

# TESSERA S8 LED PROCESSOR

Flexibility for mid-range projects



The Brompton Technology **Tessera S8 LED processor** is perfect for **high-profile projects** that don't require large output capacity but still want the **flexibility** of Brompton's **industry-leading Tessera** feature set and easy-to-use software to produce stunning end results.

Sitting alongside the **award-winning SX40**, this mid-range processor also provides support for all of Brompton's **Tessera** processing features, including **HDR** and **Dynamic Calibration**, as well as **Extended Bit Depth**, **Ultra Low Latency**, **HFR+(High Frame Rate)**, **Frame Remapping**, **ShutterSync®** and **3D LUT Import**. It also supports **On-Screen Colour Adjustment (OSCA)** for seam corrections; **Dark Magic** for dark-area detail, and **ChromaTune** for colour control. Additionally, **Stacking** can be used to control multiple processors as one.

The S8 offers full 4K60 input support, with eight 1G outputs each capable of 525K pixels at 60Hz, 8 bits per colour, and has a zero-latency up/down scaler that matches the source to the screen.

There are several powerful, flexible options for configuring fixtures within the 4K standard canvas such as:

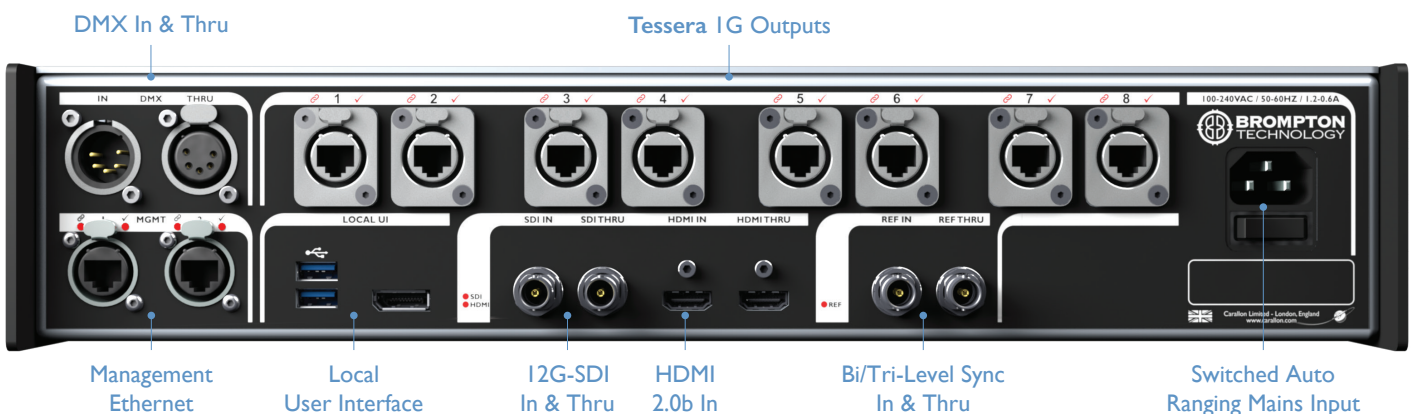
- Quick Association for a fast and easy way to associate large numbers of fixtures to a Brompton processor
- Pixel mapping that allows free placement and rotation of fixtures to 0° / 90° / 180° / 270° regardless of cabling order
- Sub-fixture support

With the additional benefit of allowing for **full HD output** with **closed loop redundancy**, it's the obvious choice for rental companies looking to maximise their offering for those more cost-conscious events.

### TESSERA S8 | FRONT



### TESSERA S8 | REAR



## HDR

The **Tessera S8** processor automatically detects and handles **HDR** content, accepting **HDR** video at up to 12 bits per colour. The system switches seamlessly between SDR, PQ and HLG with no interruptions. **HDR** is beautifully supported at all resolutions and frame rates, in both of the commonly used **HDR** formats (PQ (ST-2084) and HLG).

All **Tessera S8** processor features are available for **HDR** content, ensuring a fully optimised, exceptional performance. **HDR** is exclusive to **R2-based** panels that have been calibrated with **Dynamic Calibration**.

## EXTENDED BIT DEPTH

**Extended Bit Depth** unlocks higher PWM bit depth output for all panels using the **Brompton R2** or **R2+** receiver card. Up to 3.3 additional bits of precision improves low-brightness performance – reducing visual artefacts and bringing out additional detail and nuance in dark areas of the image. This substantial increase in dynamic range is invaluable when reproducing **HDR** content or working with LED on camera.

## HIGH FRAME RATE +

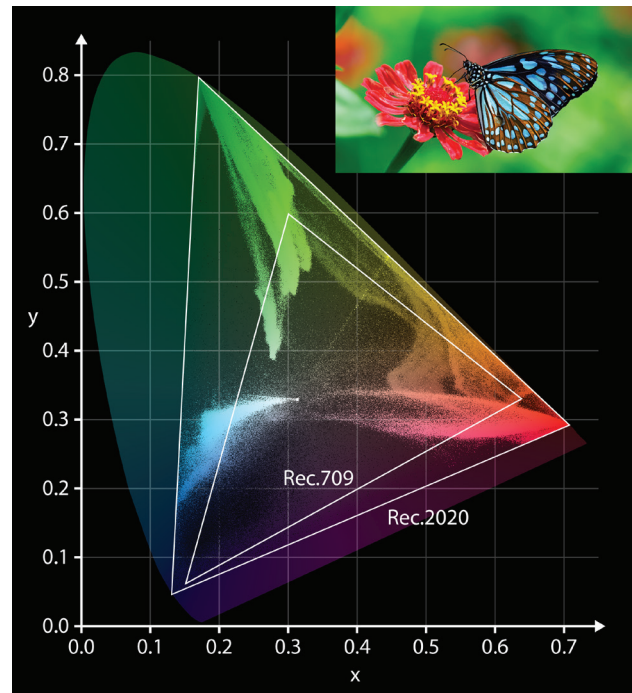
**HFR+** gives you the power to play video content on an LED screen at up to 250 fps (frames per second).

This gives smoother visuals in eSports and simulator applications using high-frame rate content. It also makes it possible to shoot slow motion visual effects with over-cranked cameras against LED screens and still retain perfect synchronisation between screen and camera.

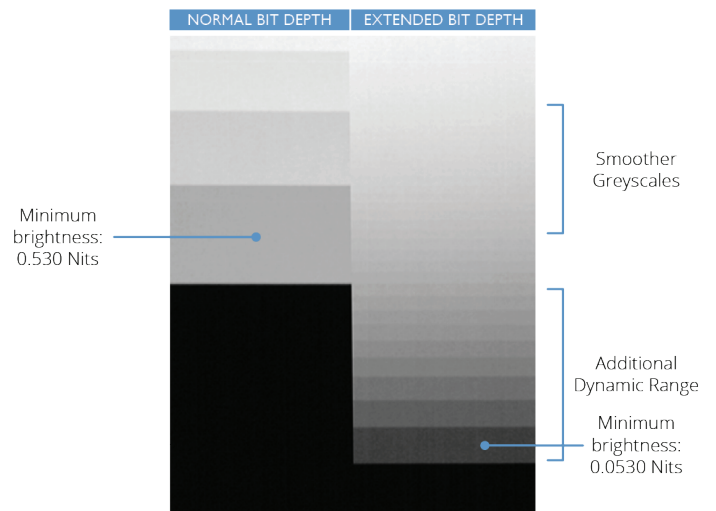
## CLOSED LOOP REDUNDANCY

With eight 1G ethernet output ports, the **Tessera S8** processor gives you the ability to operate a full **HD output** with closed loop redundancy.

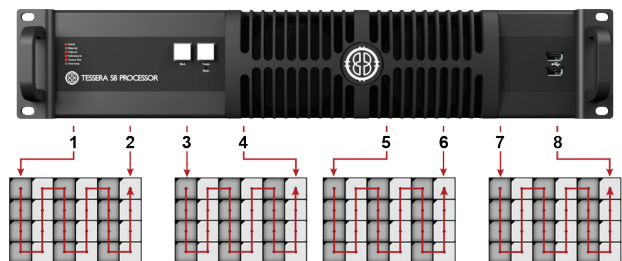
Cabling loops are created from the primary port, through a string of fixtures, and then back to the processor. In case of signal loss or errors with the primary feed, the backup port takes control and re-allocates fixtures to use the backup feed. The change is done within one frame, ensuring live content continues to display in the event of failures occurring anywhere in the loop.



An illustration of how the colours in a source image (inset) are distributed in the CIE 1931 xy colour space



Banded Gradient: "Performance at 0.05% brightness with Dark Magic disabled, illustrating PWM bit depth improvement: Frame grab from camera footage of 2000 Nits panels running at just 1 Nit."



Closed loop redundancy example diagram

# TESSERA S8 LED PROCESSOR

## Full Specifications



### PHYSICAL (WxHxL)

#### Unboxed

- 482.6mm (19") x 88.9mm (3.5") x 406.4mm (16")
- Rear width: 431.8mm (17")

#### Boxed

- 550mm (21.65") x 220mm (8.66") x 520mm (20.5")



### WEIGHT

- Unboxed: 7.50Kg (16.53lbs)
- Boxed: 10Kg (22lbs)



### ELECTRICAL

- Switched autoranging power supply
- 100 - 240V AC
- 50Hz - 60Hz
- 1.2 - 0.6A



### HDMI 2.0B INPUT

- One HDMI 2.0 input
- Full 18Gbps HDMI 2.0 bandwidth, maximum 600MHz pixel clock
- Up to 4096 x 2160 resolution (progressive only)
- 23.98Hz to 250Hz frame rate
- 8,10 and 12 bits per channel colour depths
- RGB and YCbCr 4:4:4, 4:2:2 and 4:2:0
- Compatible with DVI-D and DisplayPort sources via adapters



### SDI INPUT & RE-CLOCKED THRU PORT

- One 12G SDI input that supports the following:
  - HD-SDI - ST-292
  - 3G-SDI - ST-424, Level A and Level B-DL
  - 6G-SDI - ST-2081
  - 12G-SDI - ST-2082, 2SI format
- Up to 4096 x 2160 resolution (progressive only)
- 23.98Hz to 60Hz frame rate
- 10 bits per channel colour depth
- YCbCr 4:2:2



### OUTPUTS

- Eight 1 Gigabit Ethernet output ports each capable of a nominal 525K pixels at 8 bits per colour, 60Hz frame rate
- Maximum output capacity 4.5 million pixels
- 10 and 12 bits per colour output supported at reduced pixel counts
- Closed loop redundancy support



### GENLOCK

- Bi-level and Tri-level sync
- Sync to source
- Processors genlock from source right through to panel refresh



### LATENCY

- 2 frames end-to-end system latency (all features)



### TESSERA MANAGEMENT SOFTWARE

- Local management using monitor, keyboard and mouse connected directly to processor
- Up to 3840x2160 local monitor resolution supported, minimum 1920x1080 recommended



### TESSERA REMOTE

- Available free for Windows PC and Mac OS
- Remote management using Windows PC or Mac connected to processor via Ethernet network
- Two Gigabit Ethernet management network ports



### REMOTE CONTROL

- Support for eDMX protocols:
  - Art-Net,
  - Streaming ACN
- DMX-512A on 5-pin XLR in and thru
- Tessera Control application for multi-processor control via management network ports
- IP Control



### I/O

- Two USB 2.0 ports on front
- Two USB 3.0 ports on rear
- One DisplayPort (DP++) monitor output supporting HDMI, DVI and VGA with adapter



### FRONT PANEL

- Six status LEDs
- Power LED
- Freeze button
- Blackout button



### WARRANTY

- Two years



### CERTIFICATIONS

- CE, ETL/cETL

The ShutterSync® feature is patented under US Pat. 11,445,123.

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](http://www.bromptontech.com).