Full HD
1080P

THEME|SCENE
HD81-LV Controller

VXP

isf

On / Standby

HD81LV

THEME|SCENE

Cinema Standard Video Performance + Ultra Bright for Small Cinema, Sports Bar, Auditorium + Brighter Home Cinema

The HD81LV is based on the multi-award winning HD81 1080P Home Cinema projector but with an incredible 2500 lumens – more than twice the brightness of a typical video projector. This enables new possibilities for both Home Cinema and commercial applications. Exemplary video performance, accurate colour reproduction and ultra brightness combine in this unique and innovative projector to enable exciting new possibilities both at home and at work.

Applications

Ultra Bright Home Cinema

The staggering brightness of the HD81LV enables 2 exciting developments in Home Cinema:

Bringing projectors out of the dark – Ultra Brightness means the HD81LV can be used in environments where the light is not completely controlled for a new and exciting Full HD 1080P Home Cinema experience.

Bigger is better – Ultra brightness means your screen can be huge. The HD81LV can deliver an exceptionally bright image of up to 5m (197″) wide.

Commercial Installations

Ultra bright and cinema standard video performance enables video image quality not possible with traditional presentation type projectors. DLP legendary reliability ensures that HD81LV installations are maintenance free and look good for years to come without the colours fading over time.
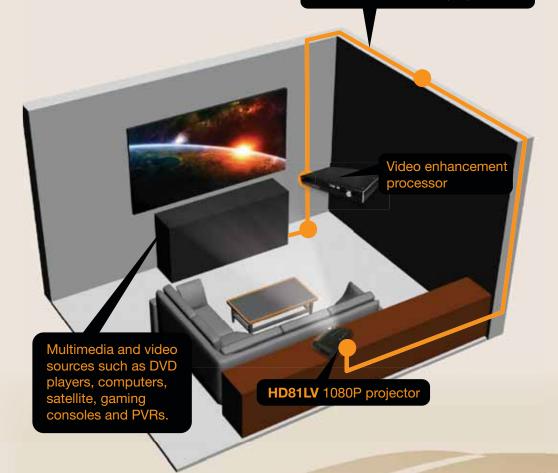
Small Auditoria

Exceptional brightness enables the HD81LV to deliver stunning SMPTE standard brightness and exceptional video image quality on screens widths of up to nearly 5m – large enough to fill small auditoria or halls.

Simplified installation with 2 piece design

Simplified cabling solution delivers a loss- and interference-free signal from the video enhancement processor to the HD81LV 1080P projector

Video enhancement processor

Multimedia and video sources such as DVD players, computers, satellite, gaming consoles and PVRs.

HD81LV 1080P projector

Film Screening Room Quality

With image quality normally reserved for film screening rooms the ThemeScene HD81LV is the ultimate in High Brightness, High Definition video applications in or out of the home. The innovative two piece design delivers unmatched performance, sleek styling and whisper-quiet operation.

Ultimate High Definition

A native resolution of 1080P means over 2 million individual pixels at your command. That's more than twice as much detail as a 720P projector. Exceptional performance requires the exceptional control provided by the Gennum VXP™ studio grade processor. Capable of deinterlacing 1080i from today's highest quality broadcast and disc sources VXP™ processing ensures natural, fluid motion and exceptional image detail.

Crystal Clarity

Masterly orchestration of DarkChip3™ technology from Texas Instrument and ThemeScene® video technology produces a stunning 10,000:1 contrast ratio. Deep, balanced colour is provided by an exceptional quality proprietary colour wheel. This unprecedented combination ensures natural, real looking images with crystal clarity.

Exceptional Connectivity

Unparalleled flexibility with 14 video inputs including 3 HDMI, 4 Component, and 2 SCART RGB.

Projection Technology

At the heart of the projector is the latest 1080p DarkChip3™, DLP® technology. This 10 bit signal processing architecture combines with the latest colour wheel and colour processing technologies to produce stunningly bright pure images with unprecedented detail.

ULTRA BRIGHT VIDEO

Ultra Bright Home Cinema

Ultra brightness enables high quality viewing in high ambient light conditions – use this projector like a TV. Leave the lights on for casual viewing only dimming them for feature presentations.

Or use the Ultra brightness for an ultra large screen. If you like your image big then the HD81LV makes them as big as they get! Home Cinema with a 5m screen is an awe-inspiring experience of truly phenomenal proportions.

The two piece design of the HD81LV enables both extensive connectivity, studio grade video processing and simplifies cabling and installation. All input sources are connected to the Controller Box where they are optimised and up-converted to 1080P before being transferred via a single loss and interference free HDMI cable, to the projector head.

At the heart of the HD81LV video processing is Gennum Visual Excellence Processing™ (VXP) technology. This provides revolutionary image quality improvements by employing the worlds most advanced image processing algorithms. It combines studio grade video enhancement and colour management with state-of-the-art video switching, scaling and format conversion. Staggering, never-seen-before colour management tools unleash the full potential of the HD81LV giving you complete control to render the perfect image.

Small Auditoria

Ultra brightness enables ultra large screen sizes. The HD81LV is able to deliver SMPTE standard brightness* on screens widths of up to nearly 5m wide - making it suitable for small auditoriums or events with a large audience

The studio grade video processing, accurate colour and unrivalled calibration tools make the HD81LV an obvious choice for any auditorium requiring colour accuracy or video performance beyond the capabilities of a standard presentation projector

Applications include:

eCinema – With thoroughbred ThemeScene video image performance and the ability to produce huge images the HD81LV is an obvious choice for small or community based eCinema

Image display - The display of photographic or computer generated images requires absolute colour fidelity to faithfully reproduce an image on a big screen. HD81LV colour reproduction closely matches the colour gamut defined by the ITU 709 colour specifications. 1080P resolution generates a screen image with over 2 mega pixels – ensuring that every detail is faithfully reproduced

Presentations – Slide presentations look stunning with greater image fidelity than is possible with most standard business projectors. Presentations that include video look flawless with ThemeScene video expertise

* Calculated with the Society of Motion Picture and Television Engineers recommendations of a minimum image brightness of 16 Foot Lamberts. Data used: 2,500 Lumens flat white field, 16:9 screen with a gain of 1.0
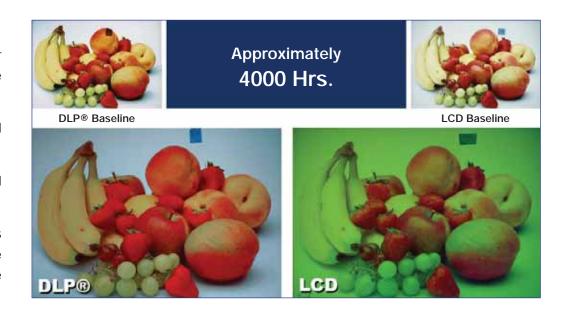
Commercial Installations

Ultra brightness coupled with ultimate video image quality makes the HD81LV well suited for environments requiring the image quality typically associated with a Full HD 1080P Home Cinema projector and the brightness associated with a business presentation projector

DLP legendary reliability ensures that HD81LV installations are maintenance free and look good without the colours changing over time.

Innovative optical design negates the requirement for air-filters and associated maintenance overheads

Run continuously for 4,000 hours in an independent laboratory test, projection systems using DLP® technology maintained their picture quality throughout. By contrast, in the same test*, data projectors using LCD technology exhibited considerable picture degradation by 2558 hours on average.

The HD81LV projector based on an all-digital DLP® chip delivers stunning picture quality again and again because it recreates its image source every time you use it. Unlike competing analogue technologies, the semiconductor that makes DLP® projection possible is virtually immune to environmental factors that can cause an image to degrade over time.

Approximately 4000 Hrs.

DLP® Baseline

LCD Baseline

DLP®

LCD

* Conducted by the Rochester Institute of Technology's Munsell Color Science Laboratory and sponsored by Texas Instruments. The test included a sample of commercially available data projectors, five featuring LCD technology and two featuring DLP® technology. The projectors varied in features such as panel size, weight, resolution and brightness. All units were run in a continuous operation mode at an ambient room temperature of approximately 25°C.

Lens options

To increase positional flexibility and functionality 2 lens options are provided

Short throw – get bigger images from shorter throw distances

Anamorphic - Increase the brightness and resolution of 2.35:1 movies and enables Fully Automated Constant Height projection

Short Throw Lens

Increase the maximum screen size you can fit in your room
Without short throw lens 120″ (16:9 Diagonal)
With short throw lens 160″ (16:9 Diagonal)

* Based on average room height of 2.6m with the bottom of the screen a minimum of 0.5m from the floor.

The optional Short Throw lens attachment enables a wider range of projector placement options by:

- Increasing the image size for the same projection distance
- Reducing the image offset

Short Throw Lens							
Projection Distance (m)	Max. Horizontal Image Size (m)	Min. Horizontal Image Size (m)	Max. Screen Height (m)	Min. Screen Height (m)	Max Diagonal Image Size (m)	Max Diagonal Image Size (inch)	Max. Image Offset (m)
3.00	2.03	1.69	1.14	0.95	2.33	91.54	0.17
4.00	2.70	2.25	1.52	1.27	3.10	122.05	0.23
5.00	3.38	2.82	1.90	1.58	3.88	152.56	0.28
6.00	4.05	3.38	2.28	1.90	4.65	183.07	0.34
7.00	4.73	3.94	2.66	2.21	5.43	213.58	0.40

Fully Automated Constant Height Projection

The optional Optoma BX-AL133 Anamorphic Projection Kit, with the projector, provides a unique "fit and forget" solution for Constant Height projection. Most major movie titles are released in the 2.35:1 format and the BX-AL133 Kit provides uncompromised widescreen reproduction of this format. When a change from a 1.78:1 (16:9) to a 2.35:1 movie is detected the image simply gets wider - the full screen height is maintained and so eliminates black bars. The resulting 2.35:1 image is bigger, brighter, higher resolution and completely immersive - exactly as it would be at the cinema.

The BX-AL133 Anamorphic Projection Kit Comprises:

Anamorphic lens

- Five element, 100% glass, fully multicoated optical design corrected for chromatic aberration and astigmatism
- Optics designed to exceed the resolution requirements for 1080P projection

Motorised Lens Mount

- Integrates with the ThemeScene Auto235 feature to automatically detect 2.35:1 presentations and configure the projector and anamorphic lens accordingly
- High Precision maintenance free mechanism

Mounting Plate

- Allows the lens and the motorised lens mount to be mounted perfectly in relation to the projector
- Enables the projector and the Anamorphic Projection Kit to be mounted on one ceiling mount assembly

What is Constant Height Projection?

Many movies are presented in 2.35:1 aspect ratio. When these are viewed on a 16:9 projector with a 16:9 screen black bars are visible at the top and bottom of the image as below. A 16:9 source – like TV fills all of a 16:9 screen with no black bars. This is called Constant Width projection as with both formats the width of the image stays the same.

2.35:1 Movie

16:9 TV

Constant Height projection uses a 2.35:1 aspect ratio screen. A 2.35:1 movie is displayed with no black bars top and bottom. 16:9 TV is displayed with black bars at the sides.

2.35:1

16:9

Constant Height projection is optimised for watching movies. When using the Optoma Anamorphic Kit the full potential of the projector is used when displaying 2.35:1 movies. This enables a brighter, higher resolution image.

Image sizes

For the same throw distance the Optoma Anamorphic Lens Kit increases the horizontal size of a 2.35:1 image by 33% relative to the same 2.35:1 image being displayed on a 16:9 screen. The vertical height stays the same.

Image size – throw distance

Projection Distance (m)	Max. Horizontal Image Size (m) WITHOUT ANAMORPHIC LENS	Min. Horizontal Image Size (m) WITHOUT ANAMORPHIC LENS	Max. Horizontal Image Size (m) WITH ANAMORPHIC LENS	Min. Horizontal Image Size (m) WITH ANAMORPHIC LENS	Max. Screen Height (m)	Min. Screen Height (m)	Max. Image Offset (m)	Min. Image Offset (m)
3.00	1.62	1.35	2.16	1.80	0.91	0.76	0.33	0.27
4.00	2.16	1.80	2.88	2.40	1.21	1.01	0.44	0.36
5.00	2.70	2.25	3.60	3.00	1.52	1.27	0.55	0.46
6.00	3.24	2.70	4.32	3.60	1.82	1.52	0.66	0.55
7.00	3.78	3.15	5.04	4.20	2.13	1.77	0.77	0.64

Technical Specifications

Native Resolution	1080P (1920 x 1080)
Contrast	10,000:1
ANSI Lumens	2500
Technology	0.95" DarkChip3™ DLP®
Video Processing	Gennum VXP™
Compatibility	480i/p, 576i/p, 720p, 1080i/p, 1080P24
Noise (dB)	32/28 (Bright\Standard mode)
Throw ratio / Proj Dist.	1.85 - 2.22:1
Projection Distance	1.5 - 12.5m
Zoom lens	Manual 1.2x
Image size 16:9 (Diagonal)	0.76 - 7.62m
Keystone Correction	Vertical 5%
Image Offset	136%
Vertical Refresh Rate	Input: 24 to 85Hz Output: 48,50,60,72Hz
Lamp Type	300W
Lamp Life	2000/3000 (Bright\Standard mode)*
Size (W x L x H mm)	411 x 311 x 116 (433 x 285 x 50 Controller)
Weight (Kg)	4.5 (4.2 Controller)
Warranty	3 Year Hot Swap
EAN Number	5060059041695
Environmental Conditions	Operating: 5~35°C, 80% RH (Max) non-condensing Storage: -20~60°C, 80% RH (Max) non-condensing

Controller Specifications

Image processing	
Colour management	Motion Adaptive 480i, 576i and 1080i deinterlacing, 10 bit image processing, 3 presets, 2 programmable display formats, Advanced noise reduction and sharpening
Installation\Control Features	User definable gamma, RGBCYM 6 colour, 16 region adjustment, 3 user defined modes, ISFccc colour settings
I/O Connectors	ISFccc Discrete IR commands (On\Off, Sources,Formats, User Settings), External IR expansion module, RS232 Control

*Typical lamp life achieved through testing. Will vary according to operational use and environmental conditions

HD81LV Remote Control
1. Power
2. Lamp Control
3. Settings Control
4. Gamma
5. Edge Enhancement
6. OSD Menu
7. Vertical Shift
8. Aspect Ratio Selection
9. Direct Source Input Selections
10. IRIS Control
11. Color Vivid
12. B/W Extension
13. Overscan

HD81LV Projector I/O Ports
14. HDMI
15. RS323
16. Service

HD81LV Scaler
17. Composite Video x 2
18. S-Video x 2
19. Component Video x 2
20. 12v Trigger x 2
21. BNC (SCART\YPbPr\RGBHV) x 2
22. RS-232 Control
23. HDMI In x 3

Image AI-II | **DVI** HDCP COMPLIANT | **truevivid™** | **isf®ccc** | **HDMI™** HIGH DEFINITION MULTIMEDIA INTERFACE

DLP PICTURE BY | TEXAS INSTRUMENTS