



## ■ About "Projector Calibration Software"

"Projector Calibration Software" is a tool that enables the projector to be used in an optimal condition at all times with the use of a commercially available optical sensor.

- Calibration Feature  
Maintains the projector in an optimal state by correcting distortions, such as those in the color balance, which occur due to prolonged use of the projector.
- Environment Settings  
Adjusts the video settings according to the installation environment to minimize any influence on the image quality by objects such as white walls or indirect illumination.
- Import/Export Image Quality Adjustment Data  
Enables image setting data to be saved to a PC from the projector, or imported from a PC to the projector via the LAN terminal.

**"Projector calibration software" is a software to adjust gamma and color display by changing the settings of the projector.**

**\*Please note that using this software changes the settings of the projector.**

## ■ System Requirement

To make use of the JVC Calibrator, your hardware and software must meet the following specifications.

Sensor	Spyder3 Pro/Elite(Datacolor)
PC (Computer)	Windows 7 (32-bit, 64-bit)
OS supported	Vista (32-bit) XP (32-bit)
Memory	256MB or more
HDD	256MB or more
Required functions	USB port LAN port
Others	LAN cable

### □ Caution

The above requirements are not a guarantee that the application will work on your computer.  
Macintosh systems are not supported.

\* Spyder3 Pro, Spyder3 Elite are trademarks of Datacolor in the U.S. and other countries.

\* Microsoft Windows, Windows Vista are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

\* Other company names and product names mentioned are trademarks or registered trademarks of the respective companies.

### ■ Models Supported

DLA-X90R / DLA-RS65 / DLA-XC988R

## ■ Installation

### □ Pre-installation Check

- Before starting the installation, exit all running programs.
- During installation or calibration, set the PC to the administrator mode, and disable the screen mode and energy-saving mode of the PC.
- Do not connect the Spyder3 sensor to the PC before the driver is installed.

### □ Installing Software

Double-click the download file "JVC\_PJ\_Calibration\_en\_v1\_00.zip" to start installation.

Download the file (JVC\_PJ\_Calibration\_en\_v1\_00.zip) to a directory, and unzip the file.

The following file is created.

• JVC\_PJ\_Calibration.msi

Double-click the "JVC\_PJ\_Calibration.msi" file to start installation.

1. A "Welcome to the Projector Calibration Software Setup Wizard" window appears. Click the [Next] button.
2. A "Select installation Folder" window appears. You can proceed to the next step with the destination unchanged, or designate a folder if necessary.
3. A "Confirm installation" window appears. Click the [Next] button.
4. After installation is complete, an "Installation complete" window appears. Click the [Close] button to exit the wizard.  
Check to ensure that short-cut icons are automatically created both in the Start menu and on the Desktop.

### □ Caution

This software does not run on its own. To run the program, you need to connect Spyder3 to a PC using a USB cable, and the PC to a projector using a LAN cable.

### □ Installing the Spyder3 Sensor Driver

Install the software supplied with Spyder3Pro/Elite.

For details on the installation procedure for software supplied with Spyder3Pro/Elite.

To make use of the JVC Calibration software, do not work the Spyder3 software.

## ■ Connecting this unit to a PC

### □ Connecting this unit to a PC directly

Connect the projector to a PC with a LAN cable.

Set "Communication Terminal" under the "Function" tab in the menu to "LAN".

Set the TCP/IP for the PC and "Network" of the projector,

#### Projector's "Network" Settings

Open the "Network" item under the "Function" tab in the menu.

Set "DHCP Client" to "Off".

Set the "IP Address" of this unit to an address different from that of the PC.

Example: PC [ 192 168 0 1 ]

Projector [ 192 168 0 2 ]

Set "Subnet Mask" and "Default Gateway" of this unit to the same values as the PC.

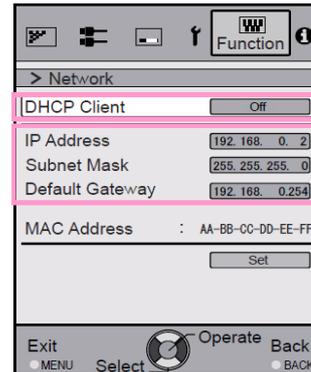
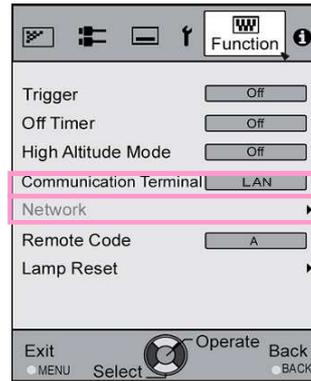
Press "Set" followed by OK to apply the new settings.

Example: Subnet Mask [ 255 255 255 0 ]

Default Gateway [ 192 168 0 254 ]

\* For details on the PC settings, refer to the instruction manual of the PC.

\* If the DHCP server is running on the PC that is directly connected to the projector, set "DHCP Client" to "Off", followed by pressing "Set".



### □ Connecting this unit to a network

Connect the projector to a network connection device (hub, etc.) with a LAN cable.

Set "Communication Terminal" under the "Function" tab in the menu to "LAN".

Settings may vary depending on the network device and control procedure for the network to be connected.

For details on the IP address and other settings, including whether the use of a DHCP server is allowed, consult your network administrator.

Open the "Network" item under the "Function" tab in the menu.

\* If you want to use the DHCP server, set "DHCP Client" to "On", followed by pressing "Set".

Acquisition of IP address starts automatically.

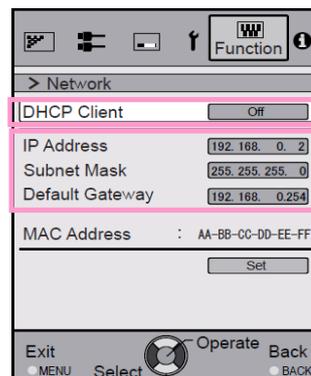
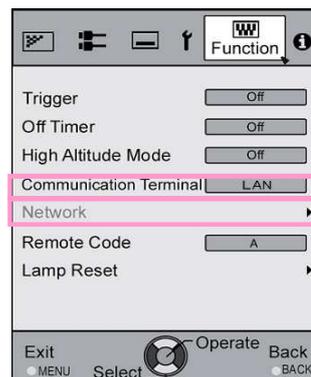
If the IP address is designated by the network administrator,

set "IP Address", "Subnet Mask", and "Default Gateway" to the designated values.

Press "Set" followed by OK to apply the new settings.

\* For more details on the network, you are recommended to refer to network-related reference books.

\* **The IP address of the projector is required when you use this application.**



## ■ Operating Procedure

### □ Precautions Prior to Use of Calibrator

- Calibrated result might be different from factory default, depending on the environment.
- During calibration, set the PC to the administrator mode, and disable the screen mode and energy-saving mode of the PC.
- After turning on the power of the projector, set to the Picture Mode for performing calibration. Start calibration after waiting for about 30 minutes.
- Make sure that the brightness of the room's ambient light is the same as that of the environment where the projector is used.
- Do not cast a strong ambient light directly on the screen.
- Do not use the remote control and operation panel when the calibration software is running.
- Make sure to input video signals (1080 or 720) when the calibration software is running.
- Do not set to the HIDE mode when the calibration software is running..
- The calibration does not work when displaying 3D image.
- Restart the projector at the same time if you are closing an application after receiving an error message while using the calibration software. Wait at least 5 minutes before restarting.

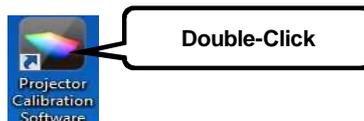
**\*Upon saving the data after performing calibration, a backup file will be saved automatically to the folder selected in "Setting". All data of the projector set prior to this process will be overwritten.**

### □ Procedure

#### ● Operation Procedure

Start up the "Projector Calibration software"

1. Double-click the "Projector Calibration software" icon on the Desktop.



#### ● Setting

1. Click the "Setting" button.  
Use this feature to specify the various settings.



2. Specify the various settings.

#### Network

IP Address:	Enter the IP address for the projector on the network. To view the IP address of the projector, refer to the "■ Connecting this unit to a PC" item. After entering the IP address, click the [Check] button to check the projector's connection with the PC.
Port No.:	Leave the value unchanged unless you need to alter it.

#### Function

Calibration Type:	Select a type of calibration.
Gamma Step:	For setting the accuracy level of gamma calibration.
Quality	33step
Normal	20step (Default)
Speed	9step
Screen Size:	Enter a screen size for viewing.
Viewing Distance	Enter a viewing distance.

#### Display

Language	Select a language.
message:	Deselect this checkbox if you do not want to display descriptions on how to operate the different features.

#### Backup

File Path	Select the location for storing the backup file.
Serial No.	Input the projector's serial no.



#### \*Calibration Type

- Gamma+Color  
Calibrate gamma and color.
- Gamma  
Calibrate gamma only.
- Color  
Calibrate color only.
- Log only  
Log the current state.

**\*Upon saving the data after performing calibration, a backup file will be saved automatically to the selected folder.**

\*File name "Serial No.\_Set Picture mode\_Year-Month-Date-Time.cbd"

**\*Note that the factory default data will be saved as "Serial No.\_init\_Year-Month-Date-Time.cbd". Be careful not to delete this file.**

#### ● Recovering Backup Data

1. Click the "IMPORT" button.
2. Select the backup data file from the folder, and click "Open".
3. The backup data is imported to the projector.

## ● Calibration Procedure

Corrects distortions, such as those in the color balance, which occur due to prolonged use of the projector.

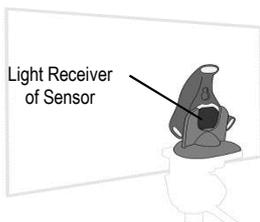
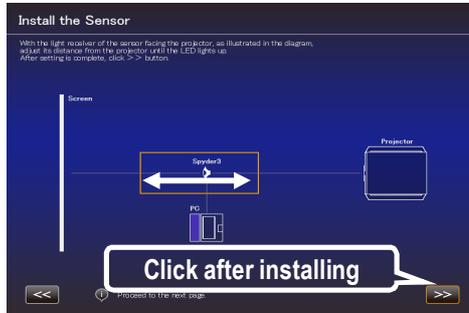
1. Click the "Calibration" button.



2. Connect the sensor (USB-compatible device: Spyder3) to the PC. After connection is established, click the "Spyder3" button.



3. With the light receiver of the sensor facing the projector, install the sensor between the projector and the screen. Install the sensor at a height according to the center of the projected image. The sensor's LED lights up when its distance from the projector falls within the detection range. Prevent light of the PC monitor from reaching the sensor directly. After installation is complete, click the ">>" (Next) button.



### How to Install

With the light receiver of the sensor facing the projector, as illustrated in the diagram, adjust its distance from the projector until the LED lights up.

4. Double-Click the Picture Mode, and select a Picture Mode for calibration from the pull-down menu. Double-click an item such as Color Profile, Color Temp, or Gamma, and select a mode for calibration from the pull-down menu. Slide Lens Aperture to make a selection. After setting is complete, click "START".



\*When Custom1~5 is selected for Color Profile, Color Temp and Gamma cannot be selected.

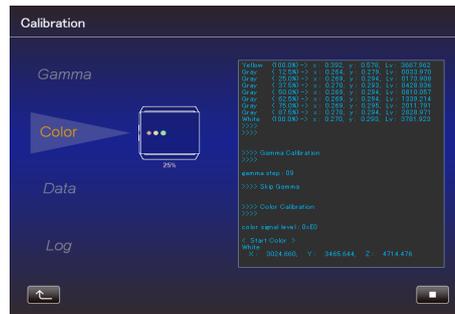
\*The Profile Name is not reflected in the case of Custom1~5, but displayed as Custom1~5.

\*Click the "<<" button to go back to the previous screen if Picture Mode does not appear, and proceed to this screen again.

## 5. Calibration in progress

While calibration is in progress, make sure that the surrounding light does not fluctuate. Otherwise, it may affect the calibration results.

**\*Noise may appear on the screen when data writing is in progress.**



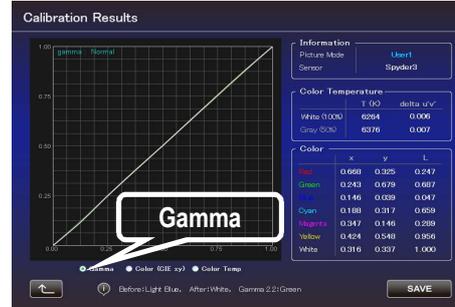
## 6. Result

The results for each Calibration Type are displayed.

### Gamma

Calibration results are displayed in white. The state before calibration is performed is shown in a blue line. The green line represents Gamma 2.2.

**\*When Custom1~5 is selected for Color Profile, Gamma is displayed as Normal.**

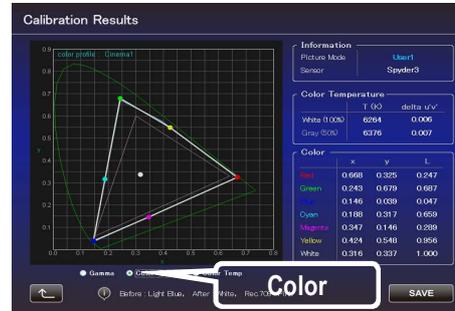


### Color

Calibration results are displayed in white. The state before calibration is performed is shown in a blue line. The pink line indicates the color gamut of Rec.709.

The chromaticity of each color is indicated using x-y coordinates.

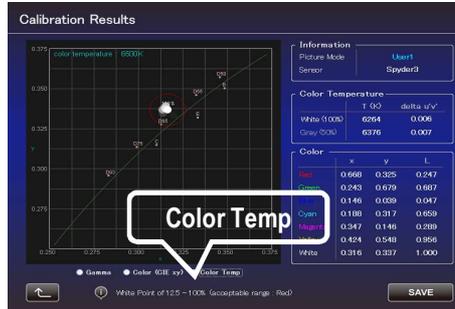
**\*The Profile Name is not reflected in the case of Custom1~5, but displayed as Custom1~5.**



### Color Temp

The chromaticity of the color temperature for each gray level is indicated by ● of the respective gray levels. The red circle indicates the intended chromaticity  $xy \pm 0.01$ .

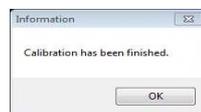
**\*When Custom1~5 is selected for Color Profile, Color Temperature is displayed as 6500K.**



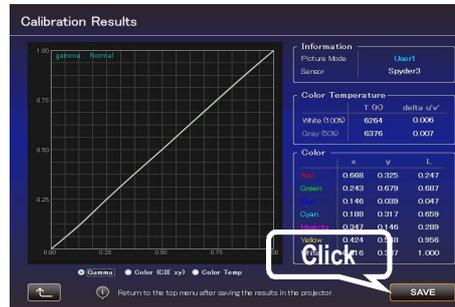
## 7. Save

Save the results if they are in order.

After saving is complete, an ending message is displayed. Click "OK" to return to the top menu.



To exit without saving, click (to return to the top menu).



## ● Creating Color Profile

Use this feature to create a color profile that contains the color space, color temperature, and gamma information.

1. Click the "Create" button.



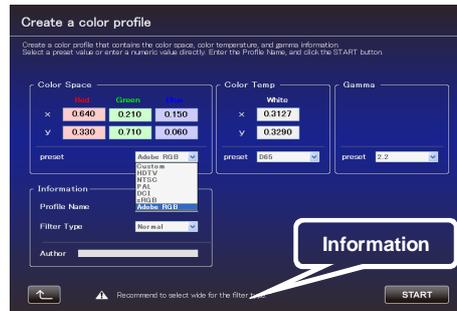
2. Create a color profile.

Select a Color Space and a Color Temp setting from the pull-down menu.

You can also enter a numerical value directly.

After Information is displayed, follow the instructions to select a Filter Type.

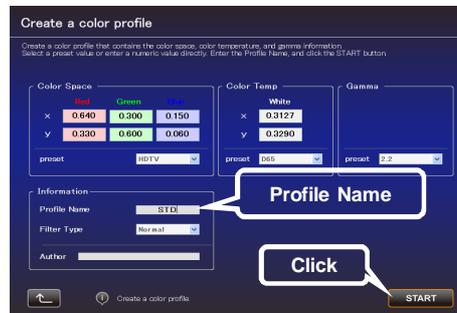
Select a Gamma setting from the pull-down menu.



3. Enter a profile name

(Not more than 10 one-byte ASCII characters. Extension of the created profile is ".prof". Click the "START" button after entering.)

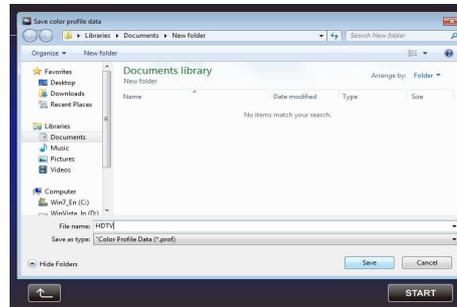
\* To apply the color profile data to the projector, import it to the projector using the Import feature.



Enter a file name and click "Save".

You can enter the name of the creator in Author.

To exit, click  (to return to the top menu).



## ● Import/Export Procedure

Use this feature to save/import picture quality setting data, or to import color profiles.

1. Click the "Import/Export" button.



-Picture Data

\* Export Procedure

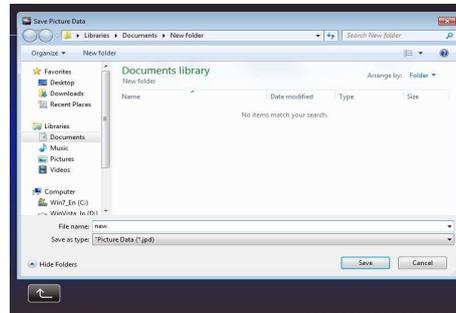
1. Double-click the Picture Mode (User 1 to 5 ), and select a Picture Mode (User 1 to 5 ) from the pull-down menu.



2. Click the "EXPORT" button.

\* Click the " << " button to go back to the previous screen if Picture Mode does not appear, and proceed to this screen again.

3. Select the destination for saving, and save the file after specifying the file name (extension becomes ".jpd").



To exit, click  (to return to the top menu).

-Import Procedure

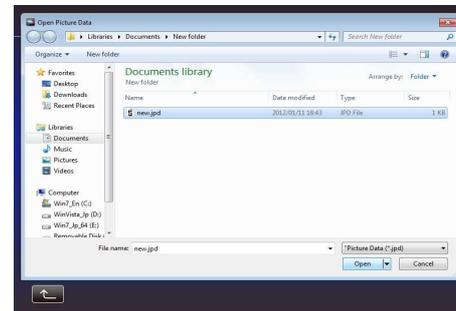
1. Double-Click the Picture Mode (User 1 to 5 ), and select a Picture Mode (User 1 to 5 ) from the pull-down menu.



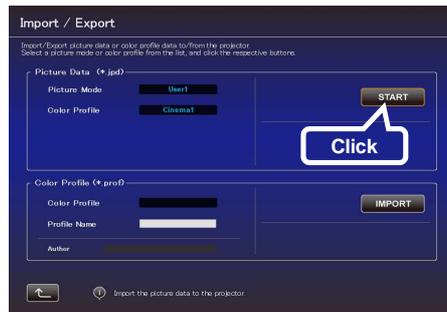
2. Click the "IMPORT" button.

\* Click the " << " button to go back to the previous screen if Picture Mode does not appear, and proceed to this screen again.

3. Select the file (\*\*\*.jpd) from the location where it is stored.



4. Click the "START" button.



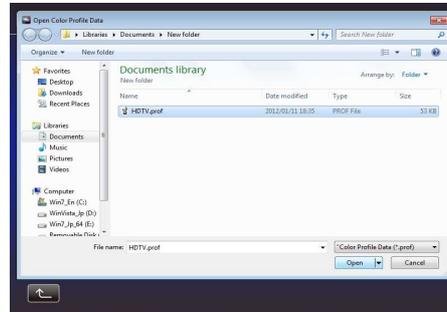
To exit, click  (to return to the top menu).

-Import Color Profile

1. Double-Click the Color Profile (Custom 1 to 5), and select a Color Profile (Custom 1 to 5) to import from the pull-down menu.
2. Click the "IMPORT" button.



3. Select the file (\*\*\*.prof) from the location where it is stored.



4. Click the "START" button.

\* To apply the imported Color Profile data, it is necessary to switch the Color Profile in the menu of the projector unit. Upon exiting this software, switch the Color Profile in the menu of the projector unit, and set it to the imported profile.



To exit, click  (to return to the top menu).

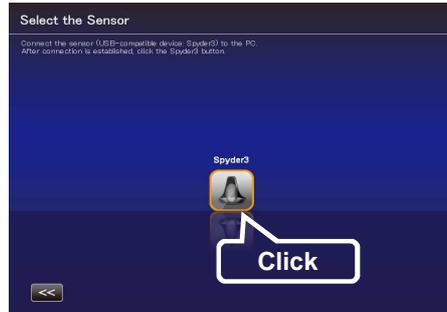
## ● Environment Settings

Adjusts the video settings according to the installation environment to minimize any influence on the image quality by objects such as white walls or indirect illumination.

1. Click the "Environment Setting" Button.



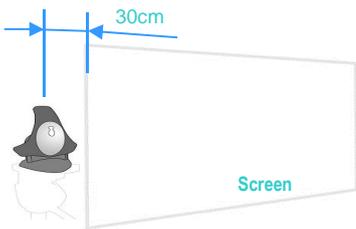
2. Connect the sensor (USB-compatible sensor: Spyder3) to the PC. After connection is established, click the "Spyder3" button.



3. Install the Sensor

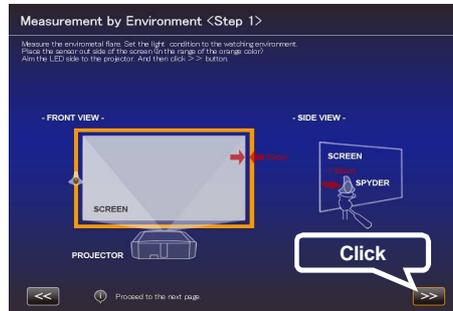
Measure the intensity of ambient light (amount of flare). Make sure that the intensity of the ambient light is the same as that of the environment where the projector is used. While measuring the ambient light, make sure that there are no changes in the surrounding conditions (light). Otherwise, the measurements may be affected.

Installation Example



When measuring the intensity of ambient light, place the sensor parallel to the screen at a position where light from the projector does not fall directly on the sensor (approximately 30cm away from the edge of the projected image). At the same time, make sure the LED is facing the projector.

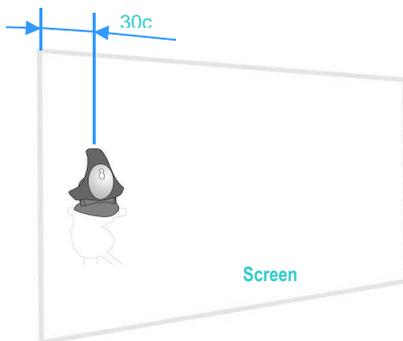
4. After installation is complete, click the ">>" button.



5. Install the Sensor

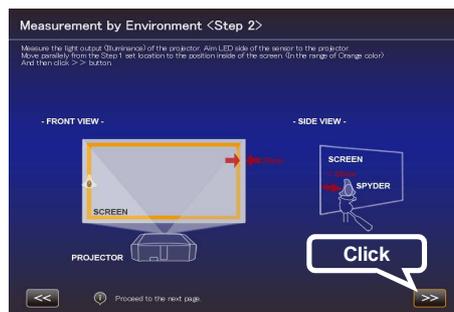
Measure the intensity of the projected light. Make sure that the intensity of the ambient light is the same as that of the environment where the projector is used.

Installation Example

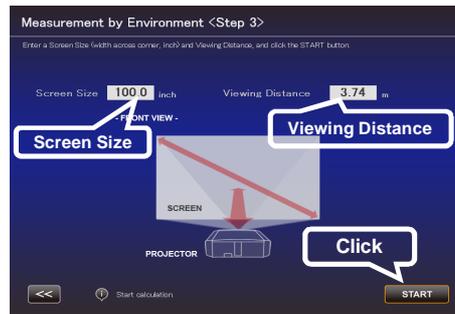


Position the sensor at approximately 30cm from the edge of the projected image with it in contact with the screen, and make sure the LED is facing the projector.

6. After installation is complete, click the ">>" button.



7. Enter a Screen Size (width across corner, inch) and Viewing Distance, and click the "START" button.



8. The recommended settings are displayed.

- Picture Tone -W
- Dark Level
- Bright Level
- Color

To view images in these settings, click the "AFTER" button.

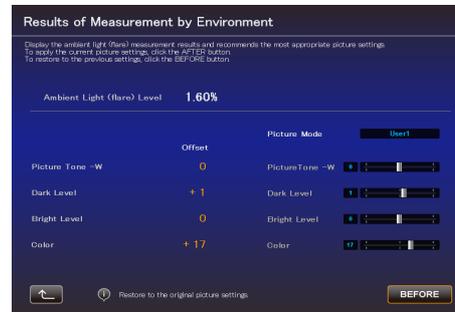
To save these settings, press the  button in this state (with the button in the "BEFORE" state).

To restore to the original state, click the "BEFORE" button.



If the settings are not appropriate, take the measurements again.

To cancel, click  button (to return to the top menu).



### ● Exit operation

1. Return to the top menu, and click the "EXIT" button.



### ● When the following messages are displayed

When an error message appears, take actions according to the message.

Message	Solution (Details)
Judged error to for the supported model.	Go back to the previous screen and check the input signal. After that, proceed to the error message screen. *This application is for DLA-X90R / DLA-RS65 / DLA-XC988R only.
Could not set up LAN connection. Please try again.	Proceed to the setting screen from the top menu and check the LAN connection by clicking "CHECK" button. If "NG" is displayed, perform LAN setting again.

End of the Documents

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