Reserved		

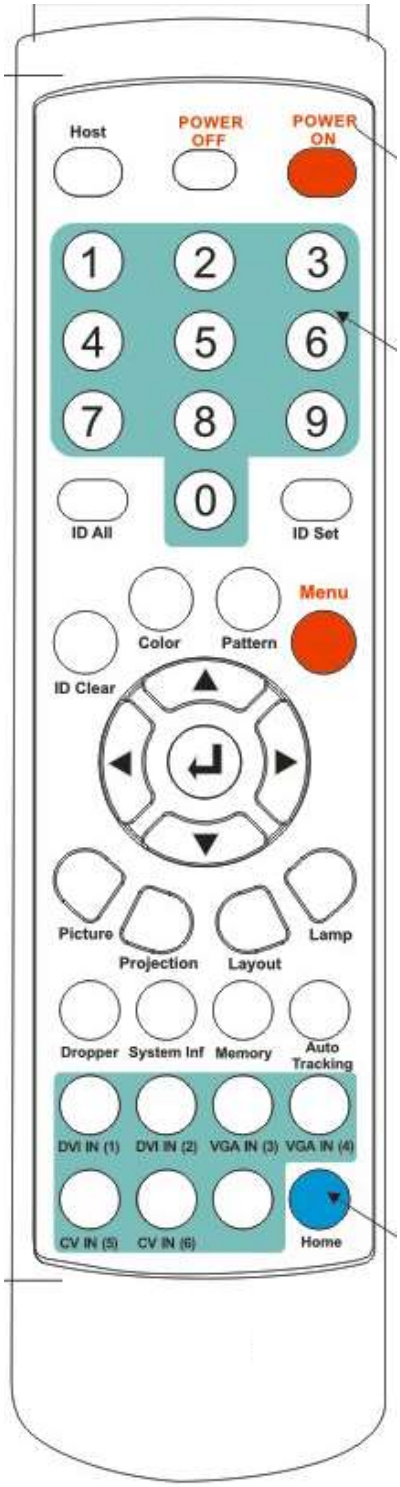
8.6. Description of error messages (LE-U)

Code	Status	Code	Status
0	Ignition fails	13	High DMD temperature alert
1	Light is abnormally out	14	Lamp Driver temperature alert
2	DMD fan aging (life) alert	15	R LED temperature alert
3	DMD fan not-running alert	16	G LED temperature alert
4	LASER (HP) Fan aging (life) alert	17	B LED temperature alert
5	LASER (HP) fan not-running alert	18	PWR fan aging (life) alert
6	Reserved	19	PWR fan not-running alert
7	Reserved	1A	Lamp Driver temperature too high; run protection mode
8	Driver fan not-running alert	1B	Reserved
9	Driver fan aging (life) alert	1C	Reserved
0A	DMD temperature too high; run protection mode	1D	Reserved
0B	R LED temperature too high; run protection mode	1E	Unstable power supply
0C	G LED temperature too high; run protection mode	1F	High temperature of power supply module alert
0D	B LED temperature too high; run protection mode	20	Temperature of power supply module too high; run protection mode
0E	Reserved	21	Cannot read back ENV Temp
0F	Reserved	22	Cannot read back DMD Temp
10	Reserved	23	Cannot read back POWER Temp
11	Reserved	24	Cannot read back Driver Temp
12	High environment temperature alert	25	Cannot read back LED R/G/B Temp

9. Overview of buttons on Remote

<Remark> The below functions are listed alphabetically

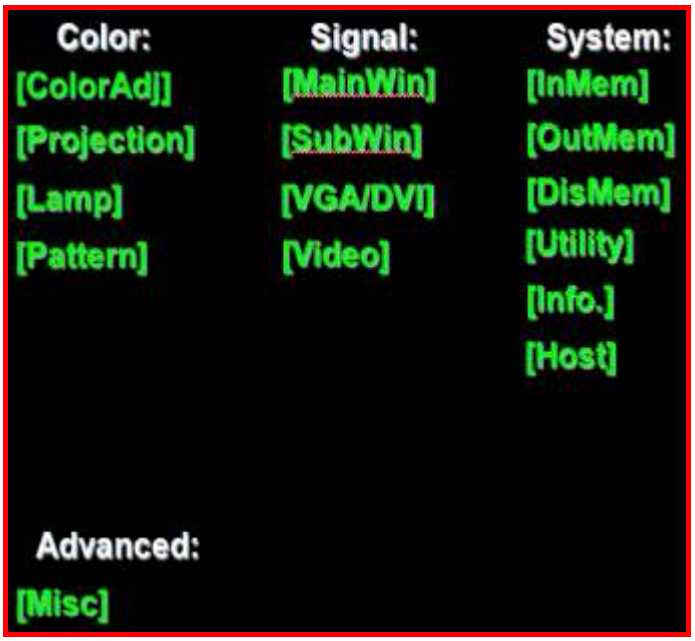
Button	Function
# 0~#9	Number 0 ~ 9
↵	Enter key
Top, bottom, left, and right arrow keys	Arrow key for selecting items in OSD menu
Auto Tracking	The screen adjusts itself automatically. (Run Tracking and Position functions at the same time)
Color	RGBCMYW color adjustment
Dropper	ICC (Independent Color Control)
DVI IN (1) / DVI IN (2)	Select DVI 1 signal input and DVI 2 signal input
VGA IN (3) / VGA IN (4)	Select VGA 3 signal input and VGA 4 signal input
CV IN(5) / CV IN(6)	Select Video 5 signal input and Video 6 signal input
Home	Press this key to point the OSD cursor to Color Temp. This is valid only in status of ID Activities. Available statuses are: 1. If OSD is open, no matter in which level, press this button, and the cursor will return to Color Temp 2. If OSD is not open, press this button, open the OSD, and the cursor position will be in the Color Temp
Host	Turn On Host of the display wall
ID All	Enable all the display walls to be controlled by Remote
ID Clear	Clear projection unit setting
ID Set	Set up projection unit
Lamp	Display the control Lamp menu
Layout	Set the screen to n x m
Memory	Display Memory menu
Menu	Display the OSD menu
Pattern	Built in test screen
Picture	Adjust Color, Sharpness and Hue of the screen
Power Off	Power off
Power On	Power on
Projection	Projection method adjustment (Gamma, Flip…))
System Inf	System status information

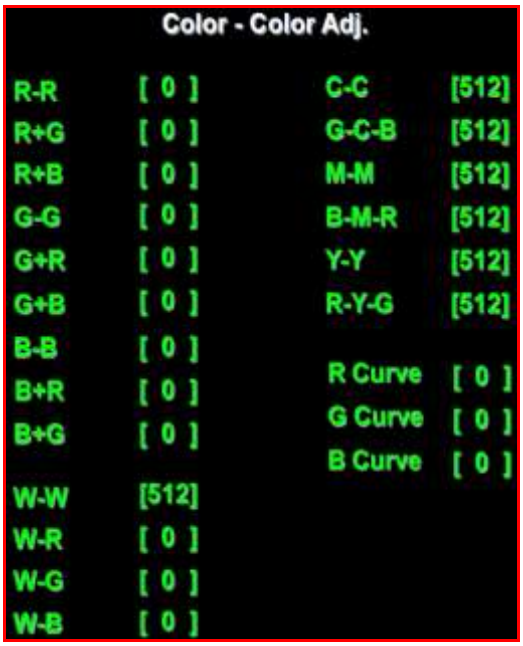


10. On Screen Menu Overview

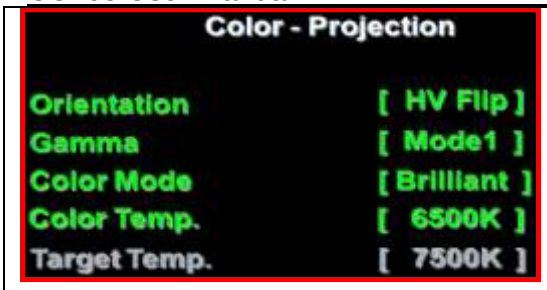
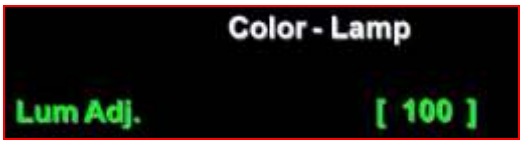
Press the [Menu] key of your Remote and the screen menu displays.

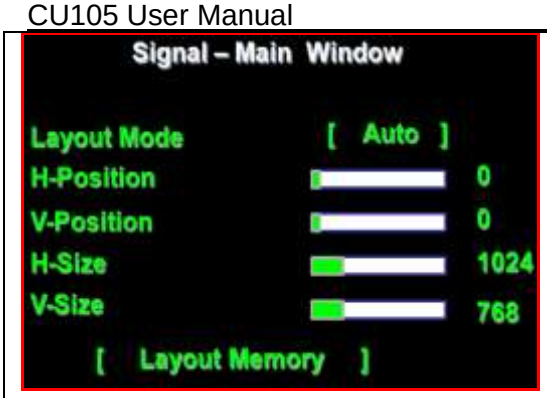
<Remark> Please contact with Lumens for adjustment and default values.

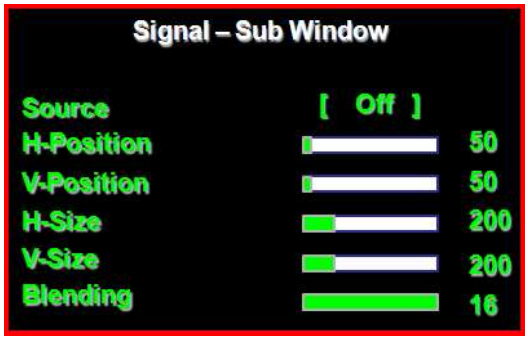


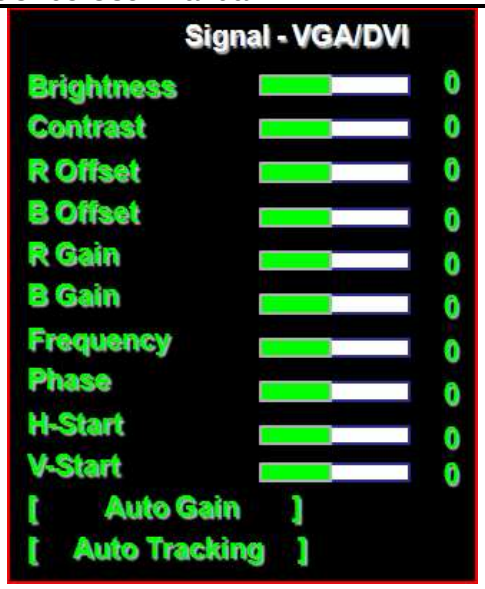
Color - Color Adj.	Item	Value/Selection	Description
	R-R	-127 ~ 0	Reduce Brightness of pure red
	R+G	0 ~ 1023	Increase green color in pure red
	R+B	0 ~ 1023	Increase blue color in pure red
	G-G	-127 ~ 0	Reduce Brightness of pure green
	G+R	0 ~ 1023	Increase red color in pure green
	G+B	0 ~ 1023	Increase blue color in pure green
	B-B	-127 ~ 0	Reduce Brightness of pure blue
	B+R	0 ~ 1023	Increase red color in pure blue
	B+G	0 ~ 1023	Increase green color in pure blue
	W-W	0 ~ 1023	Adjust white Saturation
	W-R	0 ~ 1023	Reduce red color in pure white
	W-G	0 ~ 1023	Reduce green color in pure white
	W-B	0 ~ 1023	Reduce blue color in pure white
	C-C	0 ~ 1023	Adjust cyan Saturation
	C+R	0 ~ 1023	Increase red color in cyan

	G-C-B	0 ~ 1023	Adjust ratio of blue and green colors in cyan
	M-M	0 ~ 1023	Adjust magenta Saturation
	M+G	0 ~ 1023	Increase green color in magenta
	B-M-R	0 ~ 1023	Adjust ratio of red and blue colors in magenta
	Y-Y	0 ~ 1023	Adjust yellow Saturation
	Y+B	0 ~ 1023	Increase blue color in yellow
	R-Y-G	0 ~ 1023	Adjust ratio of red and green colors in yellow
	Curve		
	R Curve	-64 ~ 64	Adjust red color in gray
	G Curve	-64 ~ 64	Adjust green color in gray
	B Curve	-64 ~ 64	Adjust blue color in gray
	Black Adjust		
	Black+R	0 ~ 127	Increase red color in the black image
	Black+G	0 ~ 127	Increase green color in the black image
	Black+B	0 ~ 127	Increase blue color in the black image
	128W+G	-2 ~ 2	Adjust G element in gradation; use pattern 107 (for model with laser engine)
	128W+B	-2 ~ 2	Adjust B element in gradation; use pattern 107 (for model with laser engine)
Color - projection method	**Item**	**Value/Selection**	**Description**
	Orientation	Normal	Make the projection image normal
		HV Flip	Make the projection image have a horizontal and vertical flip
		H Flip	Make the projection image have a horizontal flip
		V Flip	Make the projection image have a vertical flip
	Gamma	Mode1	Adjust the Gamma mode 1
		Mode2	Adjust the Gamma mode 2
		Mode3	Adjust the Gamma mode 3
	Color Mode. (LED Lamp)	Brilliant	The best LED color gamut

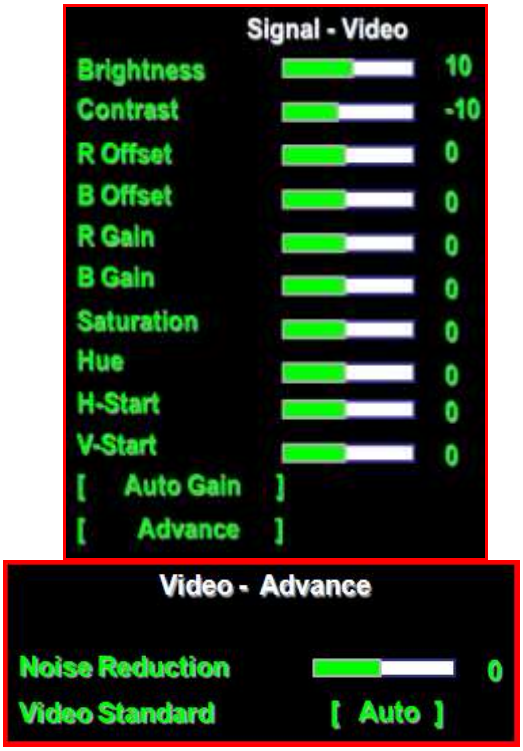
		Normal	Common gamut
	Light Mode (Laser)	HL	110% laser power
		Normal	95% laser power
		ECO	75% laser power
	Color Temp. (LED Lamp)	9300K	
		7500K	
		6500K	
		3200K	
		9300K HL	Use 30% Overlap function
		7500K HL	Use 30% Overlap function
		6500K HL	Use 30% Overlap function
		3200K HL	Use 30% Overlap function
		User	Adjust Color Temp manually
		User HL	Adjust Color Temp manually
	Target Temp. (LED Lamp)	2200~9300K	This item can be changed only in "User Color Temp" mode
	ECO (LED Lamp)	Off	Reduce LED output power
		On	
Color - Lamp	**Item**	**Value/Selection**	**Description**
	Lum Adj.	30 ~ 100	Brightness adjustment: the lower limit is 30
Color - graphic pattern	**Item**	**Value/Selection**	**Description**
	Pattern Index	0 ~ 27	1. Adjust testing pattern. The upper limit of test picture value is for reference only. It varies with the FW adjustments. 2. Add Pattern (with effect of Gamma = 1) Number 200: Gray7 Number 201: Gray10 Number 202: Gray30 Number 203: Gray60 Number 204: Blue60 3. Pattern109: Ultra mode will be activated when the pattern is set to Pattern109 (LED Lamp models)
Signal - main window	**Item**	**Value/Selection**	**Description**
	Layout mode	Auto	1. This option can be changed in

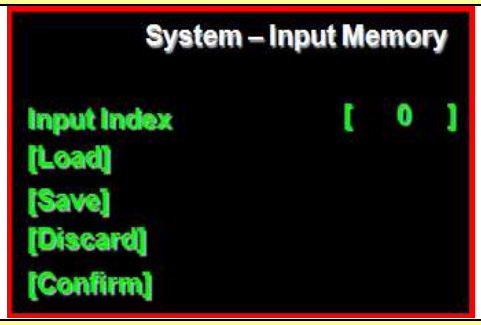
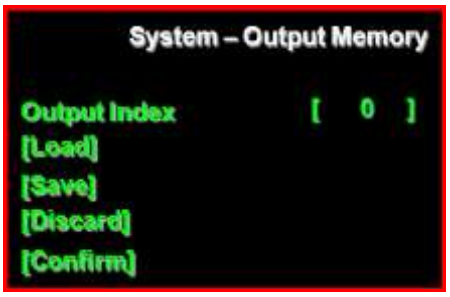
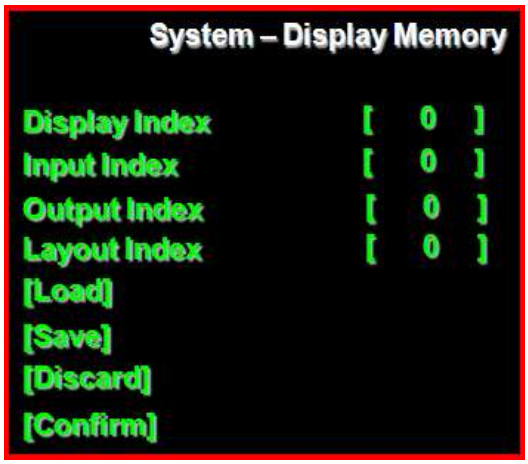


		Manual	unit of "1" only when the ***Layout*** mode is set to ***Manual*** 2. In case this option is set to ***Auto*** then it can be adjusted in unit of screen size, e.g. XGA is H = 1024 and V = 768
	H-Position	-32767~32767	Horizontal Height
	V-Position	-32767~32767	Vertical Height
	H-Size	1 ~ 32767	H Size
	V-Size	1 ~ 32767	V Size
	Layout Memory	NA	by enter to select , then Pop out the Layout Memory OSD
	Layout Index	0 ~ 63	
	Load	NA	
	Save	NA	
	Discard	NA	
	Confirm	NA	
Signal – Sub Window	**Item**	**Value/Selection**	**Description**
	Source	DVI IN(1)	DVI-1 signal
		DVI IN(2)	DVI-2 signal
		VGA IN(3)	VGA-3 signal
		VGA IN(4)	VGA-4 signal
		CV IN(5)	CV-5 signal
		CV IN(6)	CV-6 signal
		Copy	Copy photo displayed in the big screen
		Off	Switch source ON/OFF
	H-Position	-32767~32767	Horizontal Height
	V-Position	-32767~32767	Vertical Height
	H-Size	1 ~ 32767	H Size
	V-Size	1 ~ 32767	V Size
	Blending	0 ~ 16	Transparent display area
Signal – VGA/DVI	**Item**	**Value/Selection**	**Description**
	Brightness	-64 ~ 63	Adjust the brightness of the source
	Contrast	-64 ~ 63	Adjust the contrast of the source



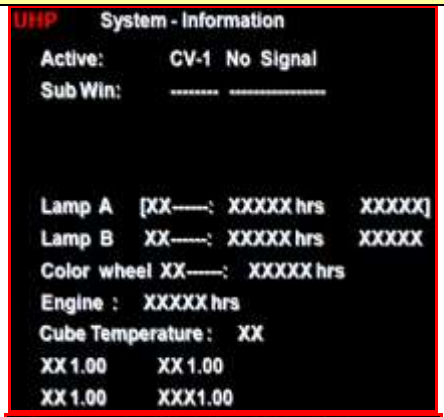
	R Offset	-64 ~ 63	Adjust the offset for deep R, G area of source
	B Offset	-64 ~ 63	Adjust the offset for deep B, G area of source
	R Gain	-64 ~ 63	Adjust the offset for light R, G area of source
	B Gain	-64 ~ 63	Adjust the offset for light B, G area of source
	Frequency	-64 ~ 63	Adjust RGB/VGA signal sampling frequency
	Phase	-16 ~ 16	Adjust RGB/VGA signal sampling phase
	H-Start(VGA)	-128 ~ 127	Adjust H-Start position of the signal
	V-Start(VGA)	-128 ~ 127	Adjust V-Start position of the signal
	Auto Gain(VGA)	NA	Auto tune of R/B Offset, R/B Gain, Brightness, Contrast
	Auto Tracking (VGA)	NA	Auto tune of H position ,V-position H-start , V-start , Frequency ,Phase
Signal - Video	**Item**	**Value/Selection**	**Description**
	Brightness	-64 ~ 63	Adjust the brightness of the source
	Contrast	-64 ~ 63	Adjust the contrast of the source
	R Offset	-64 ~ 63	Adjust the offset for deep R, G area of source
	B Offset	-64 ~ 63	Adjust the offset for deep B, G area of source
	R Gain	-64 ~ 63	Adjust the offset for light R, G area of source
	B Gain	-64 ~ 63	Adjust the offset for light B, G area of source
	Saturation	-64 ~ 63	Adjust the saturation of the source color
	Hue	-64 ~ 63	Adjust the hue of the source
	H-Start	-128 ~ 127	Adjust H-Start position of the signal
	V-Start	-128 ~ 127	Adjust V-Start position of the signal
	Auto Gain		LE9x3 Series: Auto tune of R/B Offset, R/B Gain, Brightness, Contrast LE-U/LE-T Series: Auto tune of Brightness, Contrast
	Advance		
	Noise Reduction	-16 ~ 16	
	Video Standard	Auto	Adjust the signal standard for the source video
		NTSC	Mostly used in adjusting the signal standard for the source video in USA, Taiwan, Japan
		NTSC4.43	

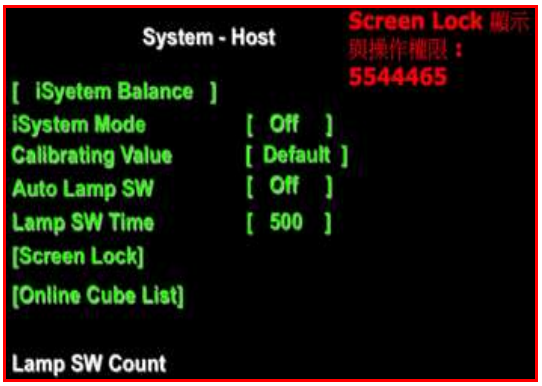


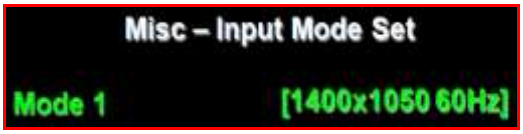
		PAL	Mostly used in Europe and Mainland China
		PAL-N	
		PAL-M	
		SECAM	
System - Input Memory	**Item**	**Value/Selection**	**Description**
	Input Index	0 ~ 255	Set up input settings (Memory in Control)
	Load		Load
	Save		Storage
	Discard		Discard
	Confirm		Confirm
System - Output Memory	**Item**	**Value/Selection**	**Description**
	Output Index	0 ~ 31	Set up output settings (Memory in engine)
	Load		Load
	Save		Storage
	Discard		Discard
	Confirm		Confirm
System - Display memory	**Item**	**Value/Selection**	**Description**
	Display Index	0 ~ 511	Display parameters (input + output)
	Input Index	0 ~ 255	Input index value
	Output Index	0 ~ 31	Output index value
	Layout Index	0 ~ 63	Layout index value
	Load		Load
	Save		Storage
	Discard		Discard
	Confirm		Confirm
System - Utility	**Item**	**Value/Selection**	**Description**
	Output Lock	Default	Set the output time
		60Hz	
	Source Prompt	Info.	Enable the input source prompt
		All Off	Disable all the input signal prompt

	No Signal	Prompt “No Signal …” message only when primary input signal is lost
Source Setting	InMem Backup	This function is available when the input signal is VGA
Auto Position	Off On	Set up automatically searching for best position when capturing input signal
Overscan	Off On	Whether to execute Overscan action for Video signal
Auto Switch	Off On	When CU has detected no signal, the behavior pattern is as follows 1. Do not show No Signal, and perform auto switch 2. Switch loop behavior (up to 2 times in the same group) 3. VGA/C-Video and DVI have the same behavior
Internal DVI-EQ	0~12 0~2	Adjust the DVI IN reception ability of the light engine. The range of adjustment depends on the light engine models
Load Factory	NA	

System - Information	Item	Value/Selection	
	Active	NA	Display the source information on the video played
	Sub Win	NA	Display the source information on the video of sub window
	LEDs Lamp	NA	Display use time and frequency of LED lamp
	Laser	NA	Display laser use duration
	Color Wheel (Laser)	NA	Color wheel service life
	Engine	NA	Light Engine service life
	Cube Temperature	NA	Body temperature, two digits for ENV Temp
	CU Master FW Ver.	NA	Firmware version of main Control unit
	CU Slave FW Ver.	NA	For firmware version of the slave control unit, only display English text and number of the firmware version
	FPGA FW Ver.	NA	Firmware version of FPGA, only display English text and number of the firmware version
	Engine Master FW Ver.	NA	Projector firmware version
	DLP FW Ver.	NA	DLP FW Ver.



System - Host	Item	Value/Selection	Description
 	iSystem Balance	NA	Trigger iSystem Balance
		NA	
		Auto	
	iSystem Mode (LED)	Off	1. The Auto/Manual option turns on the Adaptive mode which will determine color coordinates of target values based on color gamut of connected engine 2. Auto option checks the change of each engine's brightness every 10 minutes; when the change is more than 5%, it runs the brightness balance function (iSystem Balance must be performed previously) 3. When **Intelligent mode** is set to **Auto/Manual**, **Color mode** is set to Extreme and grayed out
		Manual	
		Auto	
	iSystem Mode (Laser)	Off	1. Auto option checks the change of each engine's brightness every 10 minutes; when the change is more than 5%, it runs the brightness balance function (iSystem Balance must be performed previously) 2. When **Intelligent mode** is set to **Auto/Manual**, **Projector mode** can only be set to **Normal or Economic mode**. However, **Brightness** cannot be selected 3. This function is available only to engines with the intelligent system
		Manual	
		Auto	
	Calibrating Value (LED)	Default	1. Selected calibrating values come into effect only after running the "iSystem Balance" software manually (For LED series, please restart the device to activate the settings). 2. Default - use the factory calibrating values of CL200 directly if no HOST is connected. 3. This option is dimmed and cannot be selected in case the iSystem is set to Off. This option is valid only in Auto or Manual mode.
		On Screen	
	Screen Lock		This option only display after entering 5544465 in the Host CU
	Screen Lock	Off	When the time is up, the screen will be locked as no picture; enter password to unlock
		On	
	Timer	1~9999	Unit: hour(s) When the Screen Lock is enabled, it can't be set

	Change Password	NA	Change password
	Online Cube List	NA	Display status of connected Cube Brightness: Display brightness differences between connected Cube Target: Enable target values of iSystem function
Advance - Miscellaneous	**Item**	**Value/Selection**	**Description**
   	IndexDly / Phosphor IndexDly	0~719	(Display Misc and OSD items described above)
	Aux	Off	Enable Aux mode
		On	
	Logo	Off	Enable or disable power on Logo
		On	
	Logo Time Out	30	Elapse time of power-on Logo
		45	
		60	
	Error Message	Off	1 Enable or disable error messages of fan and lamp failures 2 If both fan and lamp failed then display the whole row concurrently 3 After other OSD screens disappear, the PROMPT displays until timeout. 4. If the situation persists the display time of PROMPT will be re-defined. 5. The ON status of LAMP will timeout in 10 minutes.
		On	
	Language	Chinese	
		English	
	Dynamic Mode(LED)	Off	Enable Dynamic Mode
		On	
	Input Mode Set		Enable input mode and set OSD
	Mode 1	1400x1050 60Hz	Select the input mode that needs to be identified; after switching options, it will automatically detect Source
		1680x1050 60Hz	
	Mode 2	1920x1080 60Hz STD	
		1920x1080 60Hz Intel	

Thermal (LED : LE913/LE923/ LE933）	DMD Fan	The system is turned off or the Error Message is prompted in case of DMD Fan failure.
	PWR Fan	The system is turned off or the Error Message is prompted in case of PWR Fan failure.
	HP Fan	The system is turned off or the Error Message is prompted in case of Heat Pipe Fan failure.
	DMD Temp	DMD Temp
	ENV Temp	Environment Temp
Thermal (LE-T10/ LE-T20/ LE-T30/ LE-U10/ LE-U20P/ LE-U40)	DMD Fan	The system is turned off or the Error Message is prompted in case of DMD Fan failure.
	PWR Fan	The system is turned off or the Error Message is prompted in case of PWR Fan failure.
	Laser Fan	The system is turned off or the Error Message is prompted in case of Laser Fan failure.
	LMP Fan	The system is turned off or the Error Message is prompted in case of LMP Fan failure (LED models: LE-U10/LE-U20P/LE-U40)
	Cube Fan	Adjust the rotation speed of the fan of the case
	DRV Fan	The system is turned off or the Error Message is prompted in case of DRV Fan failure
	DMD Temp	DMD Temp
	ENV Temp	Environment Temp
	A2D Temp	AC to DC power Temp
On Screen Calibrate		
Discard		Discard
Confirm		Confirm
Extra Mode (Laser)	Off	Color auxiliary adjustment mode
	On	

11. Troubleshooting

Contact your dealer if problem persists.

11.1. Problems: No response from IR of the control unit

- Recommended solutions:
  - Ensure there is battery installed and is installed properly in the remote controller.
  - Ensure the connection wire between the IR device and control unit is securely connected and free from any damage.

11.2. Problems: The Optical Engine has no power and the LED replacement light is off

- Recommended solutions:
  - Please refer to the Machine Installation chapter and make sure all the wires are connected successfully.

11.3. Problems: No light is illuminated when the Power button is pressed

- Recommended solutions:
  - Verify the correct connection of DVI cable to the machine core

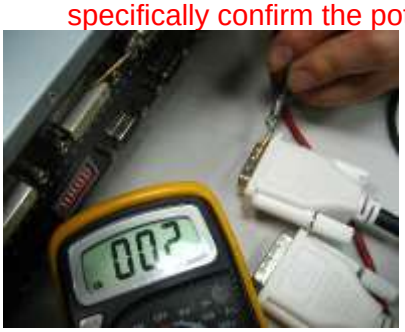
11.4. Problems: No image is displayed when switching sources

- Recommended solutions:
  - Verify that the signal and cable to the control unit is connected

11.5. Problems: How do I measure the potential difference

- Recommended solutions:
  - Use a multimeter and switch to the AC voltage for measurement

  - Take measurements to observe any potential difference between device and cable (Please specifically confirm the potential difference within the required 10 V).



Measure the DVI cable

Appendix 1 Supported input mode

1. RGB

RGB Signal					Sync Type		
Resolution		Vertical Frequency (Hz)	Remark	Video Standard	RGBHV	GS	CS
640x480	640x480	60	VGA1/VGA2	VESA	V	V	V
	640x480	67	VGA1/VGA2	MAC	V	V	V
	640x480	72	VGA1/VGA2	VESA	V	V	V
	640x480	75	VGA1/VGA2	VESA	V	V	V
	640x480	85	VGA1/VGA2	VESA	V	V	V
720x400	720x400	70	VGA1/VGA2	DOS	NA	NA	NA
800x600	800x600	56	VGA1/VGA2	VESA	V	V	V
	800x600	60	VGA1/VGA2	VESA	V	V	V
	800x600	72	VGA1/VGA2	VESA	V	V	V
	800x600	75	VGA1/VGA2	VESA	V	V	V
	800x600	85	VGA1/VGA2	VESA	V	V	V
1024x768	1024x768	50	VGA1/VGA2		V	V	V
	1024x768	60	VGA1/VGA2	VESA	V	V	V
	1024x768	70	VGA1/VGA2	VESA	V	V	V
	1024x768	75	VGA1/VGA2	VESA	V	V	V
	1024x768	85	VGA1/VGA2	VESA	V	V	V
1152x864	1152x864	75	VGA1/VGA2	VESA	V	V	V
1152x870	1152x870	75	VGA1/VGA2	MAC	V	V	V
1280x720	1280x720	50	VGA1/VGA2	VESA	V	NA	NA
	1280x720	60	VGA1/VGA2	VESA	V	NA	NA
1280x800	1280x800	60	VGA1/VGA2	VESA	V	V	V
1280x960	1280x960	60	VGA1/VGA2	VESA	V	V	V
1280x1024	1280x1024	60	VGA1/VGA2	VESA	V	V	V
	1280x1024	75	VGA1/VGA2	VESA	V	V	V
	1280x1024	76	VGA1/VGA2	Sun	V	V	V
	1280x1024	85	VGA1/VGA2	VESA	V	V	V
1366x768	1366x768	60	VGA1/VGA2	VESA	V	V	V
1440x900	1440x900	60	VGA1/VGA2	VESA	V	V	V
1400x1050	1400x1050	60	VGA1/VGA2	VESA	V	V	V
	1400x1050	75	VGA1/VGA2	VESA	V	V	V
1680x1050	1680x1050	60	VGA1/VGA2	VESA	V	V	V
1600x1200	1600x1200	60	VGA1/VGA2	VESA	V	V	V

RGB Signal					Sync Type		
Resolution		Vertical Frequency (Hz)	Remark	Video Standard	RGBHV	GS	CS
1920x1080	1920x1080	60	VGA1/VGA2	VESA	V	NA	NA
1920x1200	1920x1200	60	VGA1/VGA2	VESA	V	NA	NA
1080P	1920x1080	50	VGA1/VGA2	YPbPr	NA	V	NA
	1920x1080	60	VGA1/VGA2	YPbPr	NA	V	NA
	1920x1080	30	VGA1/VGA2	YPbPr	NA	V	NA
1080i	1920x540	50	VGA1/VGA2	YPbPr	NA	V	NA
	1920x540	60	VGA1/VGA2	YPbPr	NA	V	NA
720P	1280x720	50	VGA1/VGA2	YPbPr	NA	V	NA
	1280x720	60	VGA1/VGA2	YPbPr	NA	V	NA
576P	768x576	50	VGA1/VGA2	YPbPr	NA	V	NA
480P	720x483	60	VGA1/VGA2	YPbPr SOG	NA	V	NA

2. DVI

DVI Signal					Sync Type
Resolution		Vertical Frequency (Hz)	Remark	Video Standard	DVI
640x480	640x480	60	DVI1/DVI2	VESA	V
	640x480	67	DVI1/DVI2	MAC	V
	640x480	72	DVI1/DVI2	VESA	V
	640x480	75	DVI1/DVI2	VESA	V
	640x480	85	DVI1/DVI2	VESA	V
720x400	720x400	70	DVI1/DVI2	DOS	NA
800x600	800x600	56	DVI1/DVI2	VESA	V
	800x600	60	DVI1/DVI2	VESA	V
	800x600	72	DVI1/DVI2	VESA	V
	800x600	75	DVI1/DVI2	VESA	V
	800x600	85	DVI1/DVI2	VESA	V
1024x768	1024x768	50	DVI1/DVI2		V
	1024x768	60	DVI1/DVI2	VESA	V
	1024x768	70	DVI1/DVI2	VESA	V
	1024x768	75	DVI1/DVI2	VESA	V
	1024x768	85	DVI1/DVI2	VESA	V
1152x864	1152x864	75	DVI1/DVI2	VESA	V
1152x870	1152x870	75	DVI1/DVI2	MAC	V
1280x720	1280x720	50	DVI1/DVI2	VESA	V
	1280x720	60	DVI1/DVI2	VESA	V
1280x800	1280x800	60	DVI1/DVI2	VESA	V
1280x960	1280x960	60	DVI1/DVI2	VESA	V
1280x1024	1280x1024	60	DVI1/DVI2	VESA	V
	1280x1024	75	DVI1/DVI2	VESA	V
	1280x1024	76	DVI1/DVI2	Sun	V
	1280x1024	85	DVI1/DVI2	VESA	V
1366x768	1366x768	60	DVI1/DVI2	VESA	V
1440x900	1440x900	60	DVI1/DVI2	VESA	V
1400x1050	1400x1050	60	DVI1/DVI2	VESA	V
	1400x1050	75	DVI1/DVI2	VESA	V
1680x1050	1680x1050	60	DVI1/DVI2	VESA	V
1600x1200	1600x1200	60	DVI1/DVI2	VESA	V
1920x1200	1920x1200	60	DVI1/DVI2	VESA	V
1080P	1920x1080	50	DVI1/DVI2	RGB format	V

DVI Signal					Sync Type
Resolution		Vertical Frequency (Hz)	Remark	Video Standard	DVI
	1920x1080	60	DVI1/DVI2	RGB format	V
	1920x1080	30	DVI1/DVI2	RGB format	V
720P	1280x720	50	DVI1/DVI2	RGB format	V
	1280x720	60	DVI1/DVI2	RGB format	V
576P	768x576	50	DVI1/DVI2	RGB format	V
480P	720x483	60	DVI1/DVI2	Same as 640x480	V