The HYDRA System

The Future of LED Calibration

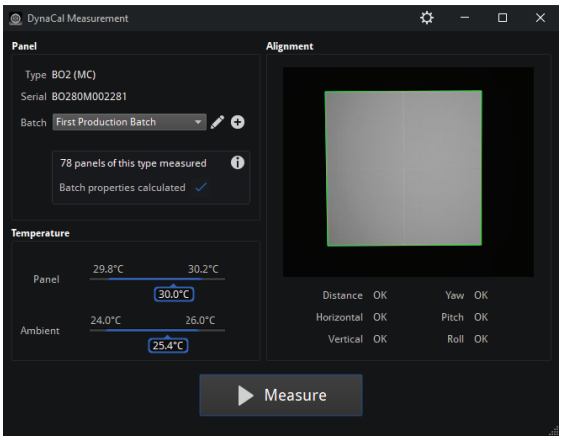
Dynamic Calibration *is a groundbreaking technology from Brompton Technology.*

It enables LED panels to achieve a higher brightness and wider colour gamut than is possible with legacy calibration techniques while maintaining uniformity.

Dynamic Calibration is the enabling technology for Brompton **HDR**, as well as performance-enhancing features such as **PureTone** and **ThermaCal**.

To benefit from **Dynamic Calibration** an LED panel must be fitted with a Tessera R2 or R2+ receiver card and needs to be measured using **Hydra** - an advanced measurement system custom-designed for LED panels and exclusive to Brompton Technology.

Right: The Hydra advanced measurement system



SIMPLE ALL-IN-ONE SOLUTION

Hydra is an all-in-one industrial solution incorporating all the measurement instruments and processing required for panel measurements.

There is minimal set-up – just align with the panel at either 4m or 8m – with no focus, exposure or zoom adjustments required. To measure a panel simply enter a name and a measurement temperature – there is no configuration of brightness or colour targets required for **Dynamic Calibration**.

The system incorporates comprehensive error checks to ensure correct alignment of panels and correct measurement temperature, minimising the potential for user error. It can additionally generate reports in multiple languages to give an objective assessment of panel performance, making it straightforward to confirm that each new batch of panels meets your specifications.

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FASTEST EVER CALIBRATION MEASUREMENT

The **Hydra** system relies on tight integration with the **R2 receiver card** in each panel to speed up the measurement process like never before. It takes measurements using multiple instruments simultaneously, achieving 20Gbps data capture so that a colorimetric imaging measurement takes only 33ms compared to multiple full seconds for legacy systems.

As a result a complete cycle of measurements for a panel takes a matter of seconds, and for even greater efficiency the upload of the measurement data to the panel is deferred until the panels are built into a wall for inspection, minimising the time required in the calibration lane.

The data upload can then occur to all panels in a wall simultaneously to minimise overall required time.

While panels must all be measured at a consistent temperature, for **Dynamic Calibration** that temperature does not need to be particularly high, reducing the pre-heat time needed for each panel. **ThermaCal** can then be used to separately compensate for temperature-related issues.

SPECIFICATIONS

DESIGN
- All-in-one integrated design with rugged industrial construction
- Integrated vibration monitoring and damping
- Ambient temperature and humidity monitoring
- Forced-air cooling with replaceable filters
- Integrated protective hood and dust cover
- Alignment assistance laser
- Front-facing LCD screen for real-time alignment indicators

MEASUREMENT DEVICES
- Multiple industrial high speed, high resolution cameras with high resolution, low distortion aspherical lenses for unprecedented imaging accuracy and speed
- Built-in industrial thermal camera for precise panel location and temperature measurement
- Built-in high resolution, high accuracy spectroradiometer for full spectral data capture

PANEL ALIGNMENT DISTANCE
Two supported measurement distances
- 4m for panels up to 0.6m w x 0.8m h
- 8m for panels up to 1.2m w x 1.6m h

PROCESSING
- Built-in high performance industrial PC with 512GB of internal solid state storage
- Windows 10 Pro, with ability to connect over a LAN via Microsoft Remote Desktop

I/O
- Two external Gigabit Ethernet ports for remote access and LAN connection for data backup
- Dedicated Gigabit Ethernet port for direct connection to R2-based panel being calibrated
- DisplayPort and two USB 2.0 ports for local monitor, keyboard and mouse
- Two USB 3.0 ports for mass storage devices

TEMPERATURE
- Operating temperature range: 15 - 30 degrees, ambient temperature must be maintained at a stable level during calibrations to prevent variations in panel behaviour

ELECTRICAL
- Worldwide auto-ranging mains power input using True1 connector

ACCESSORIES
- Custom Peli case for safe storage and transport
- Industrial tripod (portable or factory-installed versions available) with adjustable horizontal rotation and vertical height, plus quick-release mount

WARRANTY
- Two year manufacturer warranty

Specifications are subject to change without notice

Brompton Technology is the market leader in LED video processing for live events, film and television. Its Tessera system sets the standard for the industry and is used on everything from huge global world tours to pioneering virtual production and XR studios. Based in London, the brand is known worldwide and respected for the quality and reliability of its products and its exceptional technical support. More information can be found at www.bromptontech.com.

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