

# Balder

A divine force, bringing beauty and life to the most refined home cinema and media rooms.



- **Theater & Media Room Series**
- **4K UHD Resolution (3,840 x 2,160)**
- **Laser Phosphor**
- **Up to 7,000 ANSI Lumens**

Manufactured to perfection in Belgium, Balder is built from the highest quality materials including aluminium, magnesium and glass. Balder not only shares the same Ultra HD and HDR compatible Pulse electronics as Loki, the optical design and single laser engine are also taken from the Loki platform.

### Professional grade optics

By basing Balder's optical engine on its bigger brother Loki's architecture, which features custom designed aspherical glass elements and enhanced low dispersion glass lenses, image quality is in a class of its own.

Topping that, Balder's chassis and core are built from aluminium and magnesium, which offer exceptional robustness, resulting in the best picture quality ever shown at this level.

### State of the art electronics

Our "Pulse" electronics are built on a superior FPGA platform, featuring a dual core processor on the industry's only 20 nm SoC, with 96 transceiver lanes delivering 3.3 Tbps of serial bandwidth.

Thanks to our unique single step processing technology (SSPTM), Pulse electronics are designed to process 4K UHD, HDMI 2.0a, HDCP 2.2 and HDR10 signals with extremely low latency. This provides exceptional gaming and movie viewing experiences.

### Laser light source

Outstanding image quality requires an exceptional light source, which is why Balder uses our brand-new laser engine which delivers up to 7,000 ANSI lumens output.

Alongside significantly improved image uniformity, lasers last longer than traditional projector lamps, offer great image quality consistency over their lifetime, are less fragile and offer near instant on/off performance.

### **Liquid cooling**

Balder has departed from a pure fan based cooling system, opting instead for a liquid cooling PID regulation system. This combined with our simulation grade warp engine allows Balder to operate at any angle (free rotation), offering new possibilities when it comes to architectural integration.

**Product specifications****BALDER**

| General specifications             |  |
|------------------------------------|--|
| Projector type                     | Single chip DLP  |
| Technology                         | 0.9" DMD™  |
| Resolution                         | 3,840 x 2,160 (4K UHD)   |
| Aspect ratio                       | 1.78:1 (16:9)  |
| Light source                       | Laser phosphor   |
| Light source lifetime              | 20,000 - 60,000 hours<br>Laser intensity dependent   |
| Light output                       | DCI (P3) Color Wheel: Up to 4,000 ANSI lumens<br>T Color Wheel: Up to 5,000 ANSI lumens<br>M Color Wheel: Up to 7,000 ANSI lumens  |
| CLO (constant light output)        | Yes  |
| Contrast ratio                     | 1,800:1 Sequential<br>450:1 ANSI   |
| Brightness uniformity              | >90%   |
| Lens range                         | (R9802232) -EN68 (0.30:1) -Periscope Lens (requires vertical installation)<br>(R9801832) -FLDX UST (0.41:1) -90°ns<br>(R9802244) -EN67 (0.65:1)<br>(R9802243) -EN66 (0.80 - 1.21:1)<br>(R9802003) -EN76 (0.95 - 1.30:1)<br>(R9802242) -EN63 (1.20 - 1.70:1) *<br>(R9802241) -EN61 (1.70 - 2.50:1) *<br>(R9801211) -EN44 (2.50 - 4.60:1)<br><br>* Standard Lens Option(s) |
| Optical lens shift                 | Up to 88% vertical lens shift & up to 38% horizontal lens shift (depending on lens selection)<br><br>Visit the Barco Residential Lens Calculator for further information<br><a href="#">Download Lens &amp; Airflow Data Here</a>  |
| Optical dowser                     | Yes  |
| Color correction                   | P7 RealColor™  |
| Color gamut                        | DCI (P3) Color Wheel: DCI P3<br>T Color Wheel: REC.709<br>M Color Wheel: REC.709   |
| Image processing                   | Embedded Warp & Blend Engine   |
| WARP                               | 4-Corner Warp & Bow Correction via Warp Engine   |
| Orientation                        | 360° Rotation  |
| Network connection                 | 10/100 Ethernet via RJ45 connection  |
| Integrated web server              | Yes  |
| Diagnostics                        | via Prospector web interface   |
| HDR                                | HDR10  |
| 3D                                 | Active Stereoscopic 3D<br>Additional hardware required please contact an authorized Barco representative for details   |
| Inputs                             | 1 x HDMI™ 2.0 (HDCP 2.2)<br>1 x HDBaseT (HDCP 1.4 -9Gbps only)<br>2 x Dual Link DVI-D<br>2 x Display Port (1.2)<br>12G-SDI<br><br>1 x RJ45 Ethernet<br>1 x RS232<br>1 x Remote Control (RC)<br>3 x USB (2 x Rear, 1 x Front)<br>DMX (1 x Input, 1 x Output)  |
| Input resolutions                  | From VGA up to 4K UHD (3,840 x 2,160) @ 60Hz<br>or up to 2,560 x 1,600 @ 120Hz   |
| Latency                            | TBD  |
| Control                            | IR, RS232, IP, 12v Trigger<br>Driver modules available for: Crestron, Control4, RTI & Savant<br><br>NOTE: 12v Trigger(s) do not follow standard functionality and require an IP command to enable / disable them.<br><a href="#">Download our integration guide for more information.</a>  |
| Power requirements                 | 100 -240V / 50 -60Hz   |
| Power consumption                  | 1,100 W -Max.  |
| BTU per hour                       | 4,000 BTU/h -Max.  |
| Standby power                      | Standby ECO Mode:<br>110v -0.73W (with LAN Connection)<br>230v -0.82W (with LAN Connection)  |
| Noise level (typical at 25°C/77°F) | 36 dB(A)   |
| Operating temperature              | 10 to 45 °C at Sea Level<br>Optimal Set Point: 20 °C   |
| Operational humidity               | 20 to 80% (relative humidity)  |

## Product specifications

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|                             |   |
|-----------------------------|---|
| <b>Airflow requirements</b> | Air Inlet (from Rear w/Feet Down): Right Side<br>Exhaust (from Rear w/Feet Down): Rear<br><br>Clearance Requirements:<br>Front: 1cm<br>Left: 1cm<br>Right: 50cm<br>Rear: 100cm<br>Top: 1cm  |
| <b>Exhaust airflow</b>      | 112 ft <sup>3</sup> /min @ 25 °C<br>190 m <sup>3</sup> /hour @ 25 °C<br><a href="#">Download Lens &amp; Airflow Data Here</a>   |
| <b>Dimensions (WxLxH)</b>   | Excluding Lens<br>475 x 588 x 286 mm<br>18.7 x 23.1 x 11.3 in.  |
| <b>Weight</b>               | Excluding Lens<br>37 kg / 81.5 lbs  |
| <b>Shipping Dimensions</b>  | Excluding Lens<br>730 x 600 x 480 mm<br>28.7 x 23.7 x 18.9 in.  |
| <b>Shipping weight</b>      | Excluding Lens<br>43 kg / 94.8 lbs  |
| <b>Standard accessories</b> | Power Cord, Remote Control  |
| <b>Certifications</b>       | CE, FCC Class A and cCSAus  |
| <b>Safety requirements</b>  | This projector is Risk Group 2 (RG2) according to IEC EN 62471-5.<br><br>This projector may become Risk Group 3 (RG3) when an interchangeable lens with throw ratio greater than 4.7 is installed.<br><br>For Northern America, installation requirements according to Risk group 3 (RG3) must be followed when interchangeable lens with throw ratio greater than 2.5 is installed.<br><br>Refer to the installation manual for further information. |
| <b>24/7 operation</b>       | This projector is designed and warranted for heavy duty 24/7 operation.<br>Specific measures and design considerations have been made in order for it to comply with stringent requirements in challenging applications.  |
| <b>Warranty</b>             | Limited 3 years parts and labor<br>Extendable up to 5 years   |
| <b>*</b>                    | Firmware upgradable<br>Please contact an authorized Barco representative for details  |

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