



# BARCO REALITY SIM 6 MKII & SIM 6 ULTRA

## Simulation Dedicated Digital Light Valve Projectors

### Native Resolution:

**SIM 6 MKII: SXGA, 1280x1024**

**SIM 6 ULTRA: UXGA, 1600x1200**

Both projectors can be equipped with a broad range of proprietary Application Specific Optimizations (ASO's) for demanding configurations in both Simulation and Virtual Reality application areas. Compact size and rugged design makes them perfectly suited for implementation into motion-base platforms.

### Optimizable for Demanding Applications

- Warp 6™ non-linear image mapping using proprietary bicubic interpolation algorithms: enables high-order pre-distortions electronically, without frame delay.
- Transport Delay Reduction (TDR): to ensure minimal propagation delay (<8ms) between the input signal and the projected image
- True Motion Reproduction (TMR): motion artifacts compensation and image enhancement to dramatically minimize smearing inherent to LCD technology

### Multi-Channel Optimization

- COLOR GAMUT MATCHING (CGM): optical components matched for use in multi-channel displays
- GAMUT EXPANSION AND MATCHING (GEM)<sup>(1)</sup>: increased addressable gamut and more accurate color matching
- OPTICAL SOFT EDGE MATCHING (OSEM): edge blending for all brightness levels, including black level
- Black & White uniformity correction: factory adjustment to ensure excellent color uniformity of the grays, whites and blacks

### Configuration Flexibility

- Available in passive stereo optimized configuration with linear and circular polarization.
- Adjustable Scheimpflug correction for tilted projector screen configurations

(1) Requires color gamut matching

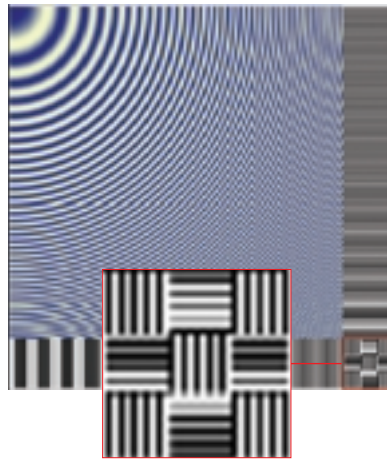
# Equipped for Demanding Applications



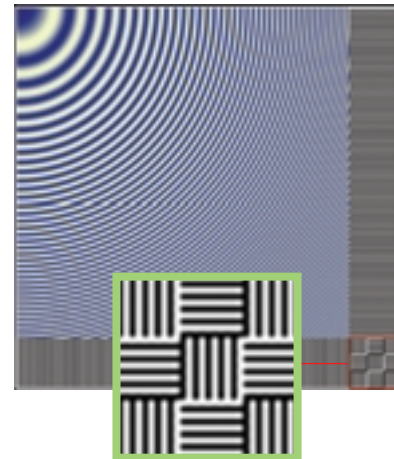
## Warp 6™ Advanced Geometry Distortion

WARP 6™, the most advanced geometry distortion technology using proprietary bi-cubic interpolation, is specifically optimized to preserve fine detail in the image and enable fixed matrix projectors like the SIM 6 and the SIM 6 ULTRA to be used in a wide variety of curved-screen applications, ranging from straightforward cylindrical displays to the most severe distortions.

*Test chart scaled using generic bilinear algorithm*



*Test chart scaled using WARP 6™ algorithm*

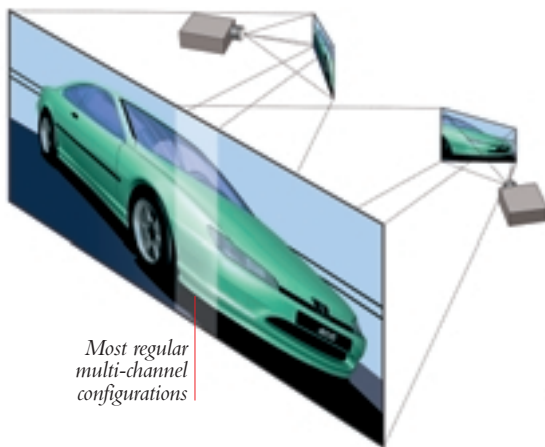


## OPTICAL SOFT EDGE MATCHING (OSEM)

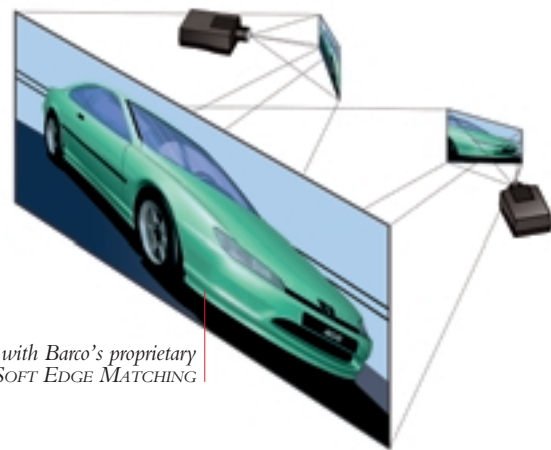
In multi-channel set-ups, the nonzero black level of light valve projectors normally leads to brighter overlap zones, especially in night sceneries, which complicates multi-sided overlaps.

With Barco's proprietary OSEM, blending filters in the optical path reduce the black level in the overlap zone to that of the separate images. This results in a seamless image with invisible blends, also in night

sceneries, with maintenance of the full dynamic range. Adjustable edge blending without black level correction can be performed using optional ELECTRONIC SOFT EDGE MATCHING (ESEM).



*Most regular multi-channel configurations*



*Multi-channel set-up with Barco's proprietary OPTICAL SOFT EDGE MATCHING*

## EXTENDED CONTRAST RATIO (ECR)

Dark night scenes typically deliver video signals with reduced dynamic range and almost no contrast.



By electronically enhancing these video signals and dimming to rescale to full dynamic range, Barco's ECR largely improves the contrast ratio and picture quality.



## GAMUT EXPENSION AND MATCHING

Novel optical components raise the accuracy of the color matching in a multi-channel set-up and at the same time improve the primary color uniformity within the separate images, without having to sacrifice addressable gamut. On the contrary, the addressable color gamut of the combined multi-channel system is increased.



## Ruggedized Version

BARCOREALITY SIM 6 ruggedized version: optimized for use on motion base platform, designed to take 3g in x, y, z<sup>(2)</sup>

# Features and Specifications

	BARCOREALITY SIM 6 MKII	BARCOREALITY SIM 6 ULTRA
<b>LCD Panels</b>	3 active matrix Poly-Silicon LCD panels (1.8" diagonal), with Micro Lens Array and a native resolution of 1280 x 1024 pixels (aspect ratio 5:4).	3 active matrix Poly-Silicon LCD panels (1.8" diagonal), with Micro Lens Array and a native resolution of 1604 x 1204 pixels (aspect ratio 4:3).
<b>Light Output</b>	3,400 ANSI lumens	3,000 ANSI lumens
<b>Contrast Ratio</b>	500:1 (full white/full black)	700:1 (full white/full black)
<b>Inputs / Outputs</b>	<p><i>Standard</i></p> <ul style="list-style-type: none"> <li>• 1 x input for RGB / RGSB / RGSB / RGBHV ( 5 x BNC )</li> <li>• 1 x VGA (D-15 connector)</li> </ul> <p><i>With Optional Audio / Video Pack:</i> Composite Video and S-Video on 5-wire BNC enabled</p> <ul style="list-style-type: none"> <li>• 1 x Video (BNC or RCA)</li> <li>• 1 x S-Video (4-pin mini-DIN)</li> <li>• 1 x Monitor Output (D15 connector)</li> <li>• 3 x Stereo Audio Input (2 x RCA)</li> <li>• 1 x Stereo Audio Output (2 x RCA)</li> </ul>	<p><i>Standard</i></p> <ul style="list-style-type: none"> <li>• 1x Configurable 5-Wire (BNC) for: Composite Video, S-Video, Component Video and RGB.</li> <li>• 1x 5-Wire (BNC) for RGB</li> <li>• 1x Video (BNC or RCA)</li> <li>• 1x S-Video (BNC or 4-pin mini-DIN)</li> <li>• 1x DVI (Digital Visual Interface)</li> </ul> <p><i>Optional</i></p> <ul style="list-style-type: none"> <li>• 1x HD-Serial Digital Input/Output</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>• 2 x D9 connectors for RS232 In / Out</li> <li>• 1 x D9 connector for Com 800</li> <li>• 1 x Mouse Out (DIN 13)</li> <li>• 1 x Mini-jack for Wired Remote Control</li> <li>• 2 x IR receivers (front + back)</li> </ul>	<ul style="list-style-type: none"> <li>• 2x D9 connectors for RS232 In/Out</li> <li>• 1x Mini-jack for wired remote control</li> <li>• 2x IR receivers (front + back)</li> </ul>

# Features and Specifications

## Lamp

600 W metal-halide arc lamp  
Typical lifetime: 1,000 h<sup>(2)</sup>

## Input Frequencies

Horizontal 15 kHz - 115 kHz  
Vertical 25 Hz - 150 Hz  
Synchronous rendering of 48 - 61 Hz  
Compatible with field stretch

## Compatibility

- The BARCOREALITY SIM 6 MKII and SIM 6 Ultra are compatible with:
- Image generators and electronic workstations with a resolution up to 2,000 x 1,280 pixels / 76 Hz
  - All computer graphics formats from VGA, SVGA, XGA, SXGA to UXGA
  - Most Macintosh computers
  - All current video sources (PAL, SECAM, NTSC 3.58, NTSC 4.43) in Composite, SVHS, Component or RGB formats using optional video decoder
  - All currently proposed HDTV, extended and improved television standards (Eureka 95, Hi-vision, ACTV, IDTV, EDTV)
  - Most sources with a pixel clock up to 205 MHz

## Remote Control

RS232 Control  
Remote Control Unit

## AC Power

Power factor pre-regulated SMPS,  
95 - 230 VAC +/-10% / 50-60Hz

## Power Consumption

Max 950 Watts  
Power dissipation < 3,250 BTU/h

Dimensions	mm	inch
L1*	619	24.41
L2	527	20.76
W	371	14.60
H	269	10.44

\* with QFD (1.4 - 2:1) zoom lens

## Shipping Dimensions

L	710	28.0
W	550	21.7
H	470	18.5

## Safety Regulations

Compliant with UL1950 and EN60950

## Electromagnetic Interference

BARCOREALITY SIM 6 MKII and SIM 6 Ultra comply with FCC rules & regulations, part 15 Class B and CE EN55022 Class B

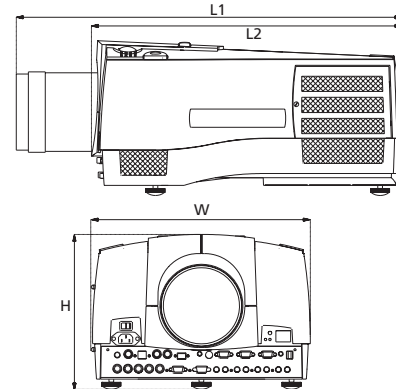
## Noise Level (0-26°C / 32-79 F)

39 dB(A) at 39.4" / 1m (3.3 ft)  
34 dB(A) at 78.8" / 2m (6.6 ft)

Weight	kg	lbs.
Net (Body only)	17.7	39.0
Shipping weight (max.)	29	63.9

## True Color Reproduction TCR

Standard equipped with BARCO's unique True Color Reproduction technology. TCR provides color fidelity and uniformity by intelligent color tracking and gamma correction.



## Lens Shift

All zoom lenses allow the projector to be installed up to 110% off-axis, without losing any brightness (110 % vertically and 12% horizontally)

## Lenses

QFD lenses are recommended for the highest optical efficiency and maximum light output on The SIM 6 MKII and SIM 6 Ultra equipped with Micro Lens Arrays. These projectors are also compatible with Barco's existing range of QGD lenses

**Please contact us for further information.**

**Barco Simulation Products**  
a business unit of BarcoProjection

## US Headquarters

600 Bellbrook Ave.  
Xenia, OH 45385  
Phone +1 (937) 372 7579 • Fax +1 (937) 372 8645  
E-mail: eis@barco.com

## European Headquarters

Noordlaan 5, 8520 Kurne, Belgium  
Phone +32 56 36 82 11 • Fax +32 56 36 84 86  
E-mail: sales.bps.bsp@barco.com

[www.simulation.barco.com](http://www.simulation.barco.com)

**BARCO**

(2) Please contact Barco for further information.



BARCO Projection Systems is an ISO 9001 registered company.

The information and data given are typical for the equipment described. However any individual item is subject to change without any notice.