DIGITAL PROJECTION
Precision Displays for Every Venue

TITAN sx+ 330-3D-L | TITAN sx+ 330-3D-P | TITAN sx+ 330-3D-L Ultra Contrast | TITAN sx+ 330-3D-P Ultra Contrast | TITAN sx+ 660-3D | TITAN sx+ 660-3D Ultra Contrast

TITAN sx+ Pro Series 3D

Overview

Digital Projection International presents a revolution in advanced 3-chip DLP displays with the new TITAN Pro Series 3 product line. Incredibly compact and efficient for its lumen performance, the TITAN Pro Series 3 incorporates DPI's advanced image Warp and Blend, Intelligent Lens Mount, ColorMax calibration technology, optional active 3D connectivity, and a host of vital professional features to suit almost any commercial installation or staging application imaginable.

As efficient as they are capable, the introduction of the 10,000 lumen TITAN Pro Series 3 lineup marks another milestone in high brightness, in a chassis size more akin to lower-lumen displays. The new TITAN Pro Series 3 projectors are available in SX+, 1080p and WUXGA native resolution, and include powerful DPI innovations such as FastFrame, Dual-Flash Processing and CoolTek Engineering. The TITAN Pro Series 3 extends DPI's powerful TITAN product line, the most powerful and efficient displays available.

Utilizing DPI's new, advanced electronics, all TITAN Pro Series 3 models provide the user with advanced Warp and Blend capabilities, including the ability to make extensive geometric warp correction for screens with complex geometry. Superbly capable edge blending and multi-projector tiling is provided by way of high bit depth processing that ensures a seamless, contiguous image can be created from multiple projectors. Additionally, end users can choose to utilize the TITAN Pro Series 3's onboard tiling function by assigning each projector a position within an image matrix. The video processing then automatically extracts the appropriate segment of the input image and enables blending for the appropriate edges.

Also included in the 3D-capable TITAN Pro Series 3 is DPI's exclusive 3D advances that further extend the remarkable flexibility engineered within each TITAN Pro Series 3 display. Applications with 120 Hz native sources utilize the High Bandwidth Input, eliminating the need for frame doubling. For 60 Hz 3D applications, DPI's built-in Dual Flash Processing enables distribution of 3D content via 60 Hz formats by frame-doubling the signal within the projector, producing the low flicker image characteristics of a native 120 Hz source without the infrastructure costs associated with distributing and switching ultra-high bandwidth signals.

As is the case with all Digital Projection displays, our careful engineering guarantees TITAN projectors provide remarkable resolution, color saturation and light output for years to come. Equally important, DPI's legacy in providing superior customer and technical services assures our experienced support staff is always available to address your needs.
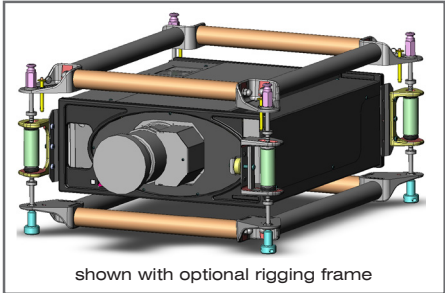
PERFORMANCE SPECIFICATIONS

Brightness (±10%)
sx+-330-3D L or P: 6,000 ANSI Lumens
sx+-330-3D L or P-UC: 3,000 ANSI Lumens
sx+-660-3D: 10,000 ANSI Lumens
sx+-660-3D-UC: 5,500 ANSI Lumens

Contrast Ratio (±10%)
sx+-330-3D L or P: 2,000:1
sx+-330-3D L or P-UC: 4,000:1
sx+-660-3D: 2,000:1
sx+-660-3D UC: 4,000:1

Display Type
sx+: .95" Darkchip DMD

DMD Specification
sx+: 1400 x 1050 pixels native, +/- 12 deg tilt angle
Fast transit Pixels for smooth greyscale and improved contrast.

Fill Factor
87%

Sealed Optics at DMD™ Interface
Protects DMD's™ from optical contamination

Source Compatibility
Advanced Front End Processor:
- 3GSDI including 1080p 60fps, 24p (4:4:4 and 4:2:2) and 1080i.
- HDMI including Deep Color processing.
- Graphics standards up to 1920 x 1200 resolution at 60fps via DVI or VGA.
- Component video (SD and HD) via YPr Pb, RGB, or RGBS.
- S-Video (PAL, NTSC & SECAM)
- Composite Video (PAL, NTSC & SECAM).

High bandwidth, pixel mapped path:
- Dual DVI accepts graphics standards up to 1920 x1200@120fps.
- HDMI 1.4 including 3D Standards
- Dual Pipe (2 x DVI or HDMI)

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
IR handset with wired option via 3.5mm jack (with loop through).
LAN Via RJ45 with full feature set via protocol.
Duplication of OSD served from projector controller via RJ45.
RS232 Via 9 Pin connector.

Lamp Type
Two x 330W High Intensity Discharge

Lamp Life (typical)[1]
Full Power: 1500 hrs (up to 3000 hrs in lamp sequential mode)

Note: TITAN 660 products employing 330 watt lamps may be used in any pitched or portrait orientation. When used in such non-standard orientations, lamp life may be reduced by up to 50%

Intelligent Lens Mount
Motorised and programmable Focus, Zoom, and Vertical and Horizontal offsets with ten positional memory banks.

Lens Shift (maximum)
sx+ models:
0.73:1 lens – Vert: +/- 0.11 frame; Hor: +/-0.07 frame
1.26-1.61:1 lens - Vert: +/- 0.36 frame; Hor: +/-0.2 frame
1.2:1 and other zoom lenses - Vert: +0.5, -0.4 frame;
Hor: +/-0.2 frame

Lens Options
0.73	:1 fixed
1.20	:1 fixed
1.26 - 1.61	:1 zoom
1.50 - 2.02	:1 zoom
2.02 - 2.77	:1 zoom
2.77 - 4.51	:1 zoom
4.51 - 7.53	:1 zoom
7.53 - 11.20	:1 zoom

- 1.2:1 Lenses include manual aperture
- High-contrast lenses available for 0.73:1 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)
36 kg, 79.4 lbs

Video Processing: Advanced Front End processor:
- Advanced geometry correction:
  o Accurate warp map generation by adjustment of an interpolated grid array of up to 16 x 16 nodes. Up to eight maps can be generated, downloaded and stored on the projector for selection via the OSD or control application.
  o On board implementation of Pincushion & Barrel, Cornerstone, Vertical & Horizontal Keystone, and Image Rotation.
- High Quality Edge Blending & Multi Projector Tiling
  o High bit depth processing in blend region to ensure smooth image.
  o Adjustable S-Curve Parameter and degamma functions.
  o Black Level Uplift to ensure uniformity across blend in dark images.
  o Correction of black level uplift to compensate for non-active pixels at the edge of the DMD.
  o The user can choose to assign the projector a position within an image matrix. The video processing can automatically extract the appropriate segment of the input image and enable blending for the appropriate edges.
- Single Stage Scaling
  o Resizing and Warp functions are carried out in a single stage process maximizing the clarity of the resulting image. When operating Blend in conjunction with Warp the processing will automatically superimpose the warped-blend map, onto the geometrically corrected image.
  o The user can switch between different sources and input aspect ratios, yet retain the accuracy of the geometrically corrected output.
- PIP/POP/PAP
  o User's choice between inputs for the main and sub images (Picture in Picture or PIP). The processing additionally offers the option to display two sources, side-by side, scaled to the vertical size of the panel Picture and Picture or PAP), or alternatively maintaining their original aspect ratios (Picture Opposite Picture or POP).
- ColorMax
  o Each projector is accurately calibrated at the factory with its native primary colors and white point being stored in the on-board memory. User's choice to employ the external control application to download his own measured color space, as specific to the operating environment, and also his preferred Target color space for primary and secondary colors. Not only is this the most flexible color management technology available, but it also enables accurate matching of projectors in tiled or blended applications.
- Dual Flash Processing can be used to multiply the displayed frame rate for 3D sources.
- FastFrame motion blur reduction.
- Dual Pipe processing allows the delivery of two sources in parallel, typically one for the Left Eye and the other for the Right.
- De-interlacing, Video enhancement and Frame Delay. The projector automatically detects interlaced video and implements 3:2 or 2:2 extraction as appropriate, with pixel based, motion adaptive interpolation and auto cadence correction.

INPUT CAPABILITIES

Type	Connector	Quantity
Composite	BNC	1
S-Video	4-pin mini DIN	1
HDMI (HDCP compliant)	HDMI 1.4	2
Component Interlaced/Std def Y, Cr/Pr, Cb/Pb, S	BNCx4	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

*The main & sub dual DVI inputs can be used in parallel to support dual-pipe 3D connectivity

TITAN sx+ Pro Series 3D

DIGITAL PROJECTION

CHASIS - FRONT

CHASIS - SIDE

INPUT CONNECTIONS
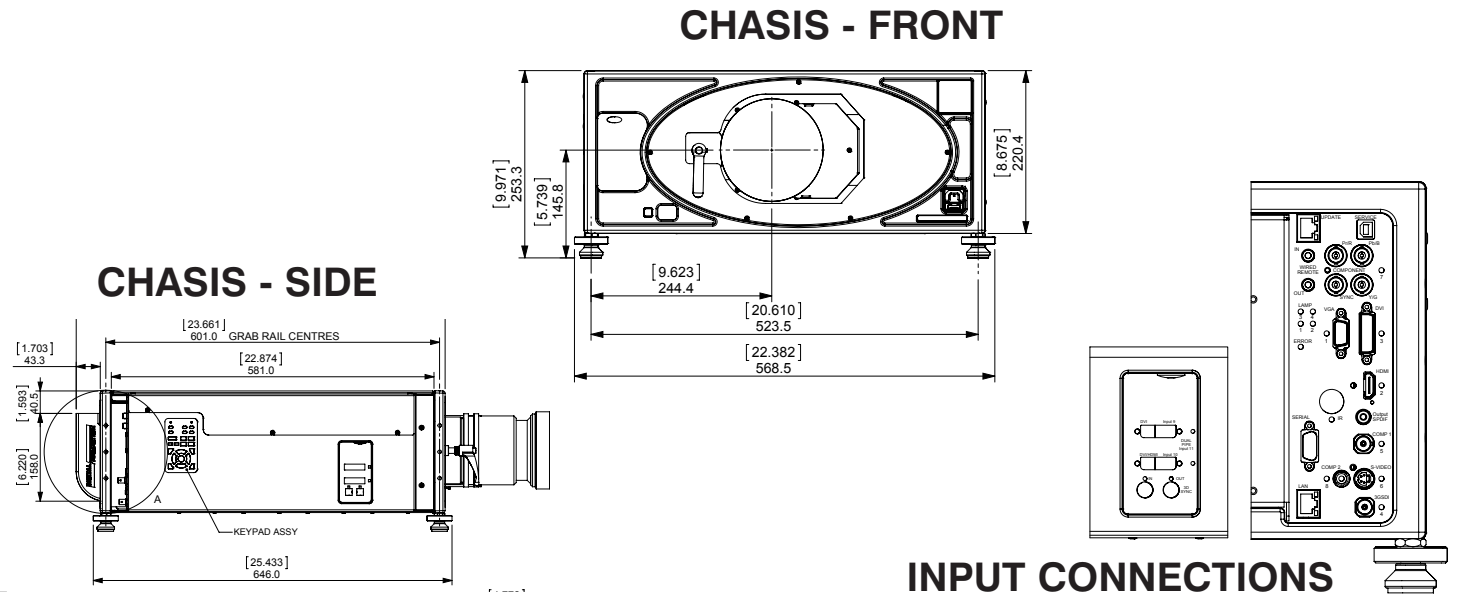
Projector Dimensions

Projector dimensions (in)	Projector dimensions (mm)
L1 26.2 W1 22.4 H1 10	L1 664 W1 568.5 H1 253.3

shown with optional rigging frame

ADVANCED TECHNICAL SPECIFICATIONS

PARAMETERS	TITAN sx+ 330-3D-L	TITAN sx+ 330-3D-P	TITAN sx+ 330-3D-L Ultra Contrast	TITAN sx+ 330-3D-P Ultra Contrast	TITAN sx+ 660-3D	TITAN sx+ 660-3D Ultra Contrast
Native Color Temperature	Native Color Temperature: User Selectable from 3200K, to 10000K					
HDTV Formats Supported	Signal formats 480i, 576i 480p, 576p, 720p, 1080i (50, 59.94 and 60Hz) and 1080p (23.98, 24, 25, 29.97 and 30Hz).					
Scan Rates Supported	The 3GSDI Input supports SD-SDI, HD-SDI and 3G-SDI YCbCr 4:2:2 serial digital component video. SMPTE 292M, SMPTE 259M-C and SMPTE 424M compliant. Accepts 484i, 576i, 720p, 1080i and 1080p Single link formats at 270Mb, 1.485Gb or 2.97Gb rates. Stream A & Stream B-switchable. HDMI & DVI Inputs - HDMI 1.3 with or without HDCP, 36 bit video compatible. DVI-D input with or without HDCP.					
Remote Control	Addressable IP remote control, wireless and wired with loop through. On Board keypad.					
Automation Control	LAN connection via RJ45/RS232 9 pin D Type.					
Operating/Storage Temperature	Operating 0-35C. Storage -10 to +50C					
Operating Humidity	20 to 80% non-condensing					
Thermal Dissipation	2900 BTU/hr					
Fan Noise	330- 36dBA 660- 45dBA					
Power Requirements	110-240VAC 50/60Hz Single Phase.					
Power Consumption	950 Watts MAX					

Projectors

	Part #
TITAN sx+-330-3D L	112-568
TITAN sx+-330-3D L *Ultra Contrast*	112-569
TITAN sx+-330-3D P	112-570
TITAN sx+-330-3D P *Ultra Contrast*	112-571
TITAN sx+-660-3D	112-572
TITAN sx+-660-3D *Ultra Contrast*	112-573

Accessories

	Part #
TITAN 330 & 660 Lamp (2 required for 660)	109-319
RapidRig™ Frame	111-265
TITAN Adjustable Ceiling Mount	108-499
Infrared Remote (Replacement)	105-023
Portrait Outriggers	109-687

* Includes high-performance replacement air filter(s)

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.

SX+ Lenses	HB Part #	HC Part #
0.73:1	105-607	107-195
1.2:1	105-608	105-608
1.2:1 (short)	105-609	105-609
1.26 - 1.61:1	109-236	109-359
1.5 - 2.02:1	105-610	107-196
2.02 - 2.77:1	105-611	107-197
2.77 - 4.51:1	105-612	107-198
4.51 - 7.53:1	105-613	107-199
7.5 - 11.2:1	109-235	109-358

FAST FRAME   ColorMAX   CoolTek ENGINEERING   DIGITAL PROJECTION   DLP TEXAS INSTRUMENTS