TESSERA

NEW PRODUCTS

SX40

4K LED PROCESSOR

XD

10G DATA DISTRIBUTION UNIT

Tessera SX40 combines Tessera's industry-leading feature set and easy-to-use software interface with our highest-ever capacity processor.

TESSERA SX40 4K LED PROCESSOR

Full 4K60 Support

HDMI 2.0 and 12G-SDI inputs with Deep Colour support and SD/HD/3G-SDI compatibility

12 bits per colour output at full capacity

4K up/down scaling and ChromaTune colour correction with lowest ever latency

4 x XD outputs with excess output capacity for cabling convenience

Tessera XD 10G data distribution unit provides a flexible and sophisticated distribution solution designed for large screen applications.

TESSERA XD DATA DISTRIBUTION UNIT

Minimise home-runs with 10G back-bone and daisy-chaining

Native fibre and copper support

Ruggedised chassis with rack and truss mount options

No configuration required

Touchscreen with status and link health monitoring

Compatible with all existing Tessera panel inventory, together SX40 and XD provide a powerful toolkit for easily and cost-effectively supporting the biggest LED projects.

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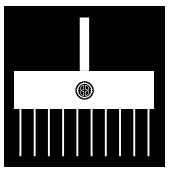
TESSERA XD DATA DISTRIBUTION

10G BACKBONE

Trunk connections between SX40 and XD, or between XD units, use a 10G Ethernet-based backbone to reduce the number of home-run connections required. We use a proprietary multiplexing algorithm, built on top of standard 10G Ethernet, to ensure that tight timing constraints are met and all fixtures remain in sync.

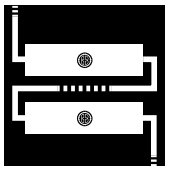
FIBRE AND COPPER COMPATIBLE

SX40 and XD support both copper and single mode optical fibre trunk connections, and XD can be used to convert between the two media. They use ruggedised Neutrik etherCON and opticalCON DUO connectors, compatible with standard RJ45 and LC-duplex connectors respectively.



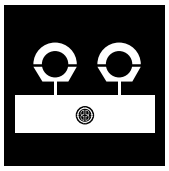
10G-TO-1G BREAKOUT

For maximum cabling convenience, each 10G trunk supports up to ten independent 1G connections to fixtures, each having the same pixel capacity as a 1G Tessera output, subject to the maximum system capacity. They are fully Gigabit Ethernet compliant, so off-the-shelf switches can be used to further split the 1G signals if desired.



LONG DISTANCE DISTRIBUTION AND DAISY-CHAINING

Additional XD units can be daisy-chained together to extend the signal, allowing screens in different locations to be connected to a single 10G trunk. All ten 1G outputs on each XD can be used, as long as the combined pixel load on all ports of the same number does not exceed the pixel capacity of a single 1G link.



DESIGNED FOR THE LIVE EVENTS INDUSTRY

XD comes in a ruggedised chassis, with two mounting options. Optional rack ears are supplied for mounting in a 2U 19” rack. The chassis also features holes for attaching clamps for truss mounting. All connectors are on the same side of the chassis for easy access.

STATUS MONITORING

A capacitive touch LCD display is used to provide status information for easy fault finding. This includes link quality monitoring of the 10G connections, link/status indicators for each of the 1G outputs, and the name/port of the connected processor.

NO CONFIGURATION REQUIRED

Unlike typical managed Ethernet switches, XD does not require lengthy manual configuration to get the best performance. All configuration is handled automatically by the Tessera processor, and firmware reloads can even be performed from within the Tessera software user interface.

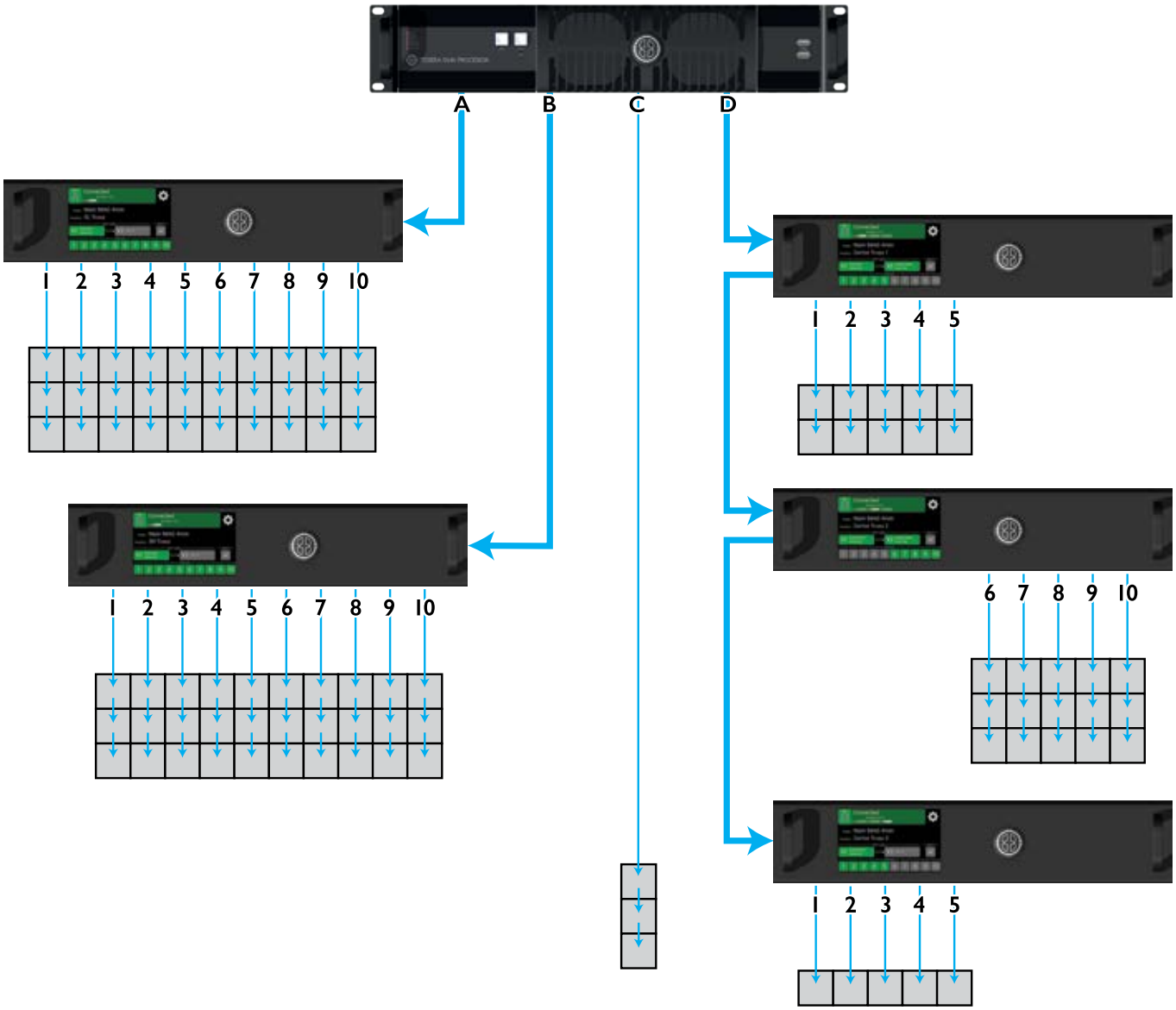
MINIMUM NUMBER OF XD TRUNKS REQUIRED TO SUPPORT FULL 4K OUTPUT:

	BITS PER COLOUR		
3840 X 2160	8	10	12
30Hz	1	1	2
50Hz	2	2	2
60Hz	2	2	3

	BITS PER COLOUR		
4096 X 2160	8	10	12
30Hz	1	2	2
50Hz	2	2	3
60Hz	2	3	3

SX40 processors feature four XD outputs, with the additional bandwidth available for maximum cabling convenience

EXAMPLE SYSTEM



In this example:

- Trunks A and B each have just a single XD connected, with three panels connected to each of their 1G outputs.
- Trunk C has fixtures connected directly to the processor (copper only), so the port automatically switches to operating as a standard 1G Tessera output, without the need for an XD.
- Trunk D has three XDs connected in a daisy chain, perhaps because the attached fixtures are in very different locations, and it is more convenient to run just a single 10G trunk connection rather than multiple 1G connections.
- The capacities for ports D1-D5 are shared between the first and third XD, whereas the capacities for ports D6-D10 are used solely on the second XD.
- Any of the trunk connections, including the daisy chain connections on trunk D, could be up to 60m if using Cat6A (less if using Cat5E or Cat6) or several kilometres using single mode fibre. It is not necessary to use the same media throughout the system.

PROCESSOR COMPARISON

INPUTS	M2	S4	T1	SX40
SDI inputs	2 x 3G-SDI	-	-	12G-SDI
DVI/HDMI inputs	DVI-I	DVI-D	DVI-D	HDMI 2.0
Bi-/tri-level sync reference input	Yes	-	-	Yes
OUTPUTS	**M2**	**S4**	**T1**	**SX40**
Output ports	4	4	1	4
Output port type	1G	1G	1G	XD (10G/1G)
Fibre outputs	-	-	-	Yes
CAPACITY	**M2**	**S4**	**T1**	**SX40**
Nominal pixel capacity	2.1 Million	2.1 Million	0.5 Million	9 Million
Default canvas size	1920x1080	1920x1080	1920x1080	4096x2160
Maximum fixture count	2000	2000	500	2000
FRONT-END PROCESSING	**M2**	**S4**	**T1**	**SX40**
Front-end processing pipelines	Dual	-	Single	Single
HD deinterlacing	Yes	-	-	-
Clipping	Yes	-	Yes	-
Up/down scaling	Yes	-	Yes	Yes
Input/setting cross-fading	Yes	-	-	-
COLOUR PROCESSING	**M2**	**S4**	**T1**	**SX40**
Input colour processing	Yes	Yes	Yes	Yes
Global + per-fixture colour processing	Yes	Yes	Yes	Yes
On-Screen Colour Adjustment (OSCA)	Yes	Yes	Yes	Yes
ChromaTune	Yes	-	-	Yes
PANEL PROCESSING ENGINE	**M2**	**S4**	**T1**	**SX40**
Multiple fixture type support	Yes	Yes	Yes	Yes
Automatic pixel pitch interpolation	Yes	-	Yes	-
Free fixture rotation	Yes	90˚/180˚/270˚ only	Yes	90˚/180˚/270˚ only
Free placement of fixtures	Yes	Yes	Yes	Yes
LATENCY	**M2**	**S4**	**T1**	**SX40**
End-to-end latency with all features	3 frames	2 frames	3 frames	2 frames
Latency in feature-limited low latency mode	2 frames	N/A	2 frames	N/A
CONTROL	**M2**	**S4**	**T1**	**SX40**
Local user interface (DP++ and USB)	Yes	Yes	Yes	Yes
Tessera Remote user interface	Yes	Yes	Yes	Yes
DMX-512 live control	Yes	-	Yes	Yes
Art-Net live control	Yes	-	Yes	Yes
Tessera Control support	Yes	Yes	Yes	Yes
Management ports	2	1	1	2
MECHANICAL	**M2**	**S4**	**T1**	**SX40**
Form factor	2U 19" rack	1U 19" rack	1U 19" rack	2U 19" rack
Front panel buttons	-	2	-	2

All images are for illustration purposes only. All specifications are subject to change.

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