MITSUBISHI ELECTRIC

Changes for the Better

HOME THEATER PROJECTOR

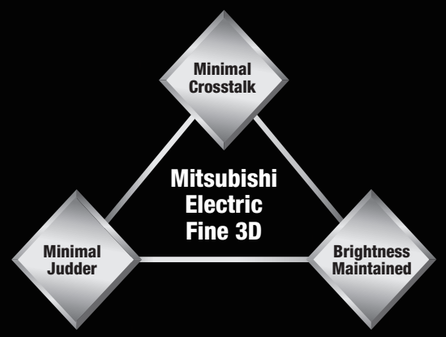
NEW HC7800D

Bringing
New Dimensions of
Beauty to 3D Imagery

PICTURE BY DLP™ TEXAS INSTRUMENTS

for a greener tomorrow eco Changes

True Cinema Pleasure Delivered in the Privacy of Your Home



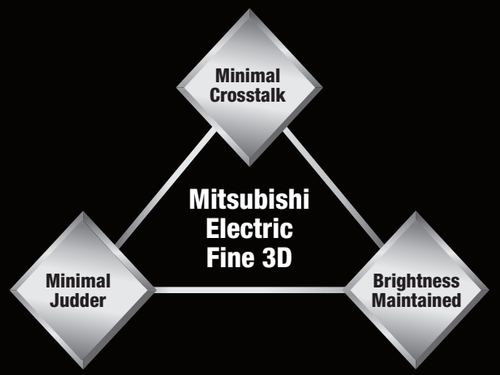
There is nothing more pleasing and relaxing than being in the comfort of your own home, sitting in your favorite seat and watching movies and other programs reproduced in cinema-level imagery. For people seeking such times of blissful enjoyment, Mitsubishi Electric introduces the new HC7800D. Incorporating our latest original image-processing technologies, the high picture quality of images projected has never been more beautiful. Especially notable are advancements in resolving annoying 3D phenomena such as crosstalk, judder, and loss of brightness, and achieving brighter, sharper, clearer 3D performance. If not satisfied simply by dynamics, now is your time and this is the projector!

NEW HC7800D

DLP™ System and 3D Glasses with high-speed liquid -crystal shutter for Overwhelming 3D Performance

3D Glasses with high-speed liquid-crystal shutter
Amazing reduction in peculiar phenomena during 3D viewing

Mitsubishi Electric has developed original 3D Glasses with high-speed liquid-crystal shutter that best match the high-speed response of elements in the DLP™ system. Brightness is maintained and judder is suppressed to a minimum. Additionally, an ultrahigh-speed response feature is incorporated, realizing unprecedented high-quality 3D imagery. The HC7800D allows you to truly relax and fully enjoy 3D content with overwhelming sharpness (**minimal crosstalk**), high definition (**minimum judder**) and luminance (**brightness maintained**).



Minimal Crosstalk

DLP™ elements and the high-speed shutter of our newly developed 3D glasses work together to produce sharp images by minimizing image crosstalk between the right and left eyes.

Image with crosstalk

Minimal Judder

Combined with a 3D-compatible fame rate converter (FRC), high-definition images with nominal image lag are achieved.

Image with judder

Brightness Maintained

The high-speed opening/closing operation of the shutters in the newly developed 3D glasses results in remarkable brightness by suppressing the loss of luminance.

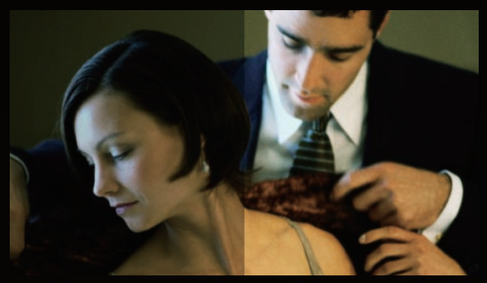


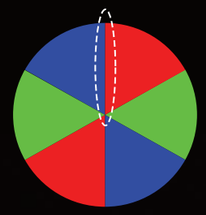
Image with reduced luminance (left half of screen)

3D Glasses with high-speed liquid-crystal shutter (optional)

The high-speed shutter of the newly developed 3D glasses shortens the blanking (black signal) when switching images between right and left eyes, resulting in flicker-free images.

Newly developed liquid-crystal shutter enables extremely high-speed response, but is sensitive to shock compared to conventional TN liquid-crystal. Accordingly, glasses frames are designed thicker in consideration of protection.

Portion where the color wheel is joined is used for blanking.

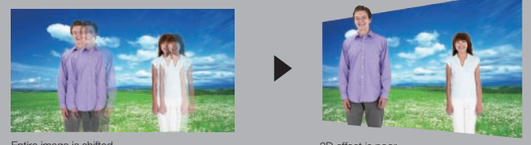


High-speed switching over 10 times faster than TN liquid-crystal shutter glasses reduces blanking to 1/20, realizing amazingly little eye fatigue.

Enjoy Favorite Movies of the Past in 3D - Built-in high-precision conversion feature

Thanks to motion-vector analysis technology, the position of a person can be distinguished from the background and a moderate parallax added to produce the sensation of depth used in 3D images. Unlike simple 2D-to-3D conversion where the entire screen is shifted, 3D images with a natural sensation of depth are reproduced, making it possible to bring even classic films back to life in vivid 3D.

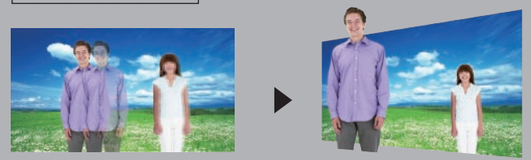
Common conversion format



Entire image is shifted

3D effect is poor

HC7800D conversion format



Positions of person and background are detected, and a moderate parallax is added

3D image with natural depth sensation

Integrating Imaging Technologies Cultivated and Evolved Over the Years

Newly developed Variable Iris provides high 100,000:1 contrast

An optimal iris shape for the DLP™ element and a linear motor are incorporated, achieving high-speed, highly precise automatic control. Even in continuously changing bright and dim scenes, blacks are traced and adjusted instantaneously. This ensures that high-definition images from sources such as high-definition television broadcasting and Blu-ray players are reproduced with their original beauty.

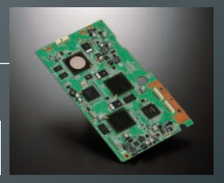
New Variable Iris (HC7800D)

High 1,500lm luminance with clear, high-definition images

In addition to Variable Iris, a high-power lamp is adopted, providing both enhanced image brightness and contrast. The high 1,500-lumen brightness ensures that, in both 2D and 3D, high-resolution images are clearer, sharper and more vivid than ever.

3D images reproduced in full high-definition with fine gradation

- Equipped with two full 10-bit panel drivers (DDP3021)
- PNX 5130 chip of Trident Microsystems, Inc. for FRC installed.



High-performance extra-low-dispersion lens for full high-definition resolution (with V-lens shift)

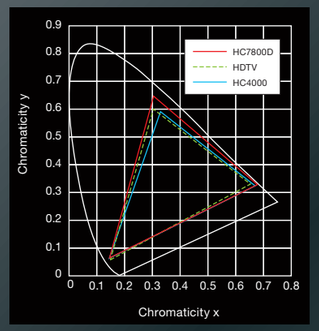
Compared to commonly used glass lenses, the projector is equipped with a high-performance extra-low-dispersion (ED) lens system comprised of a total of 13 lenses in four groups. Chromatic aberration is minimized to the fullest and image resolution is improved throughout, including the periphery.

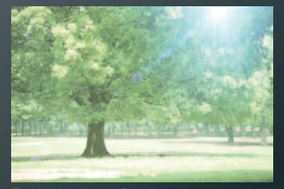
ED glass lens

High-quality coloration faithful to image source reproduced

The HC7800D incorporates the color reproduction performance of the HC9000D, vastly expanding the color range. Colors such as the greens of trees and cyan shades of oceans that were previously hard to produce are now included, enabling the reproduction of images with deeper, more vivid hues.

* Images compared are for reference only





Existing Mitsubishi Electric model

HC7800D

Color management function for easy fine-tuning of colors

The projector is equipped with a new color management function for independent color R (red), G (green), B (blue), C (cyan), M (magenta) and Y (yellow)) adjustment of “Hue,” “Saturation” and “Brightness.” It is also possible to adjust a specific color; when a color is selected only the objects of that color are shown in color (others are in monotone), making it possible to tune colors to preference more easily.

Before adjustment　Cyan adjustment specified　After cyan adjustment

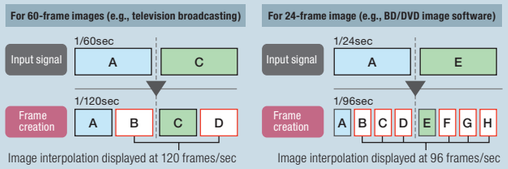
FRC installed – Reproduce content supplemented with optimal frame number

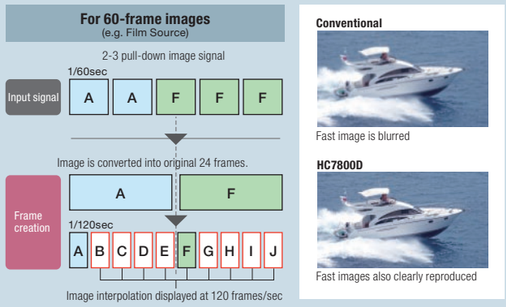
Applying motion-vector analysis technology, data from the previous and succeeding images are used to produce highly accurate image frames. The optimal number of frames is supplemented to match the contents and the final image is reproduced. As a result, motion blur in the vertical, horizontal and diagonal directions is suppressed.

True Video Mode

Blur is suppressed using video image motion interpolation.

New frames are created from previous and succeeding images.

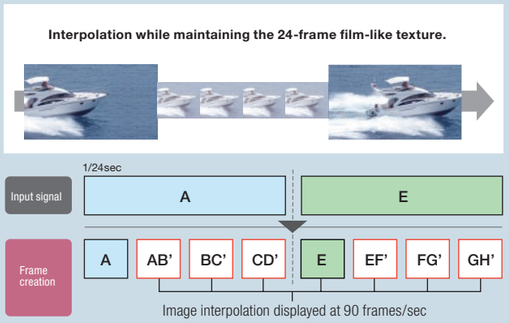




True Film Mode

While retaining the clicking sensation unique to film, sharp clear images are projected.

Interpolation while maintaining the 24-frame film-like texture.



3D FRC

Minimal Judder: Even for 24-frame 3D images, sharp clear images are reproduced.

For 24-frame images (e.g., BD/DVD image software)

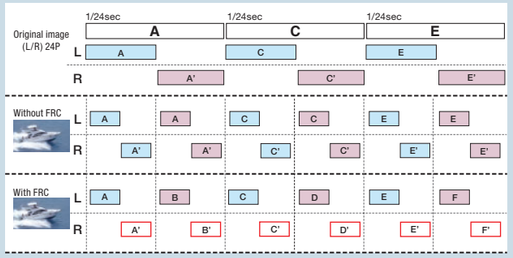


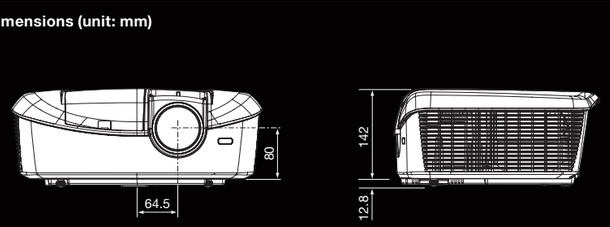
Image interpolation displayed at 96 frames/sec

HC7800D

HC7800DW

Terminals

External Dimensions (unit: mm)



*Not including protrusion. *The Lens focus point is the default set at the time of shipment from the factory.

Screen Size and Projection Distances

Screen size			Distance from Screen		Hd	Movable V position from default position					
Diagonal size (cm)	Width (cm)	Height (cm)	Shortest (Wide) (m)	Longest (Tele) (m)	(cm)	Down (-Hd)(cm)	0 (Hd)	Up (+Hd)(cm)	Down (cm)	0	Up (cm)
50	111	62	1.5	2.3	21	12	← 21 →	29	–9	← 0 →	8
60	133	75	1.8	2.7	25	14	← 25 →	34	–11	← 0 →	9
70	155	87	2.1	3.2	29	17	← 29 →	40	–12	← 0 →	11
80	177	100	2.4	3.6	34	19	← 34 →	46	–14	← 0 →	12
90	199	112	2.7	4.1	38	22	← 38 →	52	–16	← 0 →	14
100	221	125	3.1	4.6	42	24	← 42 →	57	–18	← 0 →	16
110	244	137	3.4	5.0	46	26	← 46 →	63	–20	← 0 →	17
120	266	149	3.7	5.5	50	29	← 50 →	69	-21	← 0 →	19
150	332	187	4.6	6.9	63	36	← 63 →	86	-27	← 0 →	23
200	443	249	6.2	9.2	84	48	← 84 →	115	-36	← 0 →	31
250	553	311	7.7	–	105	60	←105 →	144	-45	← 0 →	39
300	664	374	9.3	–	126	72	←126 →	172	-54	← 0 →	47

Options *3D Glasses (Optional parts) are necessary for viewing 3D pictures.

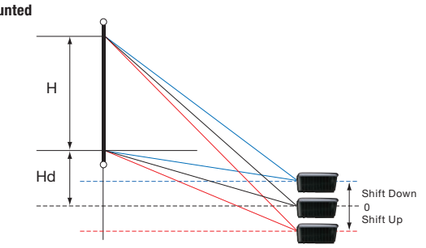
3D Glasses

EY-3DGS-78U

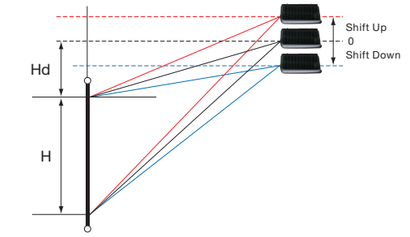
Replacement lamp

VLT-HC7800LP

Floor mounted



Ceiling mounted



Specifications

Model				HC7800D
Projection system				DLP™ system
Panel specs	Panel size			0.65 DMD, Aspect ratio 16:9
	Number of pixels			1920x1080
	Drive system			DMD reflection system
	Array			Stripe pattern
Optical specs	Lens	Zoom / focus operation*1		1.5x manual zoom / manual operation
		f (mm)*1		20.6-30.1
	Light source lamp			240W (at standard mode), 190W (at low mode)
	Optical system			Time-division color separation / composition system
Color wheel				6 segment (RGB RGB), 4x
Projection screen size (inches)				50-300
Images	Brightness (lm)*1*2			1500 (Max)
	Contrast ratio*1			100000:1 (when the Iris is closed)
	Resolution		PC input	VGA 640x480 - UXGA1600x1200,1920x1080
	Scan frequency		Horizontal (kHz)	15-85
			Vertical (Hz)	24-85
Input signal system	Video			Video input: 480i/p, 576i/p, 1080i 60/50, 1080p 60/50/24, 720p 60/50
	PC			PC/AT compatibles, Mac, PC98
Input	Image	Analog RGB	Mini D-sub 15pin	1 terminal
		Digital RGB	HDMI terminal	2 terminals (3D/Deep Color compatible)
		Components	RCA terminal	1 terminal (component can be also input to Mini D-Sub 15 pin)
	Serial		Serial terminal	1 terminal (Mini D-sub 9pin)
	LAN		LAN terminal (RJ45)	1 terminal
Functions	Picture mode			3 patterns + 3 AV memories
	Digital keystone (Vertical)			±15 steps
	Power source voltage			AC100-240V 50/60Hz
	Power consumption (W)			370 (at waiting 0.5 W)
	Weight (kg / lbs)			5.6
	Main unit dimensions (WxDxH)			396x328x142mm / 15.6"x12.9"x5.6" (Not including protrusion)
Other	Supplied accessories			Power source cord (1.8m), Remote control, AA batteries (x2), 3D Emitter, Emitter cable (1.8m), RGB signal cable, Lens cap, Lamp replacement attachment

*1 Varies depending on conditions. *2 Compliant with ISO21118-2005 *3 All the brand names and product names are trademarks, registered trademarks or trade names of their respective holders.

3D Viewing Precautions

- Each person perceives 3D images differently. There may be times when viewing causes a person to feel uneasy.
- If a person begins to feel tired or uncomfortable when viewing 3D images, they should stop watching immediately.
- When watching 3D programs, be sure to take occasional breaks and do not watch continuously for long periods of time.
- The viewing of 3D images is not recommended for children under the age of 5~6.
- The proper viewing form for 3D images is to wear 3D Glasses and have both eyes horizontal to the screen as much as possible.
- 3D Glasses are fragile and may break if the frames are twisted or if handled recklessly. Do not watch 3D programs if the 3D Glasses are defective or there is a problem with them.
- When viewing 3D images, it is recommended to sit at a viewing distance equal to at least three times the effective screen size.

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

To find out more about HC7800D and our projectors, visit us at

http://www.MitsubishiElectric.com/projectors/

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