# DigitalSpot 7000 DT

ROBE

## DigitalSpot 7000 DT

is a unique Digital Moving Light
offering the dual functionality
of digital projection
and
LED-based colour
washes in a perfect match.

A unique fusion of technologies,
plus numerous innovative functions delivers
a highly flexible product suitable for most market sectors.

## DigitalSpot 7000 DT

DigitalSpot 7000 DT is ROBE's **flagship** and full-sized powered Digital Moving Light,
offering stunning new possibilities currently not offered by moving lights.
Refresh the creative possibilities of concert touring shows, TV and theatre productions,
corporate events etc., with Robe's DS 7000 DT.

The fixture

**emits 6.500 ANSI lumens**

from a single 330W projection lamp
with an awesome contrast ratio
of 2000:1.

## Two LED Modules

are integrated into the fixture giving
a total of 96 high powered Luxeon Rebel RGB+W
LEDs. Rebel LEDs provide the highest luminous flux
intensities and are currently the most powerful LEDs
available.

**DigiLED Technology**

## DS 7000 DT

is based on a unique combination
of **LCD** and **LED** technologies
in one fixture.


The result is a perfect combination
of **amazing digital gobo**,
**video** or **image effects**
plus highly saturated
and **intense colour mixes**
provided by a single lighting fixture.

**Images, Gobos and Videos are digitally produced and handled.**

DigitalSpot 7000 DT features a full-sized high-end graphical computer – the embedded DigitalSpot 7000 DT Media Server Engine.

The DigitalSpot 7000 DT Media Server supports MPEG1 and MPEG2 **video file formats** as well as all common **image files**, like JPG, BMP, PNG, TGA, GIF, PCX, PNM, XPM and LBM.

**240 media folders are available for factory content and own customized media content. Each folder consists of 255 media files.**

Using **DigitalSpot 7000 DT**'s powerful Picture Merge function, the output of up to 64 fixtures can be **merged together**, creating one large, fully synchronized picture, image, gobo or video. Precision pan and tilt movement control ensures consistent return to preset position and together with adjustable width of soft edge helps to create perfect image merge even in hard conditions.

**Picture Merge in 7 steps** is an intuitive and simple approach that achieves quick results: 'Position, Activate Picture Merge Mode, Select Help Grid, Key Stone, Select Array Configuration, Select Image Field and Adjust Soft Edge Blending' – all under control of your favourite lighting console.

**DigiMerge**

## Single Projection

## Picture Merging

**Arrays** of up to 64 fixtures are achievable in any possible configuration, i.e. 1x8, 2x8, 4x8, 8x4, 8x2, 8x1, 8x8, 9x7, 10x6, 11x5, 12x5...

## DigiMirroring

New **mirroring mode** for picture merging allows connecting more than 64 fixtures, thus allowing **large area projection** with full resolution per fixture on the whole surface.

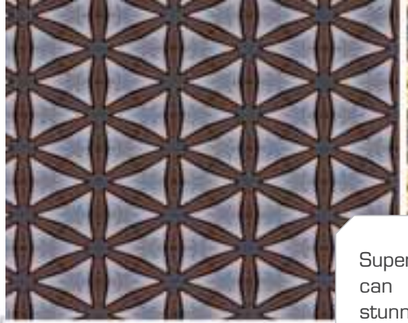
## DigiEffects

**Image and Video Files can be mirrored** in various directions, this being extremely helpful for creating a continuous flow of image alterations within seconds and without extra and time consuming renderings.

Image and Video Files **can be tiled in various shapes**. Control and selection of the effects is simple, intuitive and in real time without any requirements for additional renderings.

**The DigitalSpot 7000 DT** offers hundreds of onboard effects. Effects like image positioning, zooming, bumping, rotations, contrast, brightener, colour modifying (black to white, inversions, colour keying …) and many others are available. Various **3D objects**, like Cubes, Spheres and Cylinders are selectable as standard and can be textured with image and video files. It´s all in control of 4 DMX Channels, 1 for effect selection and 3 for parameter settings.

## DigiEffects

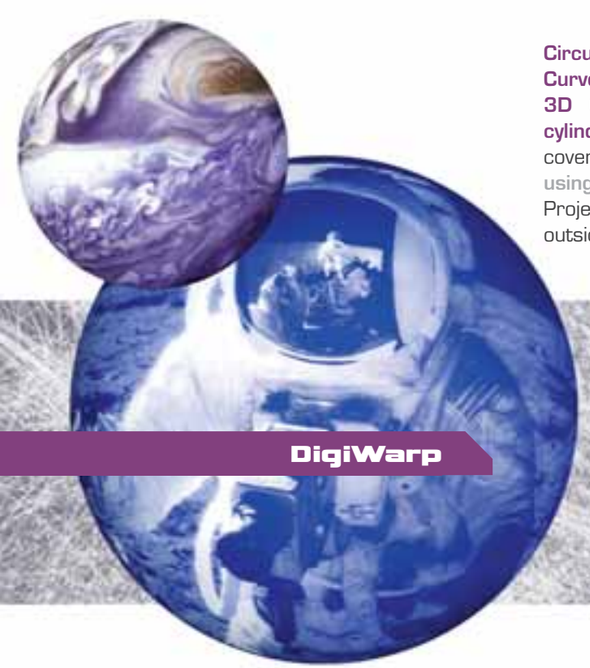


Superb features like **Kaleidoscope** can **flexibly create** various stunning textures upon demand right at the site.

## Kaleidoscope

**Colour modifying** functions allow many powerful colour transformation. These modifiers, for example **colour keying and masking, various RGB conversions, filters** (Gaussian, Mean, Laplacian …) are available as static functions and also as preprogrammed flashes or cycles.

## Colour Modifying



## DigiWarp

**Circular** Projection **Areas, Curved** Projection **Panes** or **3D Objects** like **spheres** or **cylinders** can be perfectly covered with projected images using this dynamic function. Projections from inside and outside positions are possible.

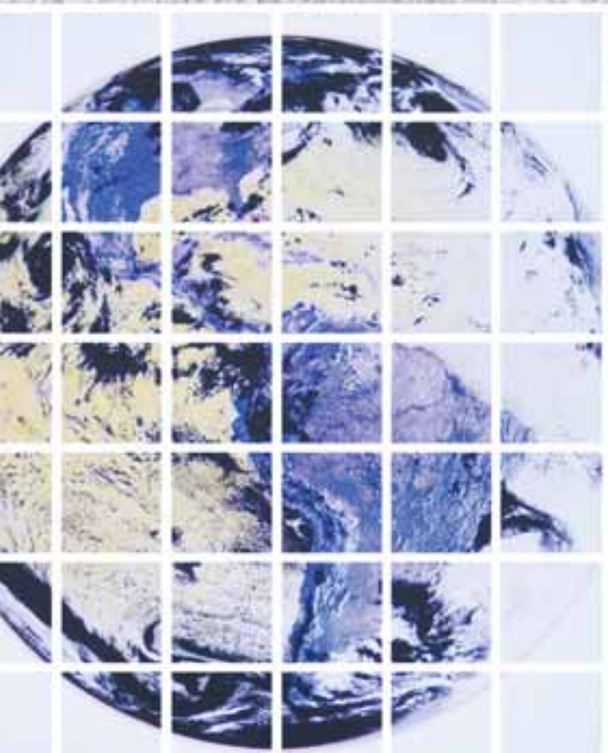
Multiples of DigitalSpot 7000 DT are going to be used regularly either in single projection mode or in picture merged projection mode.

DigiCorner is a powerful function when images or videos are projected onto angled surfaces. It´s parameters allow DigiCorner Projection to be adjusted to merge any requirements. **Portrait** and **landscape** orientations are supported.

**DigiWarp functions are quickly achievable due to its 4 channel parameter layout.**

## DigiIris

**DigiIris** is a flexible masking tool that changes the shape of the image or video. Over 150 different DigiIris effects/masks are available.



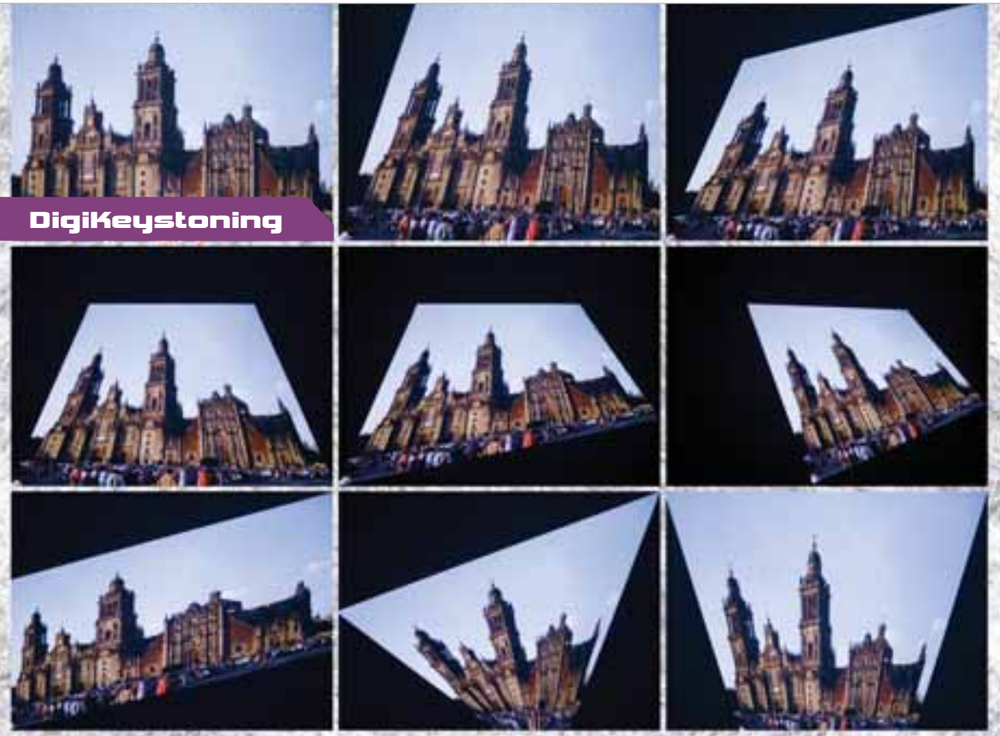
## DigiLayer

DigitalSpot 7000 DT allows you to combine and work with 4 independent and individual Gobo/Image/Video Layers at the same time.

Transparency levels are proportionally adjustable.

**Various Layer Modes**, like Additive Mode, Subtractive Mode, Multiplication Mode and Copy Mode specify how media and layers **can be combined with each other**.

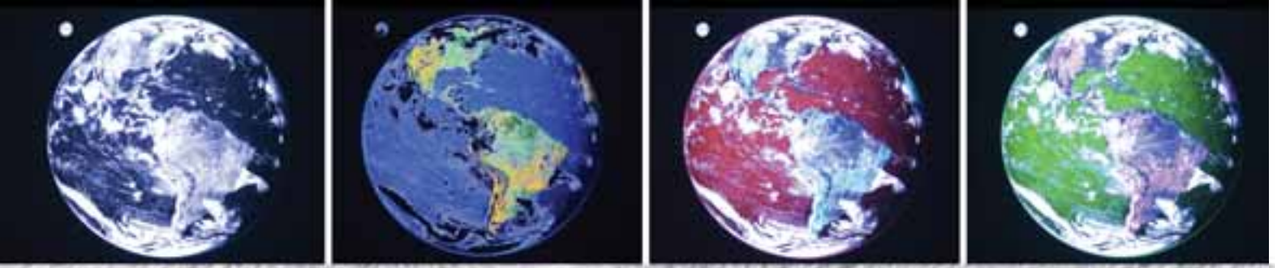
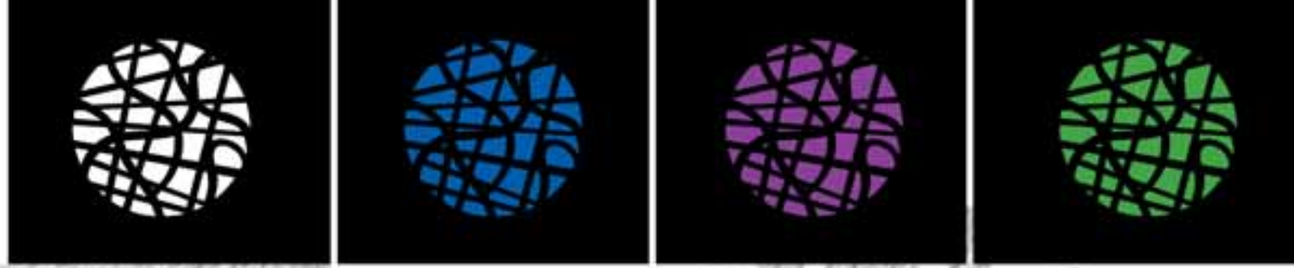
**DigitalSpot 7000 DT** provides a **full set of keystone parameters**. Picture distortions created by extreme projection angles between the screen and lighting fixture are corrected by individually adjusting the four corners of the projected image in x and y directions. The keystone ratios in x and y direction are also adjustable, while the image keeps its original aspect ratio. Keystoning is always used in the DigiMerge function when soft-edging several images together to make one large one.



## DigiKeystoning

## DigiFraming

**Framing Controls** are also known as Shutter Blades. The DigitalSpot 7000 DT has 4 individually controllable "Banner Blades", allowing the image to be masked in any configuration. This function is a common feature of any conventional theatrical profile spot fixture. The depth and angle of each of the **4 Banner Blades** is adjustable. The whole Banner Blade system **can be rotated** – very helpful when a set piece or specific area alone needs illuminating with an image.

## DigiColours

DigitalSpot 7000 DT provides many options for **colour adjustment** and modification. Each of the 4 gobo layers offers effects for **individual media colour correction.**

A separate CTC (Colour Temperature Correction) Channel allows to adjust the media´s colour temperatures on the fly.




## DigiLEDColours

Its 2 LED Wash Modules can add colour washes to projected media with perfectly matched intensity levels. RGB+W modifiers enable thousands of selectable colour wash tones.

Mechanical Iris helps to eliminate „gray box“ around digital projection and can cut off any light output for complete black-out on the stage.

## Mechanical Iris / Shutter


## DigiStrobing

Digital Strobing will blind any audience with both digital and LED flashes.



## Linear Zoom

A motorized **zoom** provides flexibility at different distances and is an important tool for merging images from various lighting angles together.

The factory default zoom ratio is **1.8 – 2.4 : 1**.

Please see the last pages of this brochure for information relating to beam diameters in x and y directions and projection distances.The used projector allows for alternative zoom ratios.

**DS 7000 DT** is featuring an optical zoom system in the range of 1.8 - 2.4:1.
Optional Lens Kits were developed by our in-house specialists and optimized for its quick and safe installation and optical quality.

The 2.7 - 3.5:1 Kit is made for short-throw applications.

The 1.2 - 1.7:1 Kit is made for long-throw applications.

## Optional Lenses

## Control, Inputs and Captures

**DigitalSpot 7000 DT** offers 169 individual **fixture parameters** and **functions**, all DMX512 or ArtNet controllable. DigitalSpot 7000 DT features a networked **Media Content Management** and **Fixture Synchronization System**.The fixture can receive signal inputs from external sources including cameras and computers.
As standard, DS 7000 DT captures S-Video and Composite signals are proceed by Media Server Engine for additional effects creation and treatment. DVI signals can be routed directly to the dataprojector.

## DVI/VGA IN Capture Card

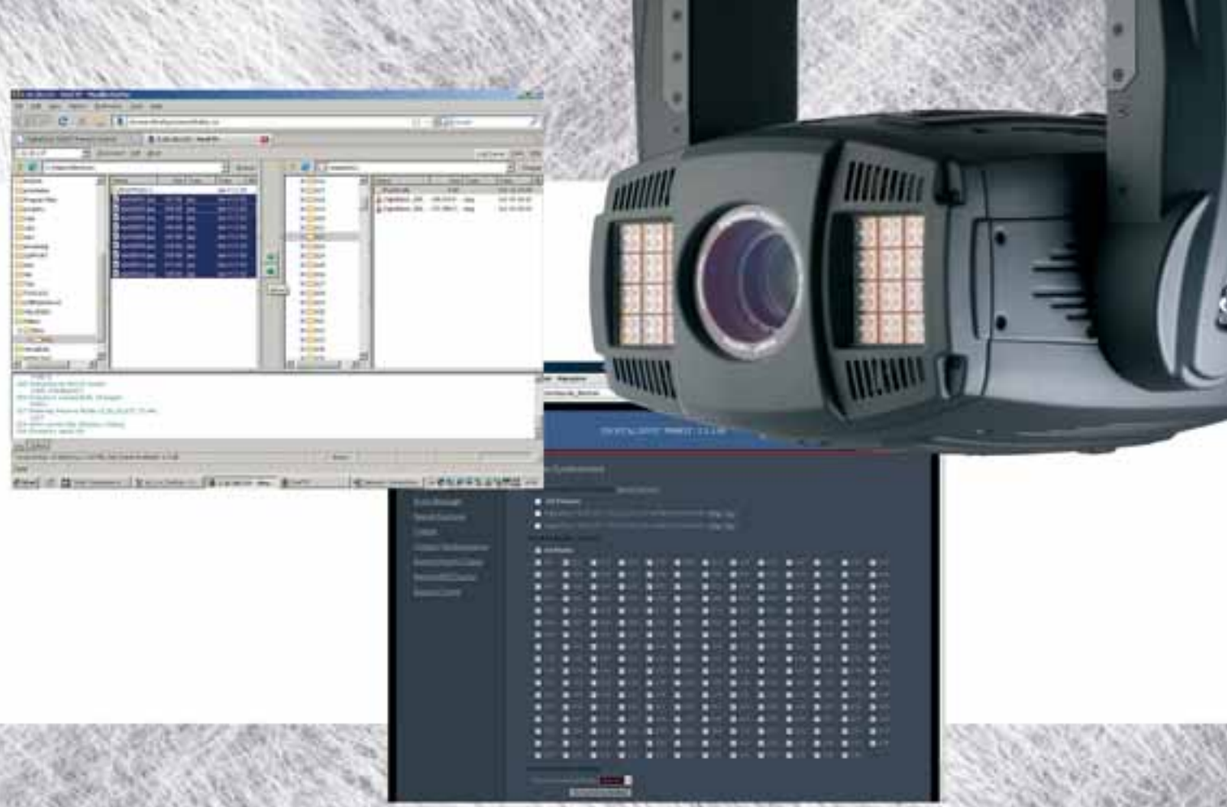
DS 7000's DVI/VGA Capture Card is an **optional accessory** and can be installed quickly into the system. External devices, like laptops or computers providing DVI or VGA output signals can be connected directly to the DS 7000DT. DS 7000DT will capture the input signals **without visible delays** and allow using and altering it as any other media content from the internal storage disk. This feature is very helpful for corporate shows where **computerized presentations** need to be integrated into the lighting and video setup. Additional Signal Splitters are required if the input signal shall be captured by multiple DS 7000 DTs.

## SDI/ASI Capture Card

DS 7000's SDI/ASI Capture Card is an **optional accessory** and can be quickly and intuitively installed into the system. External devices, like professional TV Cameras or other SDI/ASI compatible equipment can be **connected directly** to the fixture and DS 7000 DT will capture the provided input signals without any visible delays.

**Optional Life Inputs**

## DigiContent Management



Enjoy DigitalSpot's **intuitive and user-friendly** Content Management System. DigitalSpot's fast 1G network system allows uploading commonly sized media content within seconds. **The DigiMaster** will synchronize the individual or all content to **all networked and listening DigitalSpots**. For uploads, any FTP Client software or FTP web browser plugin may be used. Fast USB2 content upload is supported. For fixture addressing, menu configuration, remote maintenance and media content synchronization your favourite web browser application can be used.

**DigitalSpot 7000 DT** is easy and user friendly to program. DigitalSpot 7000 DT works with DMX 512 protocol and TCP/IP protocols as ArtNet, FTP, HTTP and others. RDM (Remote Device Management) bi-directional communication protocol is also supported. DigitalSpot 7000 DTs will soon be compatible with MA-NET1 and MA-NET2 control protocols.

## DMX Communication

Standard 3-pol and 5-pol connectors are available. DigitalSpot 7000 DT uses **169 DMX channels for control all its functions**. Controllers may split these channels into smaller fixture profile packages, like DS 7000 Main, DS 7000 Common, DS 7000 Layer 1, DS 7000 Layer 2, DS 7000 Layer 3 and DS 7000 Layer 4.

## TCP/IP Network

TCP/IP Network is the best solution for Media Content Management and Fixture Synchronization, and is the recommended typology for **linking, controlling and programming multiple fixtures across one network**.

## HTTP/FTP Communication

HTTP/FTP protocols are used to access onboard web server, which allows you to use Media Content Management, Remote Content Configuration and other functions.

## ArtNet Communication

The ArtNet protocol is used to control all DS 7000 DT functions.

# Technical Specification

## Electrical Specification
- Auto-switching power supply
- Input voltage range: 100 - 120V/200 - 240V AC, 50/60 Hz
- Power consumption: 800 VA

## Projector Specification
- Model: PLC-XP100L
- Light output: 6.500 ANSI lumens
- Lamp: 330 W NSHA
- Rated lamp life: 3.000 h (eco mode); 2.000 h (normal mode)
- Throw distance ratio: 1.8-2.4 : 1
- Contrast ratio: 2000:1
- LCD panel system: 1.3" TFT Active Matrix type, 3 panels
- Panel resolution: 1.024 x 768 dots
- Number of pixels: 2.359.296 (1.024 x 763 x 3 panels)

## Hardware
- Motherboard: MSI G33 M-F
- Processor: Intel Core2 Duo E6750, 2.66 GHz, 1333 MHz FSB
- Memory: 1GB RAM
- Graphics card: nVidia 9800 GT
- Video capture card: AverMedia DVD EZMaker
- Hard disk: Western Digital 500GB Caviar SE16 3.5"
- Gigabit Ethernet

## Operation System
- Linux OS

## Graphic Engine
- 4 digital gobo layers for image and video control
- Graphic engine supports a combined total of more than 60.000 original and user-created videos/gobos usable on all gobo layers
- Individual X and Y positioning and scaling for each gobo layer
- Layer Media Control Modes (Copy, Add, Subtract, Multi, Minimum and Maximum)
- Banner Effects creating action scripts for Images or Videos
- Digital Iris effect + 160 Masking effects
- Full Key-Stone correction
- Digital strobe effect
- CMY Image and Video Colour Mixing and CTC (Colour Temperature Correction)
- 2 Effect Engines per Layer with more than one hundred effects
- Huge amount of Default Images/Videos
- Import of User Images or Videos
- Supported Image Formats: JPG, TGA, PNG, GIF, PCX, PNM, XPM and LBM (max. 4096 x 4096 pixel)
- Supported Video Formats: MPEG1, MPEG2
- Effect video synchronization
- Preview of projecting output through web interface
- Picture Merging effect in the field up to 64 segments in several different matrice comfiguration
- Projection onto cylindrical/spherical surfaces and angular screens
- Video processing on all gobo layers from a remote streaming video server

## Electromechanical Effects
- Zoom
- Focus
- Mechanical iris

## Control
- 5" TFT LCD display & Robe navigation system
- Web access for total control of fixture (user library management)
- Media Content Synchronization in web interface
- 169 control channels max.

## Pan/Tilt
- Pan movement range: 530°
- Tilt movement range: 280°
- 16 bit movement resolution
- Controllable speed of Pan/Tilt movement
- Automatic Pan/Tilt position correction
- Built-in Pan/Tilt macro effects

## Integrated LEDWash Module
- Light source: 2 x 48 Luxeon Rebel LEDs (RGBW)
- Optical system: 25° beam angle
- RGB colour mixing
- Shutter and adjustable strobe sequences
- Full range dimming

## Connections
- Video inputs: Data projector: 1 x S-Video (Mini Din 4 pin)
  1 x VGA (Mini D-sub 15 pin)
  Graphic Engine: Standard:
  1 x S-Video (Mini Din 4 pin)
  1 x Composite video (RCA)
  Optional:
  1 x DVI-D, 1 x VGA (Mini D-sub 15 pin)
  1 x SDI/ASI (BNC)
- DMX data in/out: Locking 3-pin and 5-pin XLRs
- ArtNet: RJ 45 (Neutrik Ethercon)
- AC power input: 1.3 m power cord without plug
- 2 x USB 2.0 (series A)

## Rigging
- Mounting points: 4 pairs of ¼-turn locks
- 2 x Omega bracket with ¼-turn quick locks
- Safety chain/cord attachment point

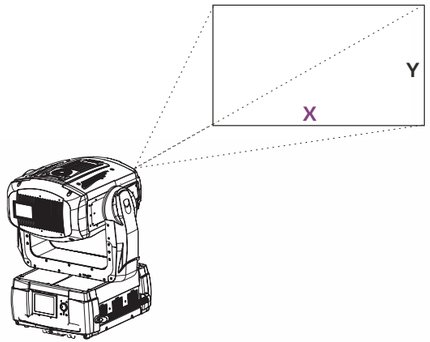
## Mechanical Specifications
- Height: 882 mm (34.7")
- Width: 542 mm (21.3")
- Depth: 629 mm (24.8")
- Weight: 48 kg (105.8 lbs)

**11 Patents pending**

| Illuminance (white output) Max. zoom | Illuminance (white output) Min. zoom | | Image Size Max. zoom | Image Size Min. zoom |
|---|---|---|---|---|
| 62 lx / 6 fc | 99 lx / 9 fc | 18m (60') | X=10m (33') Y=7.5m (24.6') | X=7.5m (24.6') Y=5.6m (18.4') |
| 79 lx / 7 fc | 126 lx / 12 fc | 16m (54') | X=8.9m (29.2') Y=6.7m (22') | X=6.7m (22') Y=5.0m (16.4') |
| 90 lx / 8 fc | 142 lx / 13 fc | 15m (48') | X=8.3m (27.2') Y=6.3m (20.7') | X=6.25m (20.5') Y=4.7m (15.4') |
| 120 lx / 11 fc | 190 lx / 18 fc | 13m (42') | X=7.2m (23.6') Y=5.4m (17.7') | X=5.4m (17.7') Y=4.0m (13.1') |
| 167 lx / 16 fc | 266 lx / 25 fc | 11m (36') | X=6.1m (20') Y=4.6m (15.1') | X=4.6m (15.1') Y=3.5m (11.5') |
| 250 lx / 23 fc | 397 lx / 37 fc | 9m (30') | X=5.0m (16.4') Y=3.8m (12.5') | X=3.8m (12.5') Y=2.9m (9.5') |
| 316 lx / 29 fc | 502 lx / 47 fc | 8m (26') | X=4.4m (14.4') Y=3.3m (10.8') | X=3.3m (10.8') Y=2.5m (8.2') |
| 413 lx / 38 fc | 656 lx / 61 fc | 7m (23') | X=3.9m (12.8') Y=2.9m (9.5') | X=3.0m (9.8') Y=2.3m (7.5') |
| 563 lx / 52 fc | 892 lx / 83 fc | 6m (20') | X=3.3m (10.8') Y=2.5m (8.2') | X=2.5m (8.2') Y=1.9m (6.2') |
| 810 lx / 75 fc | 1285 lx / 119 fc | 5m (16') | X=2.8m (9.2') Y=2.1m (6.9') | X=2.0m (6.6') Y=1.5m (4.9') |
| 1266 lx / 118 fc | 2008 lx / 187 fc | 4m (13') | X=2.2m (7.2') Y=1.6m (5.2') | X=1.7m (5.6') Y=1.3m (4.3') |
| 2250 lx / 209 fc | 3570 lx / 332 fc | 3m (10') | X=1.7m (5.6') Y=1.3m (4.3') | X=1.3m (4.3') Y=1.0m (3.3') |
| 5063 lx / 470 fc | 8031 lx / 746 fc | 2m (7') | X=1.1m (3.6') Y=0.8m (2.6') | X=0.8m (2.6') Y=0.6m (2.0') |

Maximum Minimum

DigitalSpot 7000 DT/Image Size chart
Throw ratio 1.8 - 2.4:1



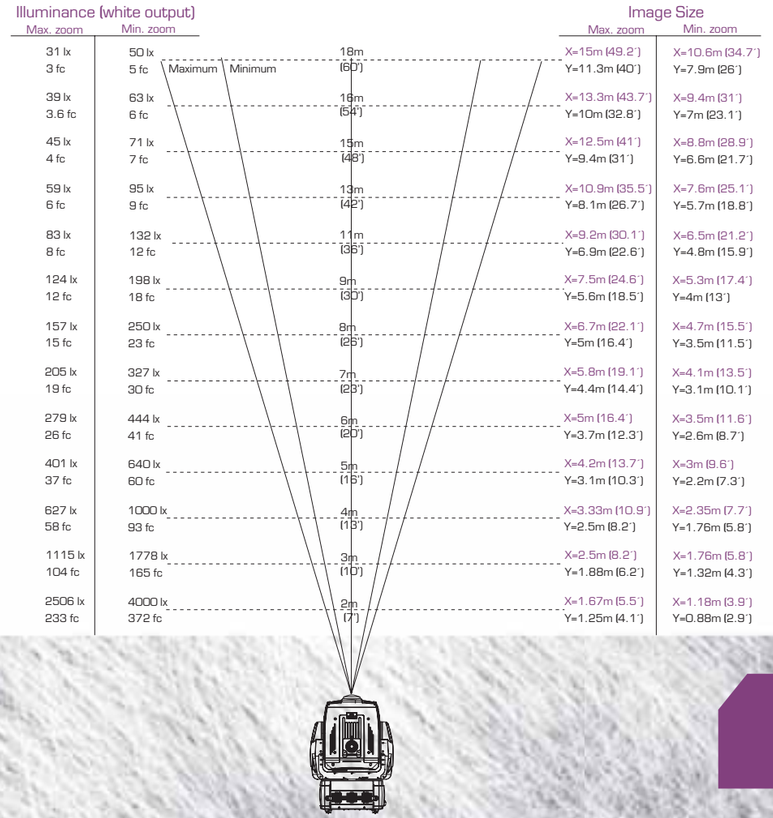

## Photometric Diagram - Digital Projector Standard Lens

DigitalSpot 7000 DT/Image Size chart
Throw ratio 2.7 - 3.5:1

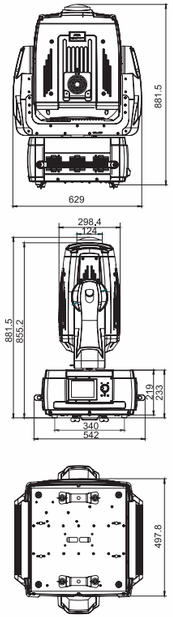
| Illuminance (white output) Max. zoom | Illuminance (white output) Min. zoom | | Image Size Max. zoom | Image Size Min. zoom |
|---|---|---|---|---|
| 132 lx / 12 fc | 212 lx / 20 fc | 18m (60') | X=6.7m (22') Y=5m (16.4') | X=5.1m (17') Y=3.9m (12.7') |
| 167 lx / 16 fc | 268 lx / 25 fc | 16m (54') | X=5.9m (19.5') Y=4.4m (14.6') | X=4.6m (15') Y=3.4m (11.3') |
| 190 lx / 18 fc | 305 lx / 28 fc | 15m (48') | X=5.6m (18.2') Y=4.17m (13.7') | X=4.3m (14.1') Y=3.2m (10.5') |
| 254 lx / 24 fc | 406 lx / 38 fc | 13m (42') | X=4.8m (15.8') Y=3.6m (12') | X=3.7m (12.2') Y=2.8m (9.2') |
| 354 lx / 33 fc | 568 lx / 53 fc | 11m (36') | X=4.1m (13.4') Y=3.1m (10') | X=3.1m (10.3') Y=2.4m (7.7') |
| 529 lx / 49 fc | 848 lx / 79 fc | 9m (30') | X=3.3m (11') Y=2.5m (8.2') | X=2.6m (8.4') Y=2m (6.3') |
| 670 lx / 62 fc | 1073 lx / 100fc | 8m (26') | X=3m (9.7') Y=2.2m (7.3') | X=2.3m (7.5') Y=1.7m (5.6') |
| 875 lx / 81 fc | 1402 lx / 130 fc | 7m (23') | X=2.6m (8.5') Y=1.9m (6.4') | X=2m (6.6') Y=1.5m (4.9') |
| 1190 lx / 111 fc | 1908 lx / 172 fc | 6m (20') | X=2.2m (7.3') Y=1.7m (5.5') | X=1.7m (5.6') Y=1.3m (4.2') |
| 1714 lx / 159 fc | 2747 lx / 255 fc | 5m (16') | X=1.9m (6.1') Y=1.4m (4.6') | X=1.4m (4.7') Y=1.1m (3.5') |
| 2678 lx / 249 fc | 4292 lx / 399 fc | 4m (13') | X=1.48m (4.9') Y=1.11m (3.6') | X=1.14m (3.7') Y=0.86m (2.8') |
| 4761 lx / 442 fc | 7631 lx / 709 fc | 3m (10') | X=1.11m (3.6') Y=0.83m (2.7') | X=0.86m (2.8') Y=0.64m (2.1') |
| 10713 lx / 995 fc | 17169 lx / 1595 fc | 2m (7') | X=0.74m (2.4') Y=0.56m (1.8') | X=0.57m (1.9') Y=0.43m (1.4') |

Maximum Minimum

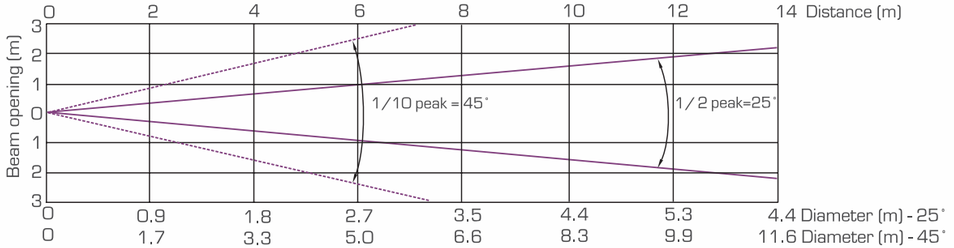
## Photometric Diagram - Digital Projector Narrow Angle Lens




DigitalSpot 7000 DT/Image Size chart
Throw ratio 1.2 - 1.7:1




## Standard 25° Lens-Array




| Distance (m) | 2 | 4 | 6 | 8 | 10 | 12 | 14 | |
|---|---|---|---|---|---|---|---|---|
| Red | 494/46 | 123/12 | 55/5 | 31/3 | 20/2 | 14/1.3 | 10/0.9 | Intensity (center) Lux/Foot-candles |
| Green | 906/84 | 226/21 | 101/9 | 57/5 | 36/3 | 25/3 | 19/1.7 | |
| Blue | 31/3 | 8/0.7 | 4/0.3 | 2/0.2 | 1.3/0.1 | 0.9/0.1 | 0.6/0.1 | |
| White | 1263/117 | 315/29 | 140/13 | 79/7 | 51/5 | 35/3 | 26/2.4 | |
| R+G+B+W | 2531/235 | 635/59 | 281/26 | 158/15 | 101/9 | 70/7 | 52/5 | |

**Photometric Diagram - Digital Projector Wide Angle Lens**

**Photometric Diagram - RGBW LED Module**


# The Future is Digital ...

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