



# LUXBEAM® RAPID SYSTEM–LRS-HD-UV/HY/VIS

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## Long lifetime and high-performance operation

The LUXBEAM® Rapid System LRS-HD is a DLP® based stereolithography sub-system, specifically designed for single head scrolling motion 3D Printing and additive manufacturing systems. With the robust and reliable high resolution DLP9500 chip, the LRS-HD variants (UV/HY/VIS) offers long lifetime and low maintenance costs at superior performance in wavelengths from 365 up to 460 nm.

### SCALABLE BUILD AREA WITH SCROLLING

The LRS-UV/HY/VIS uses the advantage of a scrolling motion projector to create a scalable build area and offer smart functions such as Sub-Pixelation (SPX) for resolution enhancement, and Pixel Power Control (PPC) for power uniformity to enable production of high resolution parts with superior building speed. The system comprises an UV-optimized optical system and a selection of different LEDBEAM™ UV LED light sources, with lens options for pixels size in image, ranging from 2,7 micron up to 187 micron pixel pitch.



### LUXBEAM® RAPID SYSTEM–LRS-HD-UV/HY/VIS

#### Recommended implementation

- Single head scrolling systems

#### Resolution

- 1920 x 1080 HD (UV/VIS)
- 1920 x 1200 WUXGA

#### LED Wavelengths

- R, G, B
- 405 nm / 380 nm / 365 nm

#### Optical Power Output

- Up to 7 Watts

#### Projection Lens Options

- 0.3x, 0.5x, 1.0x, 2.0x
- 4.6x, 5.6x, 8.3x
- 9.9x, 11.7x, 17.3x
- 5.3x (VIS only)

#### Electronics

- LUXBEAM™ LB4600

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Properties	
DMD Type	DLP9500 / DLP9500 UV
Resolution	1080p HD (UV/VIS) 1920x1080 px, WUXGA 1920x1200 px
Projector Output Power	Up to 7 W optical power, depending on LED selection
LED Options	Monochrome R, G, B, 405 nm, 380 nm, 365 nm
LED Driver	Constant flux with Optical Feedback or Fixed Current
Power Uniformity	> 90% native
Dimensions w/o lens	245 mm (L) x 248 mm (W) x 128 mm (H)
Total weight w/o PSU	4 kg
Power consumption	250 W (varies with exposure scheme)
Cooling system	Air cooling (fan)
Software	Complete API (Windows, Linux), platform independent web interface

Electrical connections	
Power supply	12 V DC
Gigabit Ethernet	1000BASE-T (IEEE 802.3)
Communication	Ethernet (platform independent web interface)
LED Safety Switch	LED enable/disable
Electrical Sync I/O	RS 485
Optical sync I/O	820 nm multimode fiber

Lens Options	Magnification	Working Distance Pixel [mm]	Pixel Pitch in Image [µm]	Native Image Size [mm <sup>2</sup> ]	
				W x H [HD]	W x H [WU]
LRS-03 UV	0.25 : 1	16.0	2.7	5.2 x 2.9	5.2 x 3.2
LRS-05 UV	0.5 : 1	50.0	5.4	10.4 x 5.8	10.4 x 6.5
LRS-10 UV	1.0 : 1	71.0	10.8	20.8 x 11.7	20.8 x 13.0
LRS-20 UV	2.0 : 1	90.0	21.6	41.5 x 23.3	41.5 x 25.9
LRS-50 UV	4.6 : 1	177.8	50	96 x 54	96 x 60
LRS-90n UV	8.3 : 1	375.0	90	172 x 97	172 x 108
LRS-107 UV	9.9 : 1	493.0	107	206 x 116	206 x 129
LRS-126n UV	11.7 : 1	575.0	126	242 x 136	242 x 151
LRS-187 UV	17.3 : 1	884.0	187	359 x 202	359 x 224
LRS-57 VIS	5.3 : 1	161.0	57	109 x 62	109 x 68