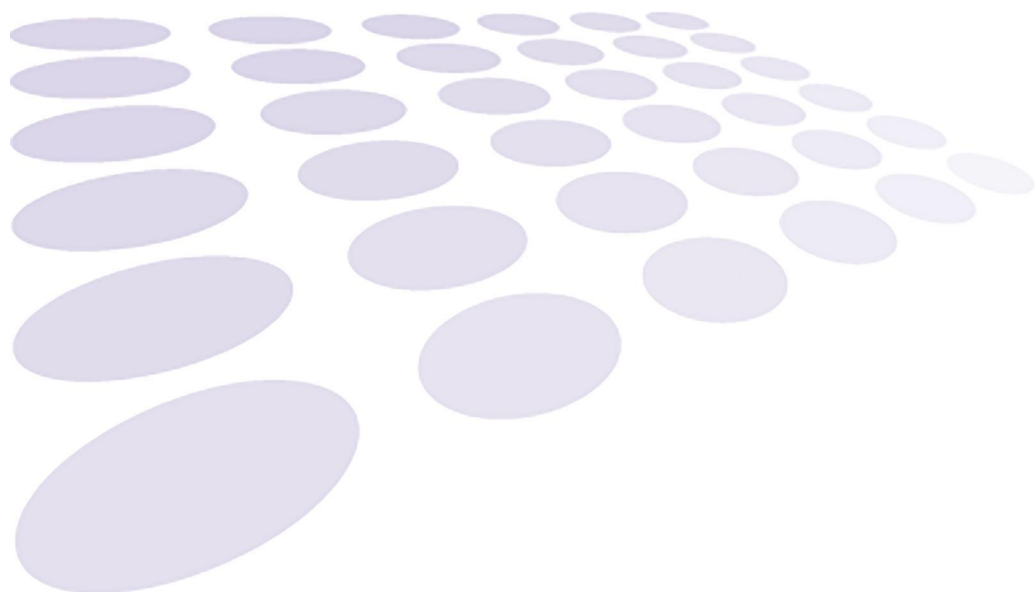


tsl



Control and Networking Guide

V2 – Q2 2023

For any queries, please contact hiredesk@tsllighting.com



Contents

	Page
- Introduction	3
- Network Switches	4
- ArtNet / sACN Nodes	5
- DMX Buffers - Rack Mount	6
- Fibre Optic	7
- Sneak Snake	8-10
- Rack Power Distribution & UPS'	11
- Looms	12-15
- Socapex Looms , EtherCON Looms	
- Fibre Looms , DMX Looms	
- FoH Looms	
- Stock FoH Rack	16
- Stock Data Rack - 4 or 8 Universe	17-18
- Rack Case Sizing	19
- Spec Checklist	20-22

Introduction

At TSL we pride ourselves on the quality of our equipment, particularly our network and control infrastructure.

The following document contains basic information on the core components from the Control & Networking department at TSL and should assist you when specifying control equipment and submitting rack plans.

The amount of information required can often be daunting; however our team have a wealth of experience and knowledge so are always happy to help guide you through the equipment or answer any questions you have to ensure you get the best setup for your show. If you need help or clarification on anything contained in this guide please contact your account or project manager.

We hope you find this guide useful and wish you all the best for your show!

Network Switches

Luminex Gigacore 12

- 10x shielded EtherCON output on front & 2x shielded EtherCON on rear
- Data Indicator lights to show link, speed and redundancy
- Fully managed switch
- 1U Size



Luminex Gigacore 16xt

- 10x shielded EtherCON output on front & 2x shielded EtherCON on rear
- 4x SFP Fibre Cages on rear
- Data Indicator lights to show link, speed and redundancy
- Jog Wheel and screen to display data
- Fully Managed Switch
- 1U Size
- 160W PoE Version also available



ArtNet / sACN Nodes

Luminex DMX-8 MkII

- 2 x EtherCON Input port (only one can be used at once)
- 8 x DMX Output via XLR5 Female (on front)
- Screen and Jog Wheel for easy Management
- Universe, protocol, timings and RDM customisable per port
- PCB can be rotated for rear-facing ports (on request)
- 1U Size



Luminex Luminode 12

- 2 x Managed EtherCON input (can be used simultaneously)
- 12 x DMX Output via XLR5 Female (on front)
- 16 x process engines
- Screen and Jog Wheel for easy Management
- Universe, protocol, timings and RDM customisable per port
- 1U Size



DMX Buffers - Rack Mount

8-way Rack Mount Buffer

- 1 x DMX Input
- 8 x buffered DMX Output via XLR5 Female (on front)
- 4 x Opto-Isolated pairs
- 4 x Data termination switch (per pair)
- 1U Size



Jands DD8 Rack mount

- DMX In & Through
- 8 x buffered DMX Output via XLR5 Female (on front)
- 8 x Opto Isolated
- 1 x Data termination switch
- 1U Size



Luminex LumiSplit 2.10

- 2 x DMX Input
- 10 x buffered DMX Output via XLR5 Female (on front)
- Can be configured to A/B, Main and Backup, Merge or custom
- RDM Compatible
- 1U Size



Fibre Optic

LC - LC Cable

- LC - LC Multimode cable used for connecting SFP Ports



SFP Connector

- Required in the rear ports of the 16xt and 16xt POE to use fibre Ports (pulled as standard with Gigacore 16xt switches)



OpticalCON patch panel

- Used to convert 2 x LC Pairs to 1 OpticalCON Quad
- 1U Size with 2 Sockets



Fibre Looms

- Looms include 2 OpticalCON Quad for a total of 8 cores (4 LC pairs)
- 150 metre
- For more information, See the looms section



Sneak Snake - Rack Mount

Sneak Snake Break in Panel 2U

- 8 x 4-way XLR5 DMX M input to 8x EtherCON output
- Recessed design for cable management
- Colour Coded
- Designed to be used as 4 x 4-way front input or 4x 4-way rear input, or both front and rear for 8 x 4-way



Sneak Snake Break in Panel 1U

- 2 x 4-way XLR5 DMX M input to 2x EtherCON output



Sneak Snake Break Out Panel 1U

- 2 x EtherCON input to 2 x 4-way XLR5 DMX F output



Sneak Snake - Box

ProPlex Sneak Snake IN/OUT

- 1 x Ethercon In /Out to 4 x XLR5 DMX M input or 4 x XLR5 DMX F output (paired)
- Either Break-in or Break-out
- Truss Mountable with Half Coupler



Sneak Snake Truss Mount Break Out Box

- 1 x EtherCON input to 4 x XLR5 F output in a box configuration
- Comes with Half-Coupler and safety bond for truss mounting



Sneak Snake Truss Mount Break In Box

- 4 x XLR5 M input to 1 x EtherCON output in a box configuration
- Comes with Half-Coupler and safety bond for truss mounting



Sneak Snake - Cable

Sneak Snake Break In Cable

- 4 x XLR5 DMX M Input to 1 x EtherCON output



Sneak Snake Break Out Cable

- 1 x EtherCON input to 4 x XLR5 DMX F output



Rack Power Distribution & UPS'

APC Smart UPS 1500

- 1 x IEC Input and 4 x IEC Output
- Display and 3 button navigation to show battery life and usage
- Can power up to 1500VA of power
- 2U Size



TSL UPS Distro

- Connects to UPS with IEC Links
- 16A Input
- 10 x True1 Output
- 2 x True1 Output (Non UPS)
- 2 x 13A & 1x 16A Output on Front
- 2U Size



Rack Light Distro

- Connects to UPS with IEC Links
- True1 Input
- 5 x True1 Output
- 1 x True1 Output (Non UPS)
- White or Light Blue light for front of rack
- 1U Size



Looms

TSL has a large stock of standard looms available for you to use on your production.

We have split power and data into separate looms to allow maximum flexibility whilst also being able to standardise across all productions. We have taken the decision to use Ethercon and Sneak Snake systems across all our data looms as they provide easy standardisation and flexibility.

When specifying a loom please specify the length of Soca and corresponding Ethercon loom. Labelling of the stock looms will be undertaken by TSL prep technicians following submission of a loom labelling list.

Any looms you need for your production that can't be made from the following stock looms will need to be specified separately and built by your team during prep. TSL will split the looms once returned.

Stock Cable - Looms

Socapex Looms

- 5-way 2.5mm Socapex Looms available in the following lengths
 - 20m
 - 30m
 - 40m
 - 50m



EtherCON Looms

- 4 way EtherCON Looms in the following lengths:
 - 25m
 - 35m
 - 45m
 - 55m



Stock Cable - Data Looms

Fibre Looms

- 2 x 150 metre OpticalCON Quad Fibre Cable
- 8 Cores for a total of 4 Connections (TX/RX Pair)
- Available with or without 4mm 16A/1 power loomed in



DMX Looms

- Designed for control Racks to keep cables tidy
- 1.5 metre length
 - 4 x XLR5 DMX Cable
 - 8 x XLR5 DMX Cable
 - 9 x XLR5 DMX Cable (1 with direction reversed)



Stock Cable - FoH Looms

50 metre FoH Loom

- 1 x 16A Cable (2.5mm)
- 2 x EtherCON Cable
- 4 x XLR5 DMX



70 metre FoH Loom

- 1 x 16A Cable (4mm)
- 4 x EtherCON Cable



100 metre FoH Loom

- 1 x 16A Cable (4mm)
- 2 x EtherCON Cable
- 4 x XLR5 DMX



150 metre Fibre FoH Loom

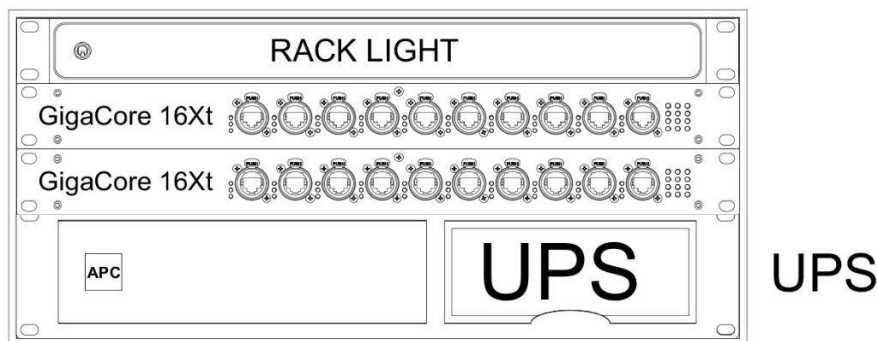
- 1 x 16A Cable (4mm)
- 2 x OpticalCON Quad Fibre Cable



Stock FoH Rack

Standard FoH Rack

- Plug and Play design for any console and any output with Stock 4 universe or 8 universe Rack
- All IP Addresses and Subnet Masks can be pre-configured in warehouse if required
- Can be set up for ArtNet or sACN
- Neatly packaged in a low-profile 8U Rack
- Includes
 - Rack Light Distro
 - 2 fully configured Luminex switches in Main and backup configuration
 - UPS
 - Can be configured for Fibre or Ethercon upon request



Stock Data Rack - 4 or 8 Universe

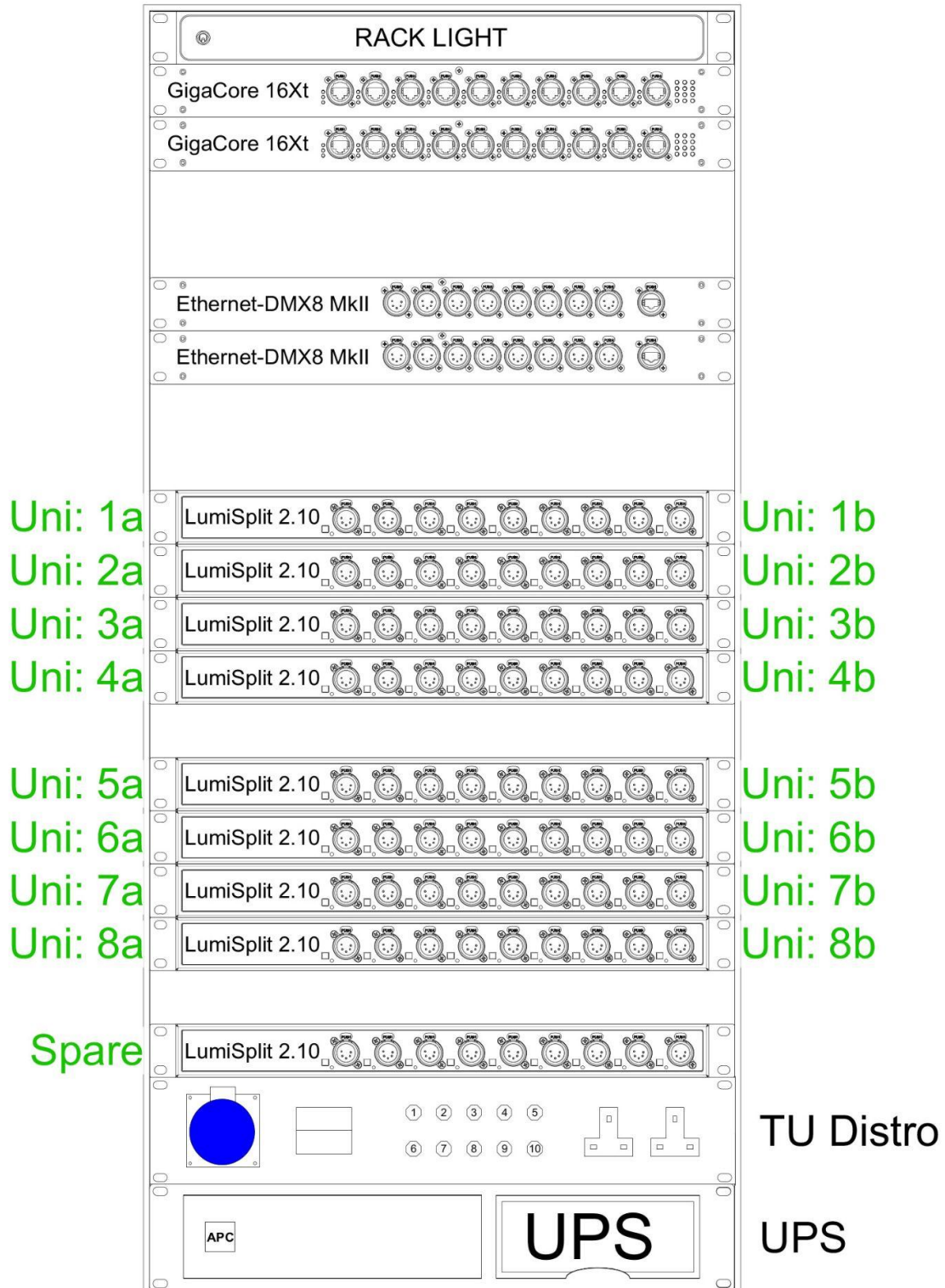
Standard 8 Universe Rack

- Plug and Play design for any console and any output with our FoH Rack
- Can be set up for ArtNet or sACN to any 4 or 8 universes
- All IP Addresses and Subnet Masks can be pre-configured in warehouse if required
- Contained within a single 18U or 24U Case
- Includes
 - Rack Light
 - 2 fully configured Luminex switches in Main and backup configuration
 - 2 Fully configured Nodes set up to output selected universes in main and backup configuration
 - LumiSplit Buffers with a main and a backup DMX connection to main and backup Nodes (8 Universe rack also includes 1 cold spare)
 - UPS Distro
 - 1500va UPS
 - Gaps In rack provided for cable management
 - Can be configured for Fibre or Ethercon connection to FoH upon request

Stock Data Rack - 4 or 8 Universe

Standard 8 Universe Rack

Front of rack



Rack Case Sizing

Handheld Rack Cases

- Handheld rack Cases available in the following sizes
 - 2U
 - 3U
 - 4U
 - 6U

Wheeled Rack Cases

- Wheeled rack Cases available in the following sizes
 - 12U
 - 18U
 - 20U (with Monitor in lid)
 - 22U
 - 24U
 - 24U with Table Lid
 - 2 x 24U Double Wide
- All Wheeled rack cases are shock mounted to protect Equipment

Spec Checklist

Sizing

- Does this all fit in an appropriate sized case?
- Is there a UPS, UPS Distro and Rack Light (where applicable)?
- Are there any spaces for cable management?

Network Switches

- Will Fibre connectivity be required?
- Are IP Address, Subnet Mask and name label given for each device?
- What ports will be assigned to which VLAN/group?
- How many ISL ports?
- RLinX Settings for any ports?
- Any further requirements? E.g. PoE requirement, MLinX, Additional VLAN Tagging etc

Nodes

- Are IP Address, Subnet Mask and name label given for each device?
- Into which VLAN should these devices be connected?
- Will they be to ArtNet, sACN or a mix?
- What Universe numbers will be outputted to each port?
- Should the data be changed before it's output? E.g. a merge
- If ArtNet, should an adjustment be made for Universe 0?
- Should RDM be enabled or disabled globally or per port?

Spec Checklist

Buffers

- Which universes will be buffered?
- Is there a requirement for RDM?
- How many output ports will be used?
- Single input vs A/B for main and backup or merging?
- How should they be labelled?

Further processing

- IP Address, Subnet Mask and name label given for each device?
- Into which VLAN should they be connected?
- Should any additional configuration be done?
- Should any show files be preloaded?

Spec Checklist

Still unsure?

Request one of our stock FoH and 4U or 8U pairs - they exist to remove the need for custom racks on smaller shows

Speak to your account manager who can put you in contact with our Warehouse team - they have a large amount of experience and would be happy to assist you

We love a challenge!

Need to send ArtNet across the sea, have a fully wireless console or stream TimeCode from the other side of the world? Speak to your account manager who can put you in contact with our System Support Team who will discuss your project and will do their best to bring it to reality.