BROMPTON TECHNOLOGY

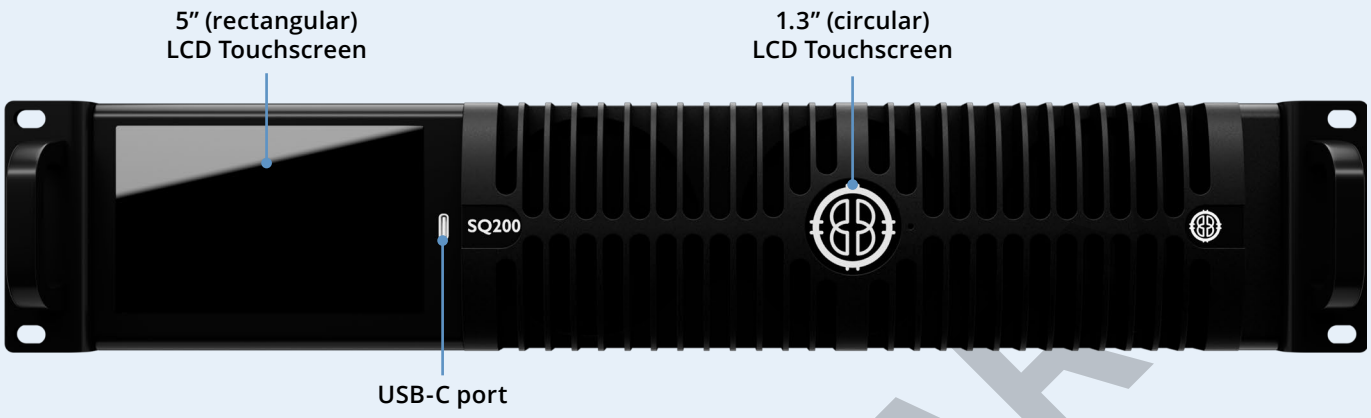
TESSERA SQ200

8K LED video processor

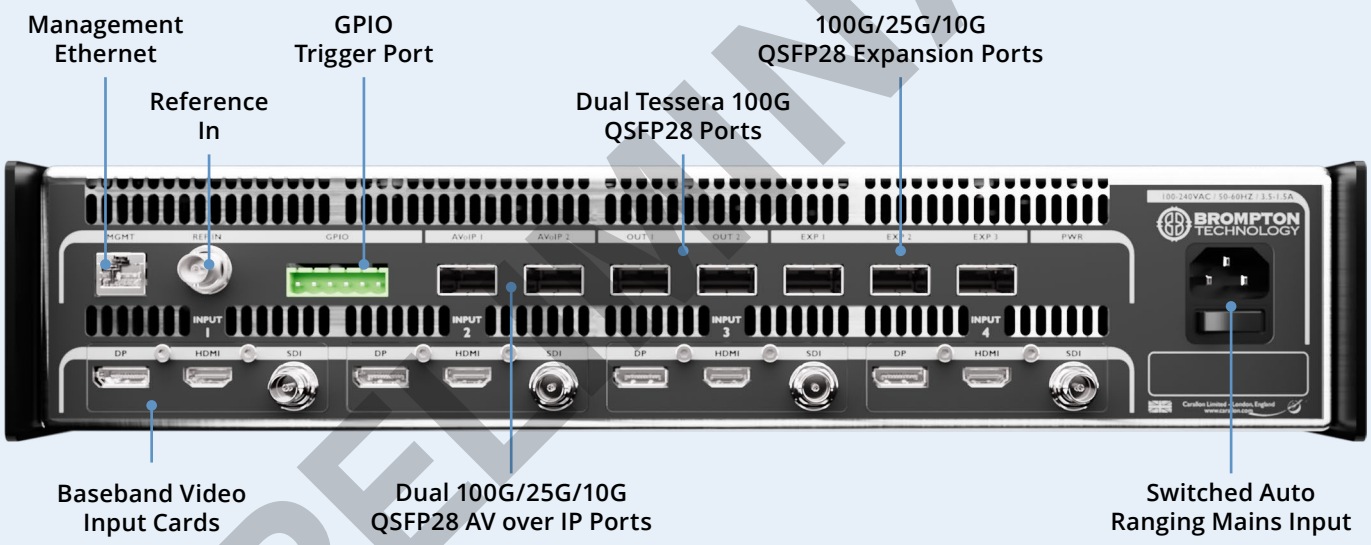
PRELIMINARY DATA SHEET

The Brompton Technology Tessera SQ200 LED processor combines Tessera's industry-leading feature set and easy-to-use software interface with our highest-ever capacity processor.

TESSERA SQ200 | FRONT



TESSERA SQ200 | REAR



PRELIMINARY

TESSERA SQ200 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: 8.7Kg (19.2lbs)
- Boxed: 11.2Kg (22.7lbs)

ELECTRICAL

- High performance long lifetime power supply
- Universal auto-ranging mains input
- 100 - 240V AC
- 50Hz - 60Hz
- Max 4A @ 115 VAC, 2A @ 230 VAC

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VIDEO INPUTS

AV OVER IP:

- Two dedicated 100G/25G/10G QSFP28 ports
- Video Throughput: Single 8K (up to 2.4 GP/s) / Quad 4K (up to 600 MP/s)
- Standard resolutions: HD, 4K and 8K up to 8192 x 4320
- Custom resolutions: Up to 32K pixels wide / tall per stream
- Frame rates: 23.976 to 250 fps, progressive only
- Bit depth: 8, 10 and 12-bit per channel
- Colour Format: RGB/YCbCr
- Colour Encoding: 4:4:4/4:2:2
- EOTF: SDR, PQ HDR, HLG HDR
- Colour space: sRGB, Rec 709, DCI-P3, Rec 2020, ACEScg, Custom
- Video stream type: ST2110-20 Uncompressed video
- Supported Senders: ST 2110-21 Narrow (N) / Narrow Linear (NL) / Wide (W) / IPMX
- IP Stream: Unicast/Multicast
- Synchronisation: IEEE1588-2008 PTP with ST 2059 alignment/IPMX
- Management: NMOS/IPMX

BASEBAND VIDEO

The SQ200 features 4 slots for up to 4 baseband video input cards. Each video input card has three inputs: SDI, HDMI and DisplayPort, of which one can be active.

Each Baseband Video Input card:

SDI INPUT

- 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
- Standard resolutions: Up to 4096 x 2160 resolution (progressive only)
- Frame rate: 23.98Hz to 60Hz frame rate
- Bit depth: 10 bits per channel
- Colour Format: YCbCr
- Colour Encoding: 4:2:2
- EOTF: SDR, PQ HDR, HLG HDR
- Colour space: sRGB, Rec 709, DCI-P3, Rec 2020, ACEScg, Custom

HDMI 2.1 INPUT

- Bandwidth: Up to 18Gbps TMDS, up to 48Gbps FRL
- Standard resolutions: Up to 8192 x 4320
- Custom Resolutions: Up to 65535 pixels wide or tall
- Frame rates: 23.976 to 250 fps, progressive only
- Bit depth: 8, 10 and 12-bit per channel
- Colour Format: RGB/YCbCr
- Colour Encoding: 4:4:4/4:2:2
- EOTF: SDR, PQ HDR, HLG HDR
- Colour space: sRGB, Rec 709, DCI-P3, Rec 2020, ACEScg, Custom

DISPLAYPORT 2.1 INPUT

- Bandwidth: Up to 80Gbps (UHBR)
- Standard resolutions: Up to 8192 x 4320
- Custom Resolutions: Up to 65535 pixels wide or tall
- Frame rates: 23.976 to 250 fps, progressive only
- Bit depth: 8, 10 and 12-bit per channel
- Colour Format: RGB/ YCbCr
- Colour Encoding: 4:4:4/4:2:2
- EOTF: SDR, PQ HDR, HLG HDR
- Colour space: sRGB, Rec 709, DCI-P3, Rec 2020, ACEScg, Custom

OUTPUTS

- 2 100G QSFP28 ports supporting up to 36 million pixels with Closed Loop Redundancy
- Designed to be used with QD-S

GENLOCK

- Bi-level and Tri-level sync
- Sync to source
- Processors genlock from source right through to panel refresh
- IEEE1588-2008 PTP with ST 2059 alignment

REDUNDANCY

- AV over IP ST 2022-7 Seamless Protection Switching
- Processor Redundancy
- Closed Loop Redundancy

LATENCY

- 2 frames end-to-end system latency (all features)
- 1 frame end to end in Ultra Low Latency mode

TESSERA MANAGEMENT SOFTWARE

- With Tessera Remote
  - Available free for Windows PC and macOS
  - Remote management using Windows PC or Mac connected to processor via Ethernet network
- One Gigabit Ethernet management network port

REMOTE CONTROL

- Support for eDMX protocols:
  - Art-Net
  - Streaming ACN
- IP Control
- Stacking: Allows multiple processors in a setup to be controlled in unison

I/O

- One USB-C port on the front panel
- GPIO Trigger port
- 3 100G/25G/10G QSFP28 expansion ports

FRONT PANEL

- 127mm (5”) rectangular LCD touchscreen
- 34.5mm (1.3”) diameter circular touchscreen

WARRANTY

- Two years

CERTIFICATIONS

- CE, UL/cUL, UKCA
- RoHS, REACH, TSCA compliant
- TAA, NDAA compliant
- Country of Origin: United Kingdom

TAA COMPLIANT

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

PRELIMINARY

SQ200 OPTIONS

The SQ200 features a flexible licensing model that allows you only pay for the features you need.

Pixel Output Capacity:

Select the pixel output capacity of the processor:

9 million UHD/4K	Equivalent to the SX40 4K DCI
18 million	
27 million	
36 million	8K

Baseband Video Inputs

Each baseband video input card has 3 video inputs: 12G SDI, DisplayPort 2.1 and HDMI 2.1. Only one input per card can be active at a time.

Multiple active baseband inputs requires multiple video input cards. The SQ200 can be fitted with up to 4 baseband video inputs.

Video Input Mode

The SQ200 can be licensed to operate in one of three input modes:

A	Single Stream – only one input is active at a time
B	Multi Stream – multiple inputs can be mapped onto the canvas for 4x4K workflows or equivalent
E	Multi Stream with AVoIP – as above but with additional support enabled for AVoIP protocols including ST 2110 and IPMX

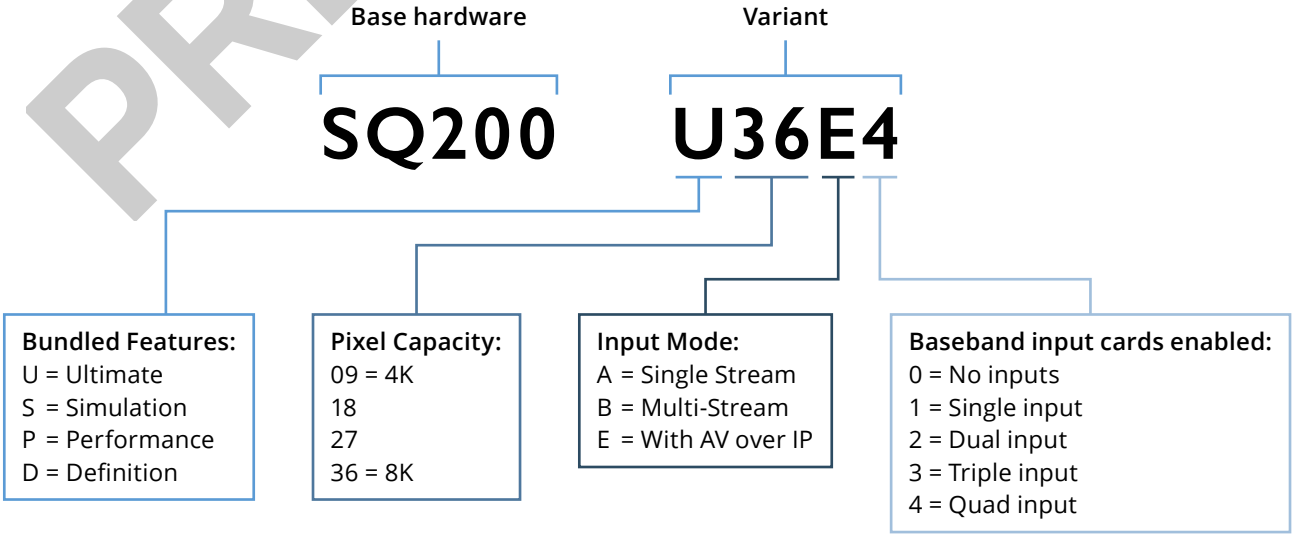
Feature Bundles

The SQ200 can be licensed with different feature bundles to suit the needs of a particular project:

Ultimate	All processor features included now and for life of product (as with SX40)
Performance	Features typically required for live events, including colour management and on-camera functionality
Simulation	Features useful for simulation applications, including high frame rate and dark time insertion
Definition	Core functionality to deliver Brompton image quality and reliability without the advanced features

PRELIMINARY

SQ200 PRODUCT CODE



Brompton Technology is the market leader in LED video processing for the most demanding applications across key sectors including Virtual Production & ICVFX, Live Events & Touring, Corporate & Education, Broadcast & Studio and Esports. The company has won multiple awards and become a globally respected brand, known for the quality and reliability of its products and exceptional technical support. For more information, visit www.bromptontech.com.