Control and Networking Guide

V5 - Q1 2026

For any queries, please contact hiredesk@tsllighting.com

Contents

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

Network Switches

Luminex Gigacore 10

- 1 x Opticalcon Quad input on front
- 4x shielded EtherCON output on front & 4x shielded EtherCON on rear
- Data Indicator lights to show link speed, VLAN and redundancy
- Fully managed switch
- Truss or Rack Mount - ½ 1U size
- Can be PoE Powered and provide PoE

Luminex Gigacore 14R

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

Network Switches

Luminex GigaSwitch 8

- 8x shielded EtherCON ports on front
- Data Indicator lights to show link speed and network activity
- Managed Gigabit switch
- 1U Size

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

ArtNet / sACN Nodes

Obsidian Netron EN12

- 2 x Managed EtherCON input (integrated switch)
- 12 x DMX Output via XLR5 Female (on front)
- Screen and Jog Wheel for easy Management
- Universe, protocol, timings and RDM customisable per port
- 1U Size

Elation EN6 IP (IP65 Rated)

- 2 x EtherCON Input port
- 6 x DMX Output via XLR5 Female
- OLED Screen and touch buttons for easy Management
- Universe, protocol, timings and RDM customisable per port
- IP65 rated rugged housing for outdoor use
- Truss / Surface mountable

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

DMX Buffers - Rack Mount

4-Way Hanging Buffer

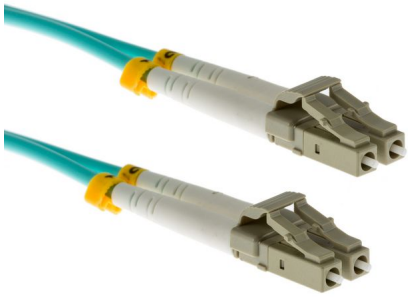
- 1 x DMX Input
- 4 x buffered DMX Output via XLR5 Female (on front)

8-Way Hanging Buffer

- 1 x DMX Input
- 8 x buffered DMX Output via XLR5 Female

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 Singles & Looms

- 250m OpticalCON Quad Multimode Cable on Drum
- Double 150m OpticalCON Quad Looms
- Looms include 2 OpticalCON Quad for a total of 8 cores (4 LC pairs)
- 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
- True 1 Input
- 10 x True1 Output
- 2 x True1 Output (Non UPS)
- 2 x 13A & 1x True1 Output on Front
- 2U Size

Combined Rack Light Distro

- For smaller racks
- 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 - 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)

Console Looms

- 1 x True1 Cable (2.5mm)
- 2 x EtherCON Cable
- Available in 10m, 15m, 20m & 30m length

Stock Cable - Looms

Socapex Looms

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

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

EtherCON Looms

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

Stock Cable - FoH Looms

50 metre FoH Loom

- 1 x True1 Cable (2.5mm)
- 2 x EtherCON Cable
- 4 x XLR5 DMX

70 metre FoH Loom

- 1 x True1 Cable (4mm)
- 4 x EtherCON Cable

100 metre FoH Loom

- 1 x True1 Cable (4mm)
- 2 x EtherCON Cable
- 4 x XLR5 DMX

150 metre Fibre FoH Loom

- 1 x True1 Cable (4mm)
- 2 x OpticalCON Quad Fibre Cable

Stock Cable - Robospot Looms

Robospot Loom - 70m

- 1 x True1 Cable (2.5mm)
- 1 x EtherCON Cable
- 1 x XLR5 DMX

Robospot Base Station Loom - 20m

- 1 x True1 Cable (2.5mm)
- 3 x EtherCON Cable
- 1 x XLR5 DMX

Stock Racks Overview

Medium FOH Rack

- 2 x Gigacore 16XT
- Space for (NPU's & Timecode)
- UPS
- Fibre Patch Panel

Medium Data Rack

- 2 x Gigacore 16XT
- 2 x Luminode 12
- 1 x Lumisplit 2.10
- 8 Way Sneak Snake Panel
- UPS
- Fibre Patch Panel

Small FOH Rack

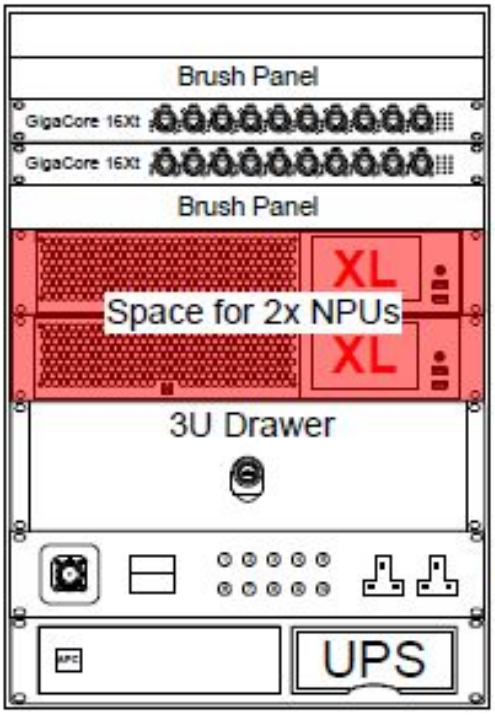
- 2 x Gigacore 16XT
- UPS
- Fibre Patch Panel

Large Data Rack

- 2 x Gigacore 16XT
- 4 x Luminode 12
- 2 x Lumisplit 2.10
- 2 x 8 Way Sneak Snake Panel
- UPS
- Fibre Patch Panel

Medium FOH Rack

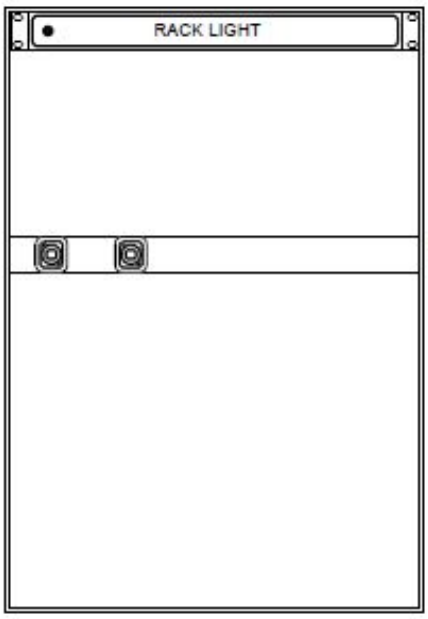
FRONT



UPS Distro

UP

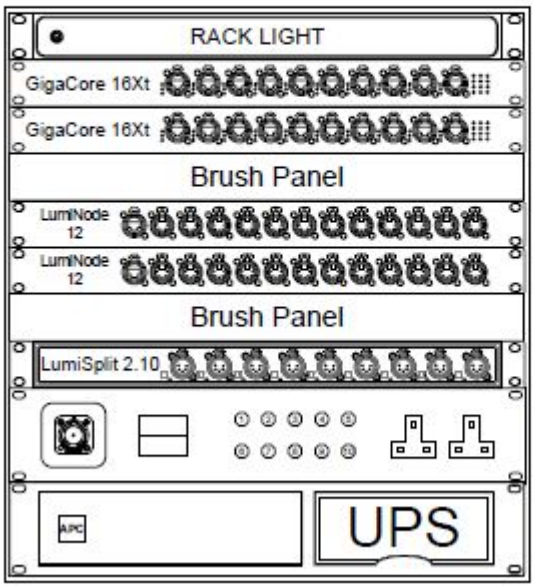
BACK



Fibre Patch Panel

Medium Data Rack

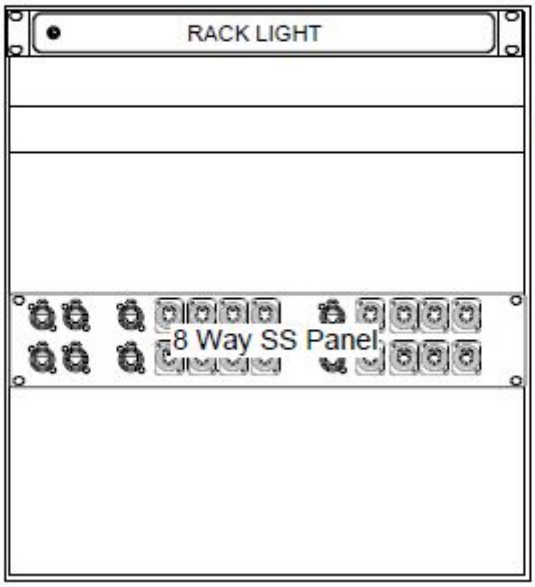
FRONT



UPS Distro

UPS

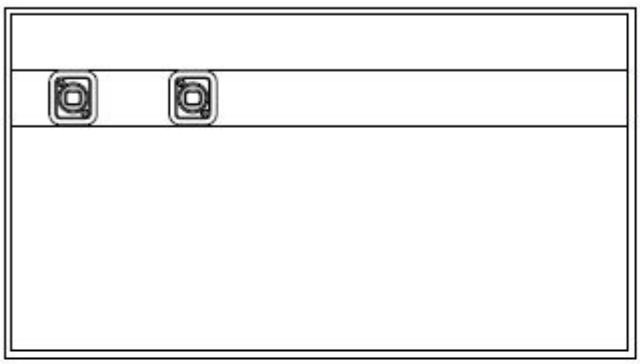
BACK



Fibre Patch P

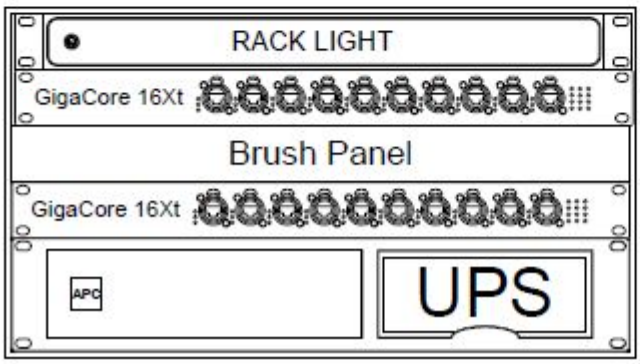
Small FOH Rack

BACK



Fibre Patch Panel

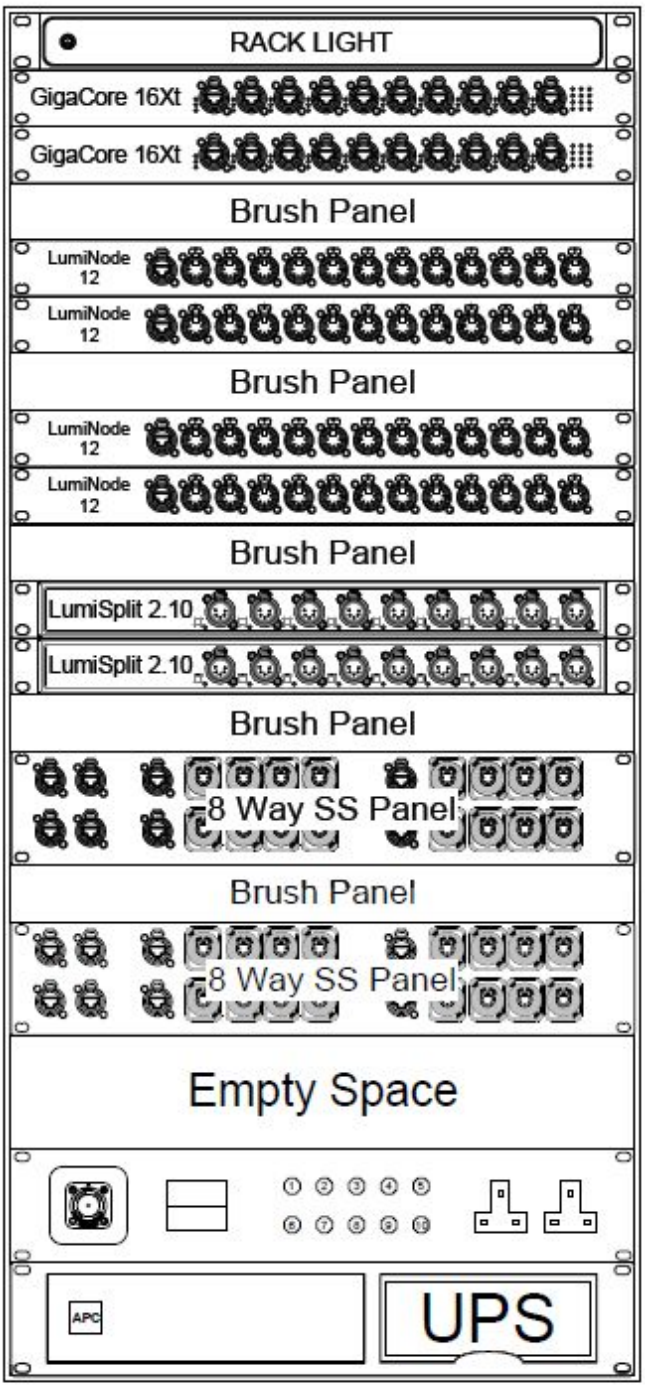
FRONT



UPS

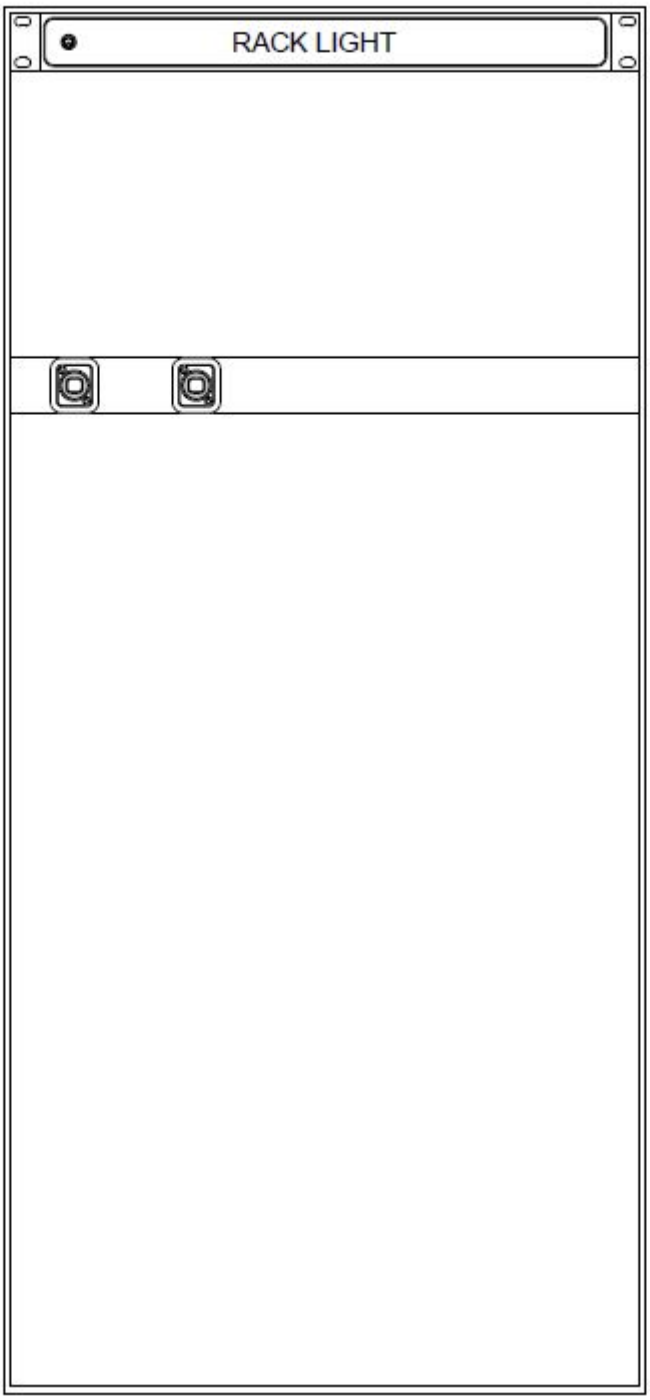
Large Data Rack

FRONT



Large Data Rack

BACK



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 racks they exist to remove the need for custom racks.

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.