ChamSys

Inspiring Performance

SnakeSys range

SnakeSys B4   4 Universe Ethernet Interface
www.chamsys.co.uk

ACT
LINK

DMX IN
ACTIVE

POWER
INPUT 100-240VAC
50/60Hz

NETWORK   ADDRESS   USB   DMX INPUT
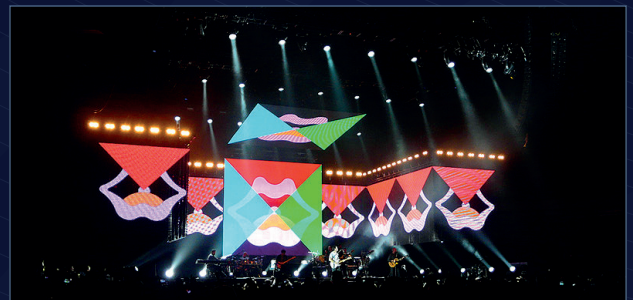
SnakeSys network products enable DMX data, media data and control data to be distributed throughout the lighting rig from control consoles to fixtures. SnakeSys products can be used with any lighting console or media server – they are independent of MagicQ products.

About SnakeSys products

Wherever possible, all components are mounted on a single circuit board to avoid the need for interconnecting cables. SnakeSys products are designed at a 'chip' level, rather than repackaging IT products.

SnakeSys products are designed and manufactured in the UK using quality electronic components, and are designed for reliability.

SnakeSys B4

Neutrik Ethercon connectors

SnakeSys products use professional locking Neutrik Ethercon connectors for all network connections, thus avoiding the limited lifetime associated with traditional RJ45 network plugs and sockets.

Neutrik Powercon connectors

SnakeSys products use professional locking Neutrik Powercon connectors for power input, ensuring a reliable power input. All SnakeSys products accept voltages from 90V to 250V AC without needing any changes.

In-built battery backup

Where appropriate, SnakeSys products have in-built battery backup to protect against unexpected power loss.

Supported protocols

SnakeSys products support Art-Net I, Art-Net II and Art-Net III, along with ACN Streaming DMX network protocols. The DMX512 ports are fully configurable with DMX packet length, framing rate, and timings. RDM support subject to firmware development.

Power over Ethernet

SnakeSys products support Power over Ethernet – the SnakeSys truss and box nodes can both be powered directly from the 1U rack nodes and switches using Power over Ethernet rather than from the mains – this reduces the number of cables in the system.

SnakeSys products support firmware updates over the network, enabling the products to be easily upgraded to support new features.

T2

The SnakeSys T2 is a rugged truss mountable two universe Ethernet to DMX converter with an in-built network switch supporting three separate DMX output sockets per universe.

Features

- Two universes
- Three 5-pin DMX output sockets per universe
- Four network ports
- Can be powered by Power over Ethernet
- LCD display and buttons for configuration
- RDM capability (subject to firmware development)
- Serial port connector – e.g. for connecting projectors
- Hook clamp fixable in three different orientations
- Omega clamp fixable in four different orientations

Specification

Network ports: 4

DMX universes: 2

DMX ports: 6 (three per universe)

Power input: 90-250V AC or PoE

Width: 187mm

Height: 70mm

Depth: 300mm

Weight: 2Kg

Configuration

Pressing the centre button activates the unit giving access to the menu systems. The configuration is stored within the unit. The front panel also includes a label area for marking up the box with a pen if required.

The SnakeSys T2 supports both Art-Net and ACN support, along with ChamNet to allow remote management over the network connection. When in ChamNet mode, the configuration data is stored on board, allowing the device to be restarted.

Supports Hook Clamp or Omega Clamp. Three mounting points for omega clamps allow the unit to support four different orientations for convenient mounting or hiding within set pieces.

Product Codes

0300-0045 SnakeSys T2 Truss Mount Two Universe Ethernet to DMX512 Interface. Comes with Hook Clamp. Omega clamp ordered separately.

The SnakeSys T2 includes a battery so that it can be configured even when there is no mains power, for example when prepping the lighting rig.

R4

A multi-purpose network distribution node, comprising DMX output ports, DMX input ports and multiple network ports in a 1U rack.

Features

- Art-Net and Streaming ACN support
- Power up to three SnakeSys T2s or B4s
- Management over network
- ChamNet mode with on-board storage of configuration date
- Network ports switchable as VLAN
- DMX bypass facility
- Individually isolated outputs
- Multiple SnakeSys R4 redundancy mode

Specification

Network ports: 5 (3 front PoE capable, 2 rear non-PoE)

DMX output ports: 4

DMX input ports: 4

Power input: 90 to 250VAC

Width: 483mm

Depth: 243mm

Height: 45mm

Weight: 2935g

The SnakeSys R4 is designed to be used on stage for Ethernet to DMX conversion, at front of house for DMX to Ethernet conversation, and in any other location that requires conversion between DMX and Ethernet or Ethernet switching.

Front of house

Ethercon

DMX in

Stage

to lights

DMX out
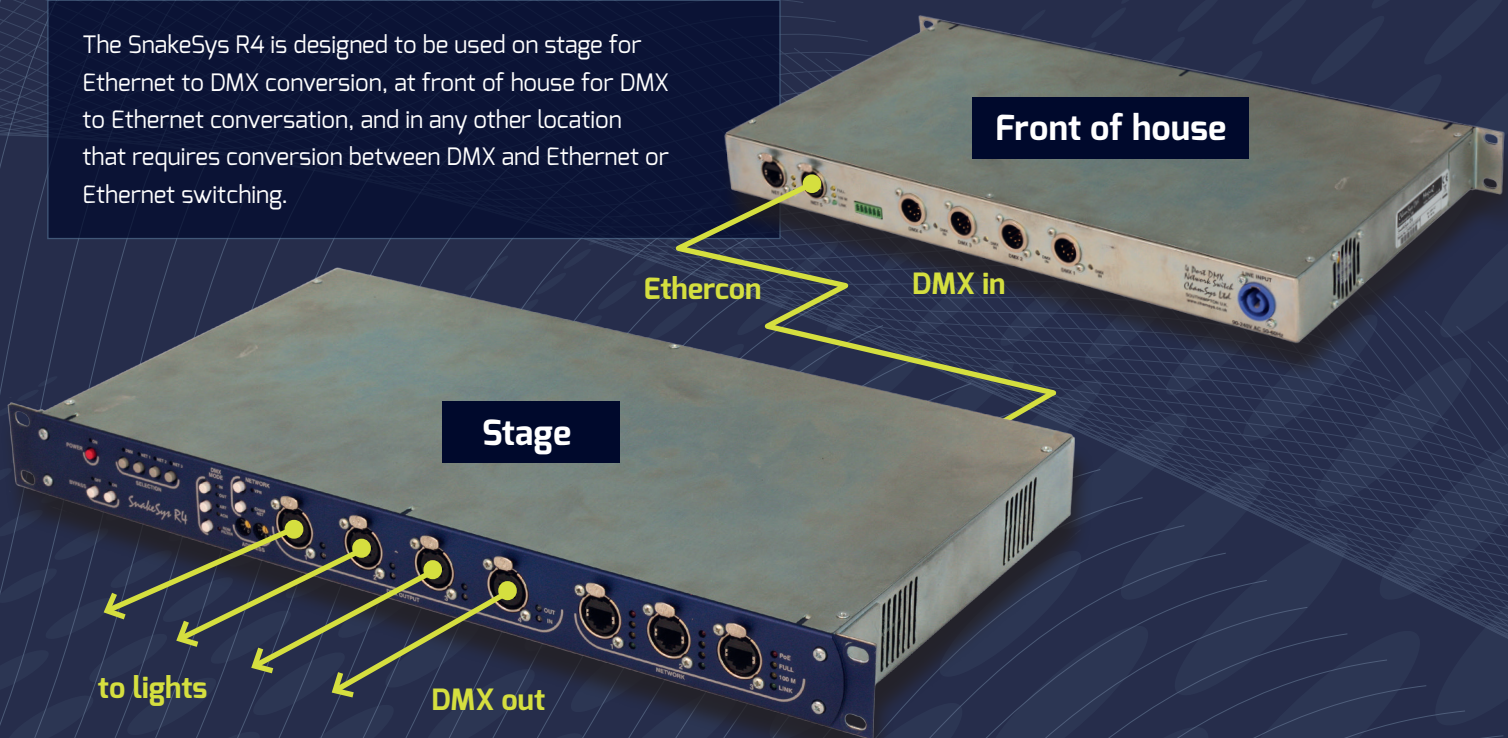
Product Codes

0300-0044 SnakeSys R4 Four Universe Rack Mount Ethernet to DMX512 Interface.

Using one SnakeSys R4 at front of house and one SnakeSys R4 at stage interconnected by a single CAT 5 network cable, the system provides four DMX lines and three independent network lines all over one cable.

- Powercon input
- UPS battery backup
- Three Ethercon network connections on front (all can supply Power over Ethernet)
- Two Ethercon network connections on rear

- Four 5-pin DMX output sockets on the front
- Four 5-pin DMX input sockets on the rear
- Full break detect on all four DMX inputs
- Two remote contact inputs
- Relays to automatically connect inputs to outputs in the event of a power failure

④ Enables DMX input/ network ports   **③**   **② DMX Output: to Lights**   **① Network: Console 1, 2 + 3**

Control

The front panel provides simple configuration using easy to operate switches with status LEDs.

① Physical enable/disable switch with link and activity LEDs for each network port

② Physical enable/disable switch for the DMX section with in and out LEDs for each port

The SnakeSys R4 stores the current state of all switches and internal configuration if powered down or restarted.

VLAN operation

- Selected from a switch on the front panel, **③** or when in ChamNet mode from MagicQ.
- Needs a SnakeSys R4 at each end, and the VLAN switch set on both.
- Each front panel network port operates independently of the others, providing a virtual network between the two SnakeSys R4 interfaces.
- Network traffic on Port 1 at one end transfers to Port 1 at the other, Port 2 to Port 2 and Port 3 to Port 3.
- CAT 5 cable overall bandwidth between the SnakeSys R4 units is shared between all 3 ports so no single port can hog the network.
- DMX section on each box is connected together – one box as input, the other as output giving 4 DMX links between the two boxes.

Network Selection

On the front panel there are 4 selection switches for enabling and disabling each of the three front network ports and the DMX sub-section. **④** Each of the four switches has a status LED to indicate enabled or disabled.

- Multiple lighting consoles or other equipment can be physically switched in or out of the network.
- Avoids the errors from physically unplugging network cables which can get lost or damaged.
- A network port is disabled at software level, the physical connection is maintained (shown by the LEDs), avoiding delays when the port is re-enabled.
- When the interface operates as Ethernet to DMX converter in output mode, the DMX control switch freezes the current state of the DMX output.

DMX Bypass/ Power Fail Relays

The DMX outputs are connected to the DMX inputs via relays. If the unit loses power then the inputs will automatically connect to the outputs so that the unit is bypassed. This allows mutiple units to be used giving a level of redundancy which is normally only available by using DMX switchers.

It is also possible to bypass the unit using the front panel bypass switch, or from MagicQ when in ChamNet mode.

B4

The SnakeSys B4 is a four universe DMX to Ethernet converter. It supports four DMX512 ports that are configurable as either inputs or outputs and one DMX port that is always assigned as an input.

Features

Four DMX512 ports via female 5-pin XLR

One DMX512 dedicated input port via male 5-pin XLR

Art-Net, ACN Streaming DMX

Can be powered by Power over Ethernet

Isolated outputs

Art-Net subnet and universe selection via rotary switches

ChamNet remote configuration

Power, network and protocol status LEDs

Individual output status LEDs

Specification

Input voltage: 90 to 250V AC

Width: 168mm

Depth: 164mm

Height: 60mm

Weight: 861g

Configuration

The SnakeSys B4 is a four universe DMX to Ethernet converter. It supports four DMX512 ports that are configurable as either inputs or outputs and one DMX port that is always assigned as an input. The SnakeSys B4 is designed as a multi purpose box to be used in places where a small portable Ethernet to DMX conversion solution is required.

The SnakeSys B4 can be configured from the front panel using a 4-way DIP switch, and 2 rotary switches. Alternatively the interface can be set to ChamNet mode, where the SnakeSys B4 is configurable from a MagicQ console.

In addition the SnakeSys B4 can operate in a non-network mode as a simple four port DMX buffer. Multiple SnakeSys B4s can be used on a single network, either configured directly from the unit or by using ChamNet control from a MagicQ console. Multiple SnakeSys B4s can be syncronised together.

The SnakeSys B4 is designed as a multi purpose box to be used in places where a small portable Ethernet to DMX conversion solution is required.

Product Codes

0300-0037 SnakeSys B4 Four Universe Ethernet to DMX512 Box.

R8

An eight universe Ethernet to DMX converter in a 1U rack. It supports eight DMX512 ports that are fully configurable as either inputs or outputs. It also features dual Neutrik Ethercon network ports.

Features

- Universal Ethernet to DMX interface
- Eight DMX512 ports, configurable as outputs or inputs
- Dual Ethernet ports
- Art-Net and ACN Streaming DMX
- OLED display with multi-switch selection
- ChamNet remote configuration
- Stand alone DMX buffer mode

Specification

Network ports: 2

DMX ports: 8

Power input: 90 to 250 VAC

Width: 480mm

Depth: 121mm

Height: 44mm

Weight: 1.8kg

The SnakeSys R8 is designed to be used on shows where large numbers of universes are in use and there is a need to convert to and from DMX. It provides the ability to easily switch between different Ethernet or DMX sources.

Configuration

The SnakeSys R8 uses a simple but powerful Ethernet to DMX engine, based on a custom designed FPGA hardware logic. This ensures maximum performance and reliability – it is truly designed from the ground up for the task. It avoids the complexity and unreliability of other designs based around PC hardware or microprocessor boards. DMX processing is carried out within the FPGA logic.

The SnakeSys R8 can be configured over the network from MagicQ via the ChamNet protocol.

The SnakeSys R8 ports can be configured individually. In addition, the R8 supports in-built standard configurations, including:

- All Art-Net Output (Art-Net 0–7)
- All Art-Net Input (Art-Net 0–7)
- All ACN Output (Universe 1–8)
- All ACN Input (Universe 1–8)

Product Codes

0300-0046 SnakeSys R8 Eight Universe Rack Mount Ethernet to DMX512 Interface.

ChamSys

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Typical configuration. SnakeSys R4 powering SnakeSys B4 and SnakeSys T2s, remotely configured by MagicQ console via the ChamNet protocol.