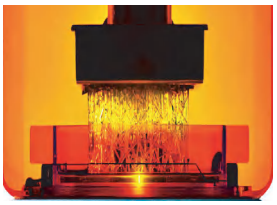
LTP-dUHD-Lx

High-Resolution Optical Engine

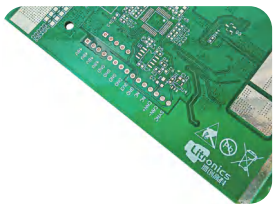


This optical engine product is a"scientific-grade"high-performance lithography subsystem.
Equipped with TI's ultra-high-resolution DLP chip (DLP991U UHD), it serves as a core component in fields such as high-end display, intelligent manufacturing, and cutting-edge scientific research.

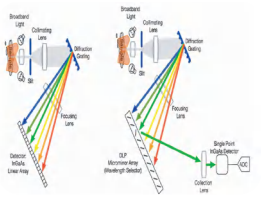
Application Scenarios



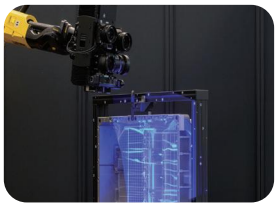
3D Printing



Digital Lithography



Spectral Analysis



Structured light three dimensional scanning

Product Features

8.9 million independent pixels, 4096 x 2176 ultra-high resolution, 5.4 μm micromirrors;

Ultra-high frame rate up to 12.4 kHz (binary);

Wavelength selection range: 365 ~ 800 nm;

Multi-projector tiling achievable with 25 μm ultra-high precision.

Technical Data

Model	LTP-dUHD-Lx	Remarks
Platform	DLP991U	
Resolution	4096x2176	
Output Power	0~50W	TBD
Printing Resolution	2μm~50μm	
Image Size	8.2mm×4.3mm~ 204.8mmx108.8mm	Customizable
Contrast(ANSI)	>400:1	ANSI
Uniformity	>90%	(Typical 13 point)
Distortion	0.1‰	
Working Distance	40mm~162mm	
I/O	USB3.0*1;Triggle in*1; Triggle out*1;	

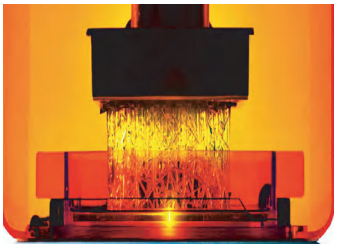
LTP-sUHD-UVx

High-Power UV Optical Engine

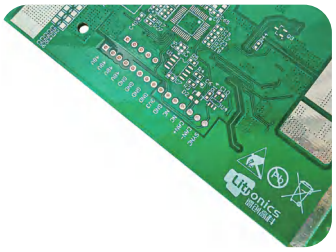


This optical engine product adopts the DLP.78 UV-specific grade DMD chip, paired with LED/LD ultraviolet light sources, serving as a dedicated platform for photopolymerization 3D printing.
It offers exceptionally long service life and ultra-high resolution, ensuring the most stable and efficient performance for industrial-grade production printing equipment.

Application Scenarios



3D Printing



Laser Direct Writing

Product Features

Boasting outstanding UV light reflection efficiency and an extremely long service life;

Supports a wider variety of higher-performance engineering materials;

Optical distortion of only 0.05%, ensuring printing precision in larger formats and multi-projector tiling applications;

Compatible with 365 nm/385 nm/405 nm LED light sources and 375 nm/405 nm LD light sources, covering a broader range of applications.

Technical Data

Model	LTP-sUHD-UVx	Remarks
Platform	DLP78TUV	
Resolution	3840x2160	XPR
Output Power	0~25W@405nm LD 0~7W@385nm LED	Customizable
Printing Resolution	25μm~150μm	
Image Size	96mm×54mm~576mm×324mm	
Contrast(ANSI)	>1000:1@LD Light Source >700:1@LED Light Source	ANSI
Uniformity	>90%	(Typical 13 point)
Distortion	0.05%	
Working Distance	130mm~640mm	
Overall Dimensions	245mm×159mm×235mm	

LTP-sUHD-Px

Industrial-Grade Optical Engine



This product adopts UV LED or laser as the illumination light source, utilizes a DLP chip for image modulation, and achieves large-format, high-precision, and low-distortion exposure through high-precision imaging lenses. Larger exposure areas can be further realized by means of multi-unit splicing. It is applicable to 3D printing of resin, ceramic, and elastomer materials.

Product Features

Industrial-grade design, features real-time system temperature and output power monitoring for exceptional stability;

Hermetically sealed optical path, prevents post-sale issues caused by material volatilization;

Ultra-compact architecture, enables high-precision multi-engines tiling within minimal space;

Advanced image processing, delivers superior intra-frame contrast and anti-aliasing for razor-sharp print.

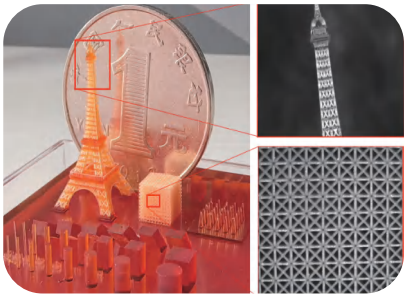
Application Scenarios



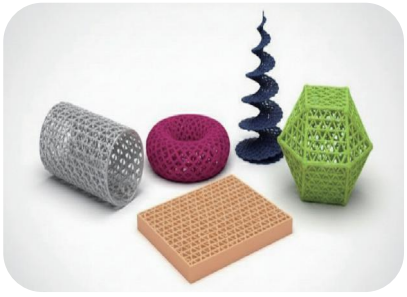
Ceramic Printing



Dental Aligner Mold Printing



Micro-nano Printing



Elastomer Material

Technical Data

Model	LTP -sUHD-Px
Platform	DLP6500
Resolution	3840×2160 XPR
Output Power	405nm@16W
Printing Resolution	25μm、50μm、75μm、100μm、120μm
Image Size	96mm×54mm@D130mm 192mm ×108mm@D223mm 288mm×162mm@D345mm 384mm×216mm@D453mm 450mm×324mm@D479mm
Offset	0%
Contrast(ANSI)	>1000:1
Uniformity	>90%
Distortion	<0.1%
Power Supply	24V/2A
Input Interface	HDMI*1:USB*1
I/O	RS485
Dimension	240mm×159mm× 247mm

Static-stacked Optical Engine



	Parameter	LTP-sUHD-Mx	Remarks
Optical Engine	DLP Type	DLP6500	
	Resolution	7680x4320	XPR
	Light Source	Laser 405nm Fiber Coupling	
	Print Resolution	50μm	
	Image Size/Unit	192mmx108mm	
	Power Density	90mW/cm²	
	Number of Tiling Units	4	The number of tiling can be customized
	Stitched Image Area	384mm×216mm	The width of the blending area can be set according to application
	Single Exposure Surface Power	Max.19W	Configure according to the number of laser modules
	Contrast	>1000:1	ANSI
	Uniformity	>90%	Typic.13 points
	Distortion	<0.1%	
	Tiling Precision	~50μm	
	Dimensions	445mm×343.2mm×316.5mm	
	Working Distance	225~230mm 287±2mm	Lens to exposure surface:225~230mm Carrier board to the exposure surface
Light Source	Optical Power	0~50W	
	Communication Interface	RS485	
	Thermal Management	Water Cooling	
	Life Time	10000H+	
	Dimensions	445mm×343mm×316.5mm	

E-mail: litronics@litronics.cn Tel: 0512-68237866
Add: 4th Floor, Building 1, No.588, Wutaishan Road, Huqiu Zone, Suzhou

LTP-dHD-RX

Scrolling Optical Engine



Equipped with UV LED or laser illumination and a DLP chip for image modulation, this light engine achieves high-precision exposure on the exposure surface via a telecentric lens pair. In the process of its continuous movement, input of different image information enables rolling exposure, making it ideal for ultra-large-format, high-precision exposure scenarios.

Additionally, multi-unit splicing is available to boost exposure efficiency. The product serves a wide range of market fields including PCB circuit and solder mask exposure, roll-to-roll exposure, pan-semiconductor exposure, photovoltaic copper plating exposure and 3D printing.

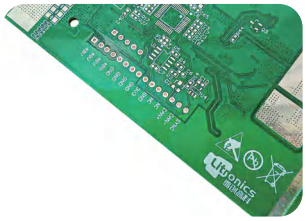
Product Features

- **Using laser light source** to achive higher power;
- **Laser-LED hybrid output,** with wavelengths of 365/385/405/435 nm;
- **Laser light sources feature a small étendue,** a large imaging depth of field, and high contrast;
- **Adjusting the output ratio of each wavelength** allows control over the sidewall profile of the exposed photoresist.
- **Light weight enables** DLP® optics engine to move fast and high production capacity;
- **Patented η™ design and compact structure,** which dedicate multiple image stitching to realize bigger image size and higher resolution;

Application Scenarios



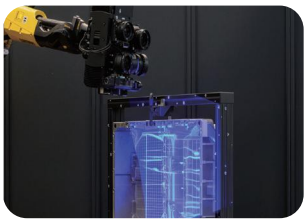
Additive Manufacturing



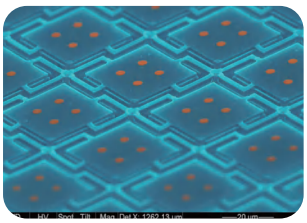
Lithography/ Laser Direct Imaging



Semiconductor Packaging Lithography



Structured light three dimensional scanning



MEMS Lithography

Technical Data

DLP platform	LTP-dHD-RX		
Resolution		1920×1080	
Light Source	LD:375/405nm	LED:365/385nm LD:405/425/435nm	LD:405/425/435/450nm
Output Optical Power	≤30W	LED:3W -8W LD:30W -50W	405/425/435/450nm:50W-100W
Power Fluctuation		<1%	
NA	NA0.024 -0.12	NA0.12 - 0.18	
Illumination Telecentricity		<0.1°	
Illumination Uniformity		>98%	
Magnification	0.2~5/18.5~22.7	0.8-2.9(Customized)	
Working Mode	scrolling/tilting scan	Static/Scrolling	

E-mail: litronics@litronics.cn Tel: 0512-68237866
Add: 4th Floor, Building 1, No.588, Wutaishan Road, Huqiu Zone, Suzhou

LTP-dWX-Rx

High-power Infrared Optical Engine



This product is an industrial-grade high-power infrared DLP optical engine. It adopts Texas Instruments (TI) DLP650LNIR chip, with an operating wavelength range of 950 nm ~ 1150 nm and a lens output power up to 90 W. It acts as the core optical engine for high-end industrial applications such as selective area sintering additive manufacturing and infrared laser marking.

Product Features

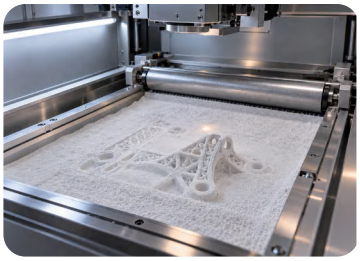
Capable of withstanding high power, with a maximum optical power projection lens output of 90W;

Adopts an efficient heat dissipation design for DMD to guarantee an ultra-long service lifetime;

Equipped with intelligent monitoring and protection functions, including real-time temperature monitoring, transmittance monitoring and multi-circuit overload protection;

High-precision grayscale modulation enables more uniform internal stress distribution and better surface quality for sintered components.

Application Scenarios



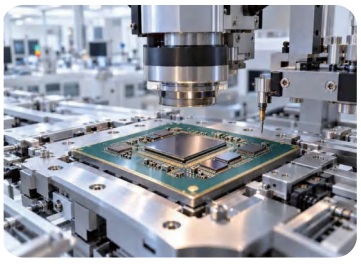
Selective Laser Sintering:
Area-exposure sintering of high-performance polymer powders (Nylon, TPU, etc.)



Infrared Laser Marking:
Full-area high-speed marking for food packaging, medical devices and other industries.



Laser Ablation & Surface Treatment:
Large-area precision patterning processing.



Advanced Semiconductor Packaging:
Mask-free lithography-assisted processing in the infrared band.

Technical Data

Parameter	LTP650LNIR	Remarks
DLP Platform	DLP650LNIR	
Resolution	1280x800	10.8μm
Light Source Wavelength	950nm~1150nm	
Output Power Max.	90W @1064nm	
Contrast(ANSI)	1000:1	
Uniformity	>90%	
Distortion	<0.1%	
Projection Mode	Static/ Scrolling	

Optical Engine	Lens Option	Frame Size(mm)	Accuracy(μm)	Working Distance(mm)
LTP650LNIR	XW-PR005LT	6.9×4.3	5.4	21
	XW-PR100LT	128×80	100	154

E-mail: litronics@litronics.cn Tel: 0512-68237866
Add: 4th Floor, Building 1, No.588, Wutaishan Road, Huqiu Zone, Suzhou