

Description of changes added in v3.50

D-ILA Projector DLA-NX9, DLA-NX7, DLA-NX5, DLA-N7, DLA-N5, DLA-N11, DLA-N8, DLA-N6, DLA-RS3000, DLA-RS2000, DLA-RS1000

1. Theater Optimizer smart function, analyzes the usage environment for each user, and displays HDR content with optimum brightness*

Brightness of the projector screen varies depending the screen size, gain and throw distance as well as lamp age and settings. When the projector is set to the Frame Adapt HDR picture mode, just enter the screen size and gain information, and the new Theater Optimizer function activates to automatically analyze the installation in which the projector is used and intelligently adjust tone mapping. This ensures reference picture quality at an appropriate brightness, suitable to each custom home theatre environment.

In addition, 18-bit level gamma processing is maintained while the feature is in use, bringing out deeper blacks in darker scenes, and higher peak whites in brighter scenes, along with the most realistic color, to reproduce high precision images with smooth gradations.

* Theater Optimizer can be activated only when the projector's picture mode is set to Frame Adapt HDR.

2. New Settings & Menu Structure

- (1) Brightness levels settings are increased to five steps for the Frame Adapt HDR function (was previously three steps).
- (2) New Content Type menu, which displays usable Picture Mode based on each input signal. Only the Picture Mode matching the input signal can be selected, preventing image distortion due to gamma and color gamut mismatch.
- (3) Function which automatically switches to the optimal Color Profile according to the color gamut information of the content.
- (4) Added Auto Pic. Mode Select function transitions according to each input signal (SDR/3D/HDR10/HLG).
- (5) Picture Mode for Panasonic's Ultra HD Blu-ray player DP-UB9000 Ultra HD Blu-ray player. Added Picture Mode, which allows easy and optimized connection without individual manual settings.
- (6) Improved JVC Calibration Software
- (7) Renamed and added Color Profile

Instructions for v3.50 New Features (excerpt)

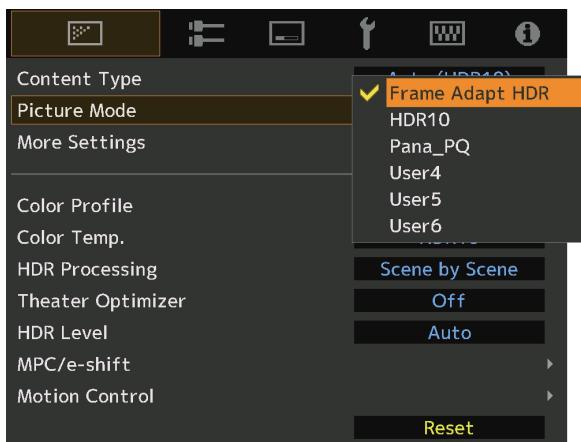
Theater Optimizer

This feature automatically configures the overall brightness level during tone mapping according to the screen size and state of the projector.

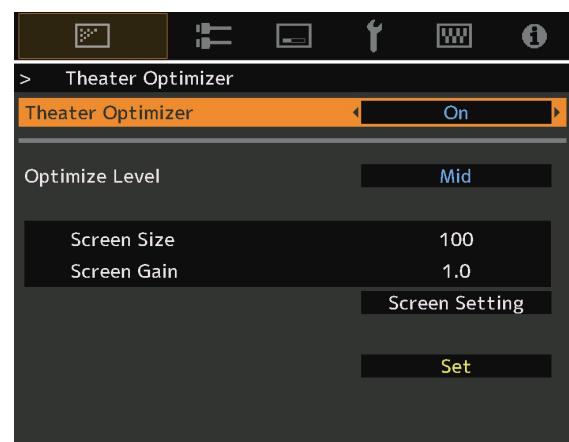
Configure “Screen Size”“Screen Gain” in the “Installation”→“Screen Setting” menu.

- *1 This option does not appear in the menu when “Content Type” is configured to “SDR”.
- *2 This can be configured only when “Picture Mode” is configured to “Frame Adapt HDR”.

1 Configure “Picture Mode” to “Frame Adapt HDR” in the “Picture Adjust” menu.



2 Set “Theater Optimizer” to “On”, and press the [OK] button

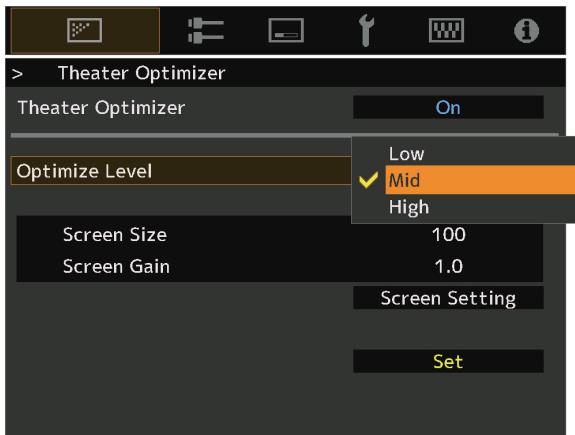


Theater Optimizer

For configuring whether to enable automatic configuration.

Setting	Description
Off	Adjusts the brightness level manually.
On	Calculates the screen brightness based on the projector settings and performs tone mapping according to the results.

3 Select "Optimize Level"



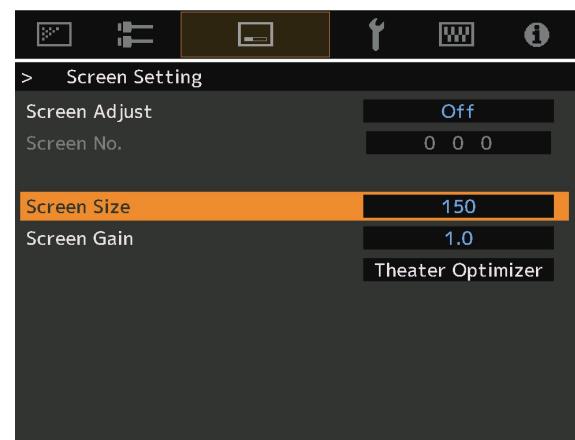
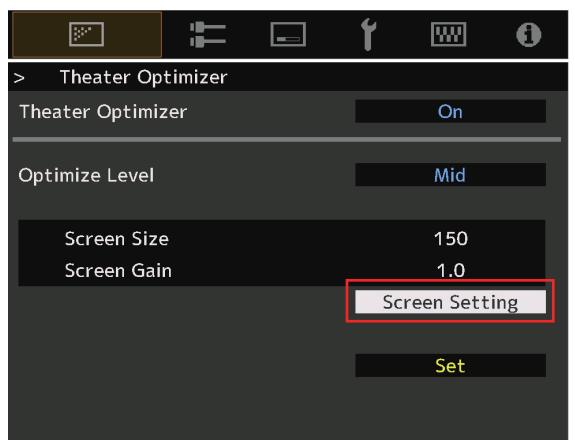
Optimize Level

Adjusts the brightness of the automatically-adjusted video image to a preferred level.

- Setting values: Low, Mid and High

4 Press the "Screen Setting"

→ Set the "Screen Size"/ "Screen Gain" in the Screen Setting Menu



Screen Size

For configuring the size of the screen for viewing when using "Theater Optimizer".

Screen Gain

For configuring the gain of the screen for viewing when using "Theater Optimizer".

NOTE

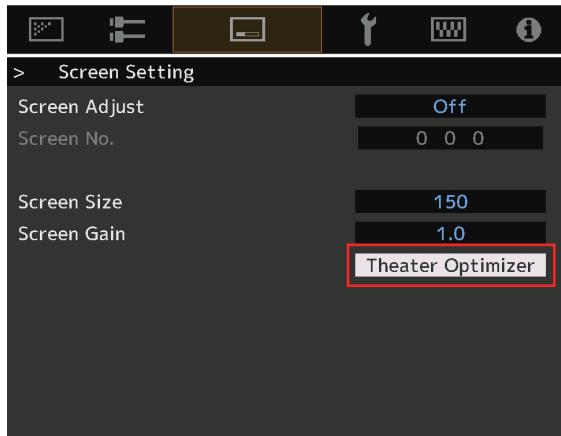
Screen size is based on 16:9 diagonal inch measurement.

When using a CinemaScope size screen without anamorphic lenses, please convert the screen size to 16:9 based on the width.

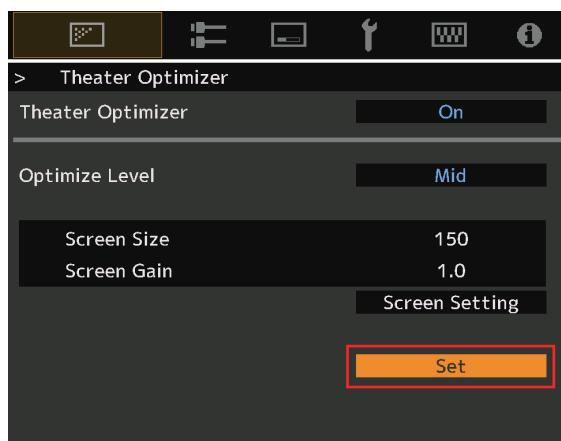
(e.g. 135 inch CinemaScope size → 150 inch in 16:9 based on the width of the screen → Set 150 for screen size)

When using an anamorphic lens, set the anamorphic lens in the "Installation mode" Menu.
No screen size conversion to 16:9 equivalent is required.

5 After setting, select "Theater Optimizer" to return to the "Theater Optimizer"



6 Press the [Set] button in the "Theater Optimizer" menu



CAUTION

Pressing "Set" in the "Theater Optimizer" menu automatically applies the "Screen Size"/"Screen Gain" settings and state of the projector in the auto settings of "Theater Optimizer".

If "Set" is not pressed in the "Theater Optimizer" menu, the settings are applied after the next restart of the unit or change of the "Installation Mode".

Other settings

HDR Level

This is a feature for adjusting the overall brightness during tone mapping.

*1 This option does not appear in the menu when "Content Type" is configured to "SDR".

*2 This can be configured only when "Picture Mode" is configured to "Frame Adapt HDR".

*3 This item is not available when "Theater Optimizer" is set to "On".

*4 The higher the nit level of the image the lower the HDR Level will be.

Setting	Description
Auto	Automatically adjusts the brightness to an appropriate level based on the mastering information (MaxCLL/FALL) of the content.
-2	Displays in a tone map with 600 nits as the clip point.
-1	Displays in a tone map with 400 nits as the clip point.
0	Displays in a tone map with 300 nits as the clip point.
1	Displays in a tone map with 200 nits as the clip point.
2	Displays in a tone map with 150 nits as the clip point.

Content Type

HDR10, Hybrid Log-Gamma and other HDR-standard content cannot be displayed correctly unless it is viewed in the appropriate picture mode. Configuring "Content Type" to "Auto" on this unit enables selection of only the "Picture Mode" suited for the content. Doing so allows users to enjoy optimal HDR videos without the need to deal with the complex settings.

* The picture mode might not switch automatically depending on the playback content and player in use.

Video Type (*)	Available Picture Modes	Description
SDR	Natural	Image quality that focuses on natural color and gradation reproduction. Suitable for drama footage, etc.
	Cinema	Reproduces the image in vivid colors. Suitable for all movies.
	Film NX9 N7	Reproduces faithfully the texture of movie films.
	THX NX9	Image quality certified by THX.
	User 1 to User 3	Enables user-defined image quality data to be saved and retrieved.
HDR10	Frame Adapt HDR	Picture mode that analyzes and automatically adjusts the HDR Tone Mapping of each frame in the HDR10 content. It employs an original analysis algorithm that allows users to enjoy any HDR content with or without any meta data. Frame Adapt HDR works with HDR10 format on any device.
	HDR10	Making full use of the wide color gamut and contrast, this mode is suited for viewing HDR10 content such as Ultra HD Blu-ray and streaming service.
	Pana_PQ	Picture mode used exclusively for Panasonic UHDBD players. For details on how to use this mode,
HLG	HLG	Image quality suited for viewing content produced in Hybrid Log-Gamma, a HDR standard for HLG broadcasting.
HDR10/HLG	User 4 to User 6	Enables user-defined image quality data to be saved and retrieved.

* Video type that is automatically determined if Content Type is configured to Auto

Auto Pic.Mode Select

For configuring “Picture Mode” when the video type switches automatically while “Content Type” is configured to “Auto”.

SDR(2D)/SDR(3D)

For configuring the “Picture Mode” to switch to automatically during input of SDR (2D) or SDR (3D) signal.

Setting	Description
Last Setting	Switches to the “Picture Mode” that was last configured when viewing SDR (2D) or SDR (3D) content.
Natural	Switches the “Picture Mode” automatically to “Natural”.
Cinema	Switches the “Picture Mode” automatically to “Cinema”.
Film NX9 N7	Switches the “Picture Mode” automatically to “Film”.
THX NX9	Switches the “Picture Mode” automatically to “THX”.
User 1 to User 3	Switches the “Picture Mode” automatically to “User 1” to “User 3”.

HDR10

For configuring the “Picture Mode” to switch to automatically during input of HDR10 signal.

Setting	Description
Last Setting	Switches to the “Picture Mode” that was last configured when viewing HDR10 content.
Frame Adapt HDR	Switches the “Picture Mode” automatically to “Frame Adapt HDR”.
HDR10	Switches the “Picture Mode” automatically to “HDR10”.
Pana_PQ	Switches the “Picture Mode” automatically to “Pana_PQ”.
User 4 to User 6	Switches the “Picture Mode” automatically to “User 4” to “User 6”.

HLG

For configuring the “Picture Mode” to switch to automatically during input of HLG signal.

Setting	Description
Last Setting	Switches to the “Picture Mode” that was last configured when viewing HLG content.
HLG	Switches the “Picture Mode” automatically to “HLG”.
User 4 to User 6	Switches the “Picture Mode” automatically to “User 4” to “User 6”.

Collaboration with Panasonic UHD BD Player DP-UB9000

Selecting one of two special projector color profiles from the HDR Display Type of the DP-UB9000 enhances dimensionality and improves gradation accuracy by tone mapping HDR video to match the JVC projector display characteristics.

Step 1:

Using Panasonic DP-UB9000: Select “High Luminance Projector” or “Basic Luminance Projector” from HDR Display Type Setting.

DP-UB9000 MENU: Player Settings → Advanced Settings → HDR Display Type

Step 2:

Using Panasonic DP-UB9000: Set HDR Optimizer “On” from OSD menu.

Step 3:

Using JVC Projector: Set “Picture Mode” as follows.

1 Set “Picture Mode” to “Pana_PQ”

2 Set “Color Profile” manually based on the following chart

Projector Color Profile	DP-UB9000 HDR Display Type	Effects on the Video Image
Pana_PQ_HL	High Luminance Projector	Provides brighter image with narrower color gamut.
Pana_PQ_BL	Basic Luminance Projector	Provides a wider color gamut image.

3 The HDR gamma data is reflected inside the above Projector Color Profiles. As a result, the HDR Gamma mode is not used. Instead, Set “Color Temp.” to “6500K” and “Gamma” to “2.2”