



CONTROLLERS

4 x A4-S Mk3

CTRL A to D, 4 outputs each. CTRL E = road spare, not in rack.

OUTPUTS

14 live

5 x NL8 (two runs) + 4 x NL4 (one run).
C4 and D4 spare.

PIXELS

3,765 px

24 segments, WS2811 RGB, 20 px/m.

SACN

41-69

170 px/universe. 70-85 held for E. Clear from 86.

NETWORK

192.168.41.x

Gateway .1 A .41, B .42, C .43, D .44, E .45.

POWER

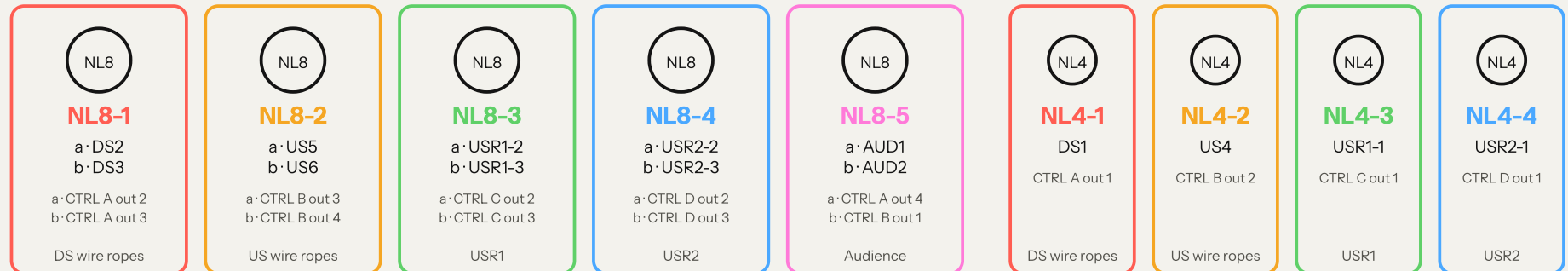
2 x UHP-1500-24

3,000 W, load 1,483 W. About 12.9 A @ 120 V, one TRUE1 feed.

Front panel: which port is which

PYLON PXL CTRL RACK · FRONT · OUTPUTS

5 x NL8 (2 runs each) + 4 x NL4 (1 run each) = 14 outputs



NL8 leg a / leg b = the two NL4 tails of the NL8 to 2x NL4 splitter at the top of the trunk. Colors match the lanes on bea.kg3.io/power.

Setting the rack up

1 Roll the rack to the pylon base

Front (outputs) faces the pylon feeders. Rear plate (TRUE1 + etherCON) faces the cable path from LX. Leave the rear open for air.

2 AC in

One TRUE1 feed into TRUE1 IN on the rear plate. TRUE1 THRU is a pass-through for the next thing on the same circuit. Rack draws about 12.9 A at 120 V, so give it its own 20 A circuit.

3 Network in

etherCON from the LX sACN switch into the rear plate. The second etherCON loops the network on. Controllers are static: CTRL A .41, B .42, C .43, D .44 on 192.168.41.x.

4 Plug the feeders by port label

Each NL8 trunk goes to its numbered NL8 port and splits to two NL4 tails at the top (leg a and leg b). Each NL4 single goes to its numbered NL4 port. The table below says which run is on which port. Match the port label on the rack to the label on the trunk.

5 Power up and test

Power the rack, then run the Advatek test pattern on each box (Advatek Assistant 3, red / green / blue). Every run should light in order from its rack end. If red and green are swapped on a run, change Color Order on all outputs of that box, never the patch.

6 Hand off to the console

Console sends sACN universes 41-69. Patch of record is the DMX Patch Map in the tech kit. 70-85 stay clear for CTRL E.

7 If a box dies

Swap in CTRL E. Import the dead box's .conf from the Controller Update Package, set the IP to the dead box's address, move the output cables across in the same order. The patch does not change.



Every output

CONTROLLER	OUT	RACK PORT	TYPE	RUN	SEGMENTS (DATA ORDER)	PX	UNIVERSES
CTRL A 192.168.41.41	1	NL4-1	NL4	DS1	DS1-1 > DS1-2	369	41-43
	2	NL8-1 a	NL8	DS2	DS2-1 > DS2-2	369	44-46
	3	NL8-1 b	NL8	DS3	DS3-1 > DS3-2	369	47-49
	4	NL8-5 a	NL8	AUD1	AUD1-1 > AUD1-2 > AUD1-3	568	50-53
CTRL B 192.168.41.42	1	NL8-5 b	NL8	AUD2	AUD2-1 > AUD2-2 > AUD2-3	575	54-57
	2	NL4-2	NL4	US4	US4-1 > US4-2	307	58-59
	3	NL8-2 a	NL8	US5	US5-1 > US5-2	307	60-61
	4	NL8-2 b	NL8	US6	US6-1 > US6-2	307	62-63
CTRL C 192.168.41.43	1	NL4-3	NL4	USR1-1	USR1-1	98	64
	2	NL8-3 a	NL8	USR1-2	USR1-2	98	65
	3	NL8-3 b	NL8	USR1-3	USR1-3	98	66
CTRL D 192.168.41.44	1	NL4-4	NL4	USR2-1	USR2-1	100	67
	2	NL8-4 a	NL8	USR2-2	USR2-2	100	68
	3	NL8-4 b	NL8	USR2-3	USR2-3	100	69

By rack port

RACK PORT	TYPE	CARRIES	GOES TO	PX	UNIVERSES
NL8-1	NL8	leg a DS2 = CTRL A out 2 leg b DS3 = CTRL A out 3	DS wire ropes	738	44-46, 47-49
NL8-2	NL8	leg a US5 = CTRL B out 3 leg b US6 = CTRL B out 4	US wire ropes	614	60-61, 62-63
NL8-3	NL8	leg a USR1-2 = CTRL C out 2 leg b USR1-3 = CTRL C out 3	USR1	196	65, 66
NL8-4	NL8	leg a USR2-2 = CTRL D out 2 leg b USR2-3 = CTRL D out 3	USR2	200	68, 69
NL8-5	NL8	leg a AUD1 = CTRL A out 4 leg b AUD2 = CTRL B out 1	Audience	1143	50-53, 54-57
NL4-1	NL4	DS1 = CTRL A out 1	DS wire ropes	369	41-43
NL4-2	NL4	US4 = CTRL B out 2	US wire ropes	307	58-59
NL4-3	NL4	USR1-1 = CTRL C out 1	USR1	98	64
NL4-4	NL4	USR2-1 = CTRL D out 1	USR2	100	67



Inside the rack

INSIDE THE RACK · TOP VIEW · FRONT IS DOWN

CTRL A192.168.41.41

out 1DS1NL4-1

out 2DS2NL8-1a

out 3DS3NL8-1b

out 4AUD1NL8-5 a

CTRL B192.168.41.42

out 1AUD2NL8-5 b

out 2US4NL4-2

out 3US5NL8-2 a

out 4US6NL8-2 b

CTRL C192.168.41.43

out 1USR1-1NL4-3

out 2USR1-2NL8-3 a

out 3USR1-3NL8-3 b

out 4 spare

CTRL D192.168.41.44

out 1USR2-1NL4-4

out 2USR2-2NL8-4 a

out 3USR2-3NL8-4 b

out 4 spare

UNDER THE TRAY

PSU 1UHP-1500-24

PSU 2UHP-1500-24

REAR PLATE

TRUE1 IN · TRUE1 THRU
etherCON x2 (sACN in, loop out)

2 x 1500 W = 3,000 W, load 1,483 W (49%)
AC draw about 12.9 A at 120 V

4 x Advatek PixLite A4-S Mk3 in a 2x2 grid on the tray, 2 x Mean Well UHP-1500-24 flat under it. SKB 4U 20 in rolling shockmount rack.

Network and universes

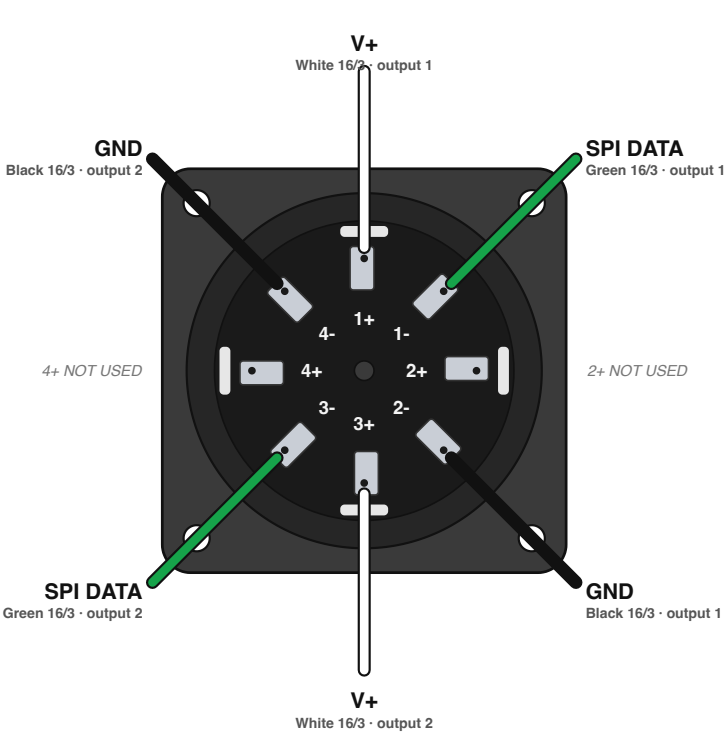
DEVICE	IP	UNIVERSES	NOTE
CTRL A	192.168.41.41	41-53	4 live outputs, 1675 px
CTRL B	192.168.41.42	54-63	4 live outputs, 1496 px
CTRL C	192.168.41.43	64-66	3 live outputs, 294 px
CTRL D	192.168.41.44	67-69	3 live outputs, 300 px
CTRL E	192.168.41.45	70-85 held	Road spare. Not in the rack, no live outputs. Import the failed box's .conf and set its IP to take over.
Gateway	192.168.41.1		Subnet 192.168.41.0/24. Laptop on a static address in the same subnet (for example .200).
Media server / console		sACN 41-69 out, clear from 86	sACN (E1.31), 170 px per universe, every output starts on a fresh universe at ch 1.

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Live: bea.kg3.io/chance/rack (PIN)

NL8 Panel Mount (NL8MPR) - 2x SPI Pixel LED outputs - 16/3 wire

Solder side of the rack jack, as seen inside the rack. Two 16/3 SOOW cables (White / Green / Black), one per Advatek output. 2+ and 4+ NOT USED.



- Pole map (16/3 per output)**
- 1+ V+ · White · output 1
 - 1- SPI DATA · Green · output 1
 - 2+ NOT USED
 - 2- GND · Black · output 1
 - 3+ V+ · White · output 2
 - 3- SPI DATA · Green · output 2
 - 4+ NOT USED
 - 4- GND · Black · output 2

Output 1 = 1+ V+ / 1- DATA / 2- GND (splitter OUT 1)
Output 2 = 3+ V+ / 3- DATA / 4- GND (splitter OUT 2)
Same map on the NL8 to NL4 SPI Splitter and on the NL8 trunk: function follows the pin, not the colour.

Wire map of record: NeonOS cable type NL8 to NL4 SPI Splitter / wirediagramcreator nl8-spi-2x. Geometry: NL8MPR solder side, 1+ at 12 o'clock under the key.

Pole map (solder side)

NL8 POLE	OUTPUT	FUNCTION	16/3 WIRE
1+	Output 1	V+	White
1-	Output 1	DATA	Green
2+	NOT USED, no wire		
2-	Output 1	GND	Black
3+	Output 2	V+	White
3-	Output 2	DATA	Green
4+	NOT USED, no wire		
4-	Output 2	GND	Black

Two Advatek A4-S Mk3 outputs per NL8, one 16/3 SOOW cable each: **output 1 = 1+ V+ / 1- DATA / 2- GND, output 2 = 3+ V+ / 3- DATA / 4- GND.** WHITE = V+, GREEN = SPI DATA, BLACK = GND. **2+ and 4+ take no wire.** Function follows the pin, not the colour: same map on the NL8 trunk and on the NL8 to NL4 SPI Splitter (OUTPUT 1 = poles 1/2, OUTPUT 2 = poles 3/4). Verify colours on the jacket before terminating.