

# REFERENCE 3D Displays

TITAN Reference 1080p 3D



## PERFORMANCE SPECIFICATIONS

### Brightness ( $\pm 10\%$ )

4,000 - 6,000 ANSI Lumens  
Integrator Adjustable

### Contrast Ratio ( $\pm 10\%$ )

5000:1

### Display Type

3 x .95" Dark Chip-4 1080p DMD™ with Fast Transit Pixels for smooth greyscale and improved contrast

### DMD Specification

1920 x 1080 pixels native, 12° tilt angle

### Fill Factor

87%

### Sealed Optics at DMD™ Interface

Protects DMD's™ from optical contamination

### Source Compatibility

- Composite, s-video, and color difference video standards
- RGB graphics standards up to 1920 x 1080
- DVI standards with HDCP compliance
- High definition RGB and color difference standards
- High definition / standard definition serial digital formats (SD/HD-SDI)
- High bandwidth - Dual DVI, and Dual-Twin DVI

### Video Processing

- Enhanced 7 point color correction
- Dual Flash Processing™ increases 60 Hz inputs to 120 Hz displayed output
- FastFrame™ Motion Blur Reduction
- Xenon Color Mode - User selectable notch filter and xenon-color mode processing, enable the projector to replicate xenon lamp spectral performance
- Class leading Video de-interlacing/processing of SD and HD sources using auto 3:2 and 2:2 extraction, ruggedized for editing discontinuities
- Pixel-based motion adaptive interpolation
- User selectable preset, parametric de-gamma and user downloadable de-gamma
- Frame Delay: as low as 1 frame, source dependant
- Auto mode selection - plug and play setup

### High Bandwidth Input

- 3D capable
- Pixel Mapped - with low latency
- FastFrame™ Motion Blur Reduction
- 120 Hz with no frame doubling

### 3D Sync

Sync In - External lock  
Sync Out - Shutter glass control

### Network Connection

LAN via RJ 45, Wireless 802.11b, full protocol feature set

### Lamp Type

Dual High Intensity Discharge modules (2 x 350W)

### Lamp Life (typical)¹

4000 hours sequential lamp operation, lamp low provides extended lamp life

### Lens Mount

Zoom Lenses: Motorized horizontal and vertical lens shift, zoom and focus  
Fixed Lenses: Manual focus

### Lens Shift (maximum)

Fixed 1.12 and Zoom Lenses:  
• Vert: +0.7, -0.5 frame; Hor:  $\pm 0.1875$  frame  
0.67 Fixed lens:  
• Vert:  $\pm 0.1$  frame; Hor:  $\pm 0.1$  frame

### Lens Options

0.67	:1 fixed	1.87-2.56	:1 zoom
1.12	:1 fixed	2.56-4.16	:1 zoom
1.16- 1.49	:1 zoom	4.16-6.96	:1 zoom
1.39-1.87	:1 zoom	6.16-10.49	:1 zoom

- 1.12:1 Lenses include manual aperture
- High-contrast lenses available for 0.67:1 and all zoom lenses

### Mechanical Mounting

- Front or rear table; Front or rear ceiling (ceiling mount optional)
- Rugged, staging tolerant chassis with integrated handles
- Optional RapidRig™ frame with integrated pitch, roll and yaw adjustments

### Weight (chassis only)

68 lbs (31kg)

## Overview

Digital Projection International (DPI), Texas Instruments' first DLP™ partner and the original innovator of the 3-chip DLP™ projector, proudly introduces the newest entry in our line of Active-3D capable home entertainment Reference Displays, the TITAN Reference 1080p 3D. Weighing in at just 31kgs/68 lbs., the dual lamp TITAN Reference 1080p 3D employs the latest in Texas Instruments' Darkchip 1080p DLP™ technology to deliver up to 6000 ANSI lumens of razor sharp imagery through an amazingly rich 5000:1 contrast ratio.

The TITAN Reference 1080p 3D relies on key technological innovations such as DPI's Active-3D sideboard. The sideboard contains a "direct to DMD" high bandwidth input, which introduces less than one frame of latency. All 3-chip 3D units also include DPI's FastFrame™ technology, a revolutionary combination of hardware and firmware that provides user adjustments to vastly reduce the artifacts and image blur typically associated with rapidly moving display content. This is especially important when viewing sporting events or any other fast-moving entertainment content. Dual Flash Processing, an additional benefit to DPI's 3D displays, supports the display of 60 Hz sources at frame rates up to 120 Hz.

TITAN 3D models utilize the same lenses employed across the rest of DPI's TITAN and LIGHTNING product range, so optical accuracy is always ensured. Additionally, the Reference 1080p 3D includes DPI's exceptional ColorMax™ and Xenon Color Mode calibration systems, ensuring deeply saturated, color-accurate imagery which is simultaneously true to life and powerfully immersive. Compact, robustly built and ultra-quiet for its performance class, the TITAN Reference 1080p 3D is an unmatched solution for elite home cinemas and family media rooms.

Key benefits of the TITAN Reference 1080p 3D models include:

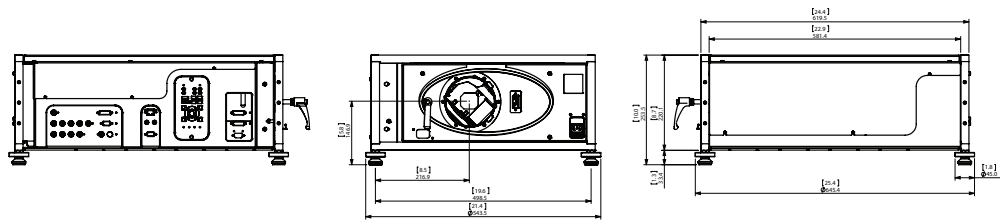
- High Bandwidth input >120Hz active stereoscopic DVI with no need for frame doubling. This capability extends the dynamic range up to 16 bit for improved contrast and color gamut.
- Dual Flash Processing™ (DFP) – Enables distribution of 3D content via 60 Hz formats by providing the option to frame-double the signal within the projector. When this option is selected, the input signal, having been processed and re-sized to map to the native resolution of the projector, will also be frame-doubled to 120 Hz, and the doubled frames interleaved. This produces imagery with the low flicker characteristics of a native 120 Hz source, but without the infrastructure costs associated with distributing and switching ultra-high bandwidth signals.
- Projector electronics which provide an interface to drive an infrared transmitter to synchronize switching glasses with active displayed frames. The user can elect either to pass through an external sync pulse, or to use the reference generated internally by the projector. Adjustments are provided to accommodate the phase and dead time characteristics of different switching glasses.
- FastFrame™ technology, a revolutionary combination of hardware and firmware that provides user adjustments to vastly reduce the artifacts and image blur typically associated with rapidly moving display content.
- Minimal video delay from input to screen - as low as 1 frame.
- Eight user-selectable inputs, including HDCP-compliant DVI plus SD/HD-SDI.
- High bandwidth DVI inputs offer Single, Twin, Dual & Dual Twin DVI connectivity.
- Up to 16 Bit color for breathtaking image reproduction.
- DPI's ColorMax™ calibration capabilities including enhanced seven-point color correction for broader color space and precise color alignment.
- DPI's CoolTek™ engineering, delivers the highest lumen performance with the lowest power consumption, thermal (BTU) and noise level (dBA) output.

As Hollywood focuses its production efforts on creating a wide array of new 3D content, Digital Projection International is pioneering the technological advances needed to deliver it to discerning home cinema enthusiasts worldwide. The TITAN Reference 1080p 3D represents DPI's dedication to that goal.

## INPUT CAPABILITIES

Type	Connector	Quantity
Composite	BNC	1
S-Video	4-pin mini DIN	1
Component		
Interlaced/Std def Y, Cr/Pr, Cb/Pb, S	BNCx4	1
Graphics		
Progressive RGB/Progressive Interlaced Hi def Y, Cr/Pr, Cb/PB	BNCx5	1
RGBHV (Progressive)	D sub (15-pin)	1
Digital RGB	DVI	1
Serial Digital		
SD/HD-SDI (SMPTE 259M/292M)	BNC	1
DVI - High bandwidth		
Dual - main	DVI	1
Dual - sub	DVI	1

TITAN Reference 1080 3D



TITAN 1080p-3D side panel



Projector Dimensions

Projector dimensions (in)  
L1 25.4 W1 21.4 H1 10

Projector dimensions (mm)  
L1 645.4 W1 543.5 H1 253.5

ADVANCED TECHNICAL SPECIFICATIONS

PARAMETERS	
Native Color Temperature	6500°K ±1000°K; white balance-adjustment: 3000°K to 10000°K User selectable Xenon-like colorimetry using dynamic optical and electronic enhancement.
HDTV Formats Supported	1080i (50Hz, 60Hz), 1080p (24Hz, 25Hz, 30Hz, 50Hz, 60Hz), 1080 24sf, 720p (50, 60Hz), 480i, 480p
Scan Rates Supported	Inputs 1-7: Horizontal: 15kHz to 100kHz / Vertical: 24Hz to 85Hz - Input 8: 3D progressive 576p up to 1080p @ 120Hz
Remote Control	Addressable IR remote control, wireless and wired with loop-through / On board invertable keypad
Automation Control	LAN connection via RJ45 / RS232 9-pin D type
Operating/Storage Temperature	Operating: 0 to 40°C / Storage: -10 to 50°C
Operating Humidity	20 to 80% non-condensing
Thermal Dissipation	2,777 BTU/hr
Fan Noise	Less than 45dBA
Power Requirements	100-240 VAC ±10%, 50/60Hz single phase
Power Consumption	910 watts maximum

Projectors  
TITAN Reference 1080p 3D

Part #  
109-324

Accessories  
350 Watt Lamp & Housing\* (2 required)  
RapidRig™ Frame  
TITAN 1080p 3D Series Adjustable Ceiling Mount  
Infrared Remote (Replacement)  
\* Includes high-performance replacement air filter(s)

Part #  
108-772  
107-956  
108-499  
105-023

Lenses  
0.67:1  
1.12:1  
1.12:1 (short)  
1.16-1.49:1  
1.39 - 1.87:1  
1.87 - 2.56:1  
2.56 - 4.16:1  
4.16 - 6.96:1  
6.92-10.36:1

HB Part #  
105-607  
105-608  
105-609  
109-236  
105-610  
105-611  
105-612  
105-613  
109-235

1 Based on 4-6 hour/day operational profile. Venue and application conditions may impact actual lamp life.  
See Digital Projection's Product Warranty Statement for details on lamp warranty.  
Installations requiring horizontal or vertical tilt orientations greater than 15 degrees may reduce the actual operational hours of one of the two lamps.

