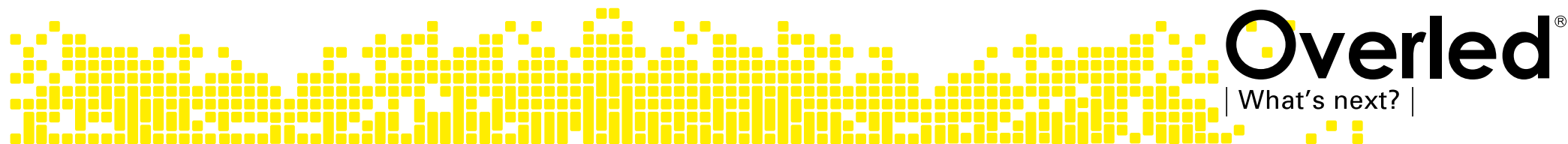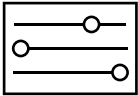Art Net node to DMX/RDM converter, con 16 canali di uscita DMX optoisolati e dotati di protezione fino a 300vac contro errori di collegamento senza che siano causati guasti al dispositivo. Ogni singola uscita è isolata fino a 2500V, e 4000V rispetto l'ingresso di alimentazione. Ogni modulo Capybara Family è dotato di connettori XLR a 5 pin per la connessione del DMX,è disponibile anche la versione con RJ45-8 come optional. Questo dispositivo è dotato di 3 commutatori per impostazione ultimo valore Ipv4 manualmente, mentre l'IP si assegna tramite comandi ART NET. Ogni uscita DMX è anche dotata di Led RGB che indica i vari stati operativi del singolo universe. E' possibile impostare una variante del DMX a DMX plus, dove il baud rate arriva fino a 500kbps contro i 250kbps del DMX standard, questo permette di avere almeno 60fps per universo. Un pulsante per ogni universe attiva le funzioni di autopatching e di auto show, molto utile in fase di installazione.Capybara Family è anche in grado di registrare tutti e 16 universe nella SD fino al massimo di 4Gbyte, e di richiamare le registrazioni, quindi gli show tramite comandi art net di associarli allo scheduler orario integrato e di richiamarli tramite ingressi digitali associati agli show. Quattro uscite a relè permettono di attivare eventuali dispositivi da comando ART NET, come per esempio alimentazione all'impianto controllato o altro. Aggiornamenti del firmware sono possibili tramite USB,e software di set up scaricabile da Overled.eu Capybara Family è progettato con tecnologie a microcontrollore Embedded,quindi con tempi di boot all'accensione estremamente rapidi. L' hardware estremamente affidabile è progettato per lavorare in ambienti gravosi h24 per 365 giorni anno.

Art Net node to DMX / RDM converter, with 16 DMX output channels optoisolated and equipped with protection up to 300vac against connection errors without having caused damage to the device. Each output is isolated up to 2500V, and 4000V respect to the power supply. Each DMX universe module is equipped with 5-pin XLR connectors for DMX connection, the version with RJ45-8 is also available as an option. This device has three switches for setting last IPv4 value manually, while the IP is assigned by ART NET commands. Every DMX universe is also equipped with RGB LED that indicates different states of the individual operating universe. A DMX DMX plus variant, where the baud rate is up to 500kbps 250kbps against the standard DMX, this allows to have at least 60fps universe. A pushbutton for each universe activates the autopatching features and auto show, very useful during installation.Capybara Family is also capable of recording all 16 universe in SD up to maximum of 4Gbyte, and recall records, so show through art net commands to associate them to the integrated scheduler or retrieval via digital inputs associated with the show. Four relay outputs are used to activate any command from ART NET devices, such as power to the system controlled or otherwise. Firmware upgrades are possible via USB, and set-up software on Capybara Family is designed with embedded microcontroller technology, so bootstrap at power on is very low.

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| What's next? |

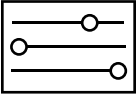|	Min.	Typ.	Max.
Power supply:	12vdc	24vdc	48vdc
Power consumption	8W	6W	4W
System Boot Time at power on	1 Sec.	1,2 Sec.	1,4 Sec.
DMX protection against voltage input	8Vdc/ac	230Vdc/ac	300Vdc/ac
DMX USITT512 - 33fps 250kbit		optoinsulated	
DMX + 60 fps 500kbit		Compatible	
Universe DMX	1		16
Autopatching with DDS DMX Driver			
Show Recorder SD Memory	2Gb		32Gb
RDM 2.0		Compatible	
Ethernet Port 10-100Mb			
USB micro for firmware up load			
Relay output maximum current @ 24vdc resistive load 300mA			600mA
Digital input current consumption @ 24vdc	10mA	15mA	22mA
Max DMX controlled Device per Universe recommended	1		32

environmental

operating temperature: -10° to +54°C

Storage temperature: Tst -20° to +85°

Case temperature: Tc +65°

TC

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| What's next? |

DMX output universe 1

MSB digit

LSB digit

IPV4 Setting x.x.x.N

DMX connector

Autopatching PushButton

RGB led status indicator

IPV4 setting x.x.x.N Contravers:

The contraves (on the left side of the front panel) allows setting the least significant byte of the device's IP address.
The remaining three most significant bytes can be programmed by ArtNet Protocol.

Example: Device's IP is 10.0.0.XXX; the upper side contraves is set on '1'; the middle contraves is set on '9'; the low side contraves is set on '2'. The resulting IP Address will be 10.0.0.192.

When a contraves setting is changed, the RGB leds will display the corresponding binary value: a set bit is indicated by BLUE; a reset bit is indicated by a weak grey.
The new IP address is accepted when the described bitmap disappears fron the leds.
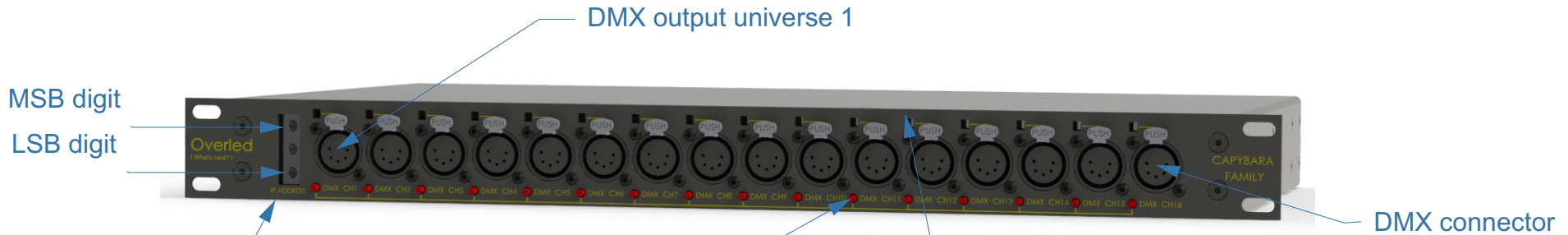
Autopatching and PlayButtons:

If an sd-card with a recorded sequence is inserted in the slot, pressing the first button (channel one,left most) for at least 2 seconds will start the Playback.The channels involved will depend on the data recorded in the sd-card.To exit Playback mode, shortly press the first button again.

Pressing a button for at least 5 seconds enters the DMX Test mode for the associated channel. While in DMX Test mode, ArtNet data is ignored. An RGBW sequence is output instead.If an sd-card is present and the button is the first one, the playback will start first, then the channel will switch to Test mode.To exit the DMX Test mode, press the button shortly.Pressing a button for at least 10 seconds activates the AutoPatch mode for the associated channel.Addressable devices (such as DDS859) connected to the channel will auto-address and auto-setup.When the AutoPatch procedure completes, the channel enters the DMX Test mode for 1 minute.To start DMX Test or AutoPatch on multple channel at once, press the button of the first desired channel and the button of the last desired channel simultaneously.

Panel's RGB led colors:

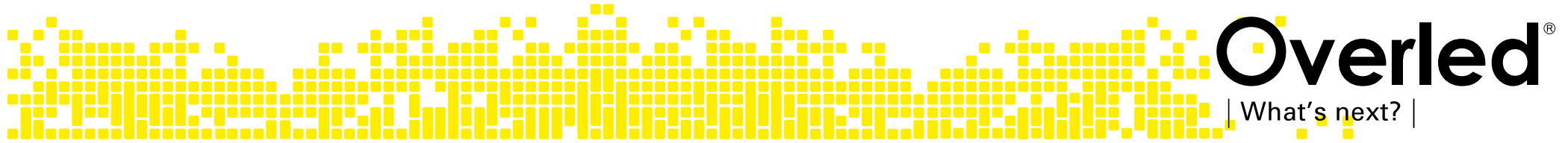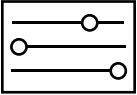|	
Flashing Light Red:	No data for this Universe: internally generated DMX framerate;
Flashing Light Green:	ArtNet data is being received and processed for this Universe;
Solid Light Red:	No data for this Universe, sd-card PLAY / REC in progress;
Solid Bright Red:	The associated button is pressed;
Flashing Magenta:	ArtNet data is being received and recorded to sd-card;
Flashing Cyan:	Data is played back from sd-card;
Solid Blue:	ArtNet data has been received and awaits to be processed in sync;
Solid Yellow:	DMX Test Pattern is being generated for this channel;
Solid Cold White:	AutoPatching in Progress on this channel;
Blink White:	RDM packets are being received on this channel.

Boot:

When the power is applied, the rightmost led will show a multicolor shade. This happens while the system is booting or during firmware upgrade.
If the device stands in this condition undefinitely, the firmware is missing.

Pin	DMX Connector
1	Negative GND or Shield
2	Negative signal DMX - B
3	Positive signal DMX + A

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| What's next? |

Power supply connector max 15W 24-48vdc

Pin	Power supply Connector
1	Negative power supply GND
2	Positive supply 24-48vdc 15W max

Input output connector

Pin	Input output Connector
1	GND input common
2	Input 1 +24vdc sensitive 15mA
3	Input 2 +24vdc sensitive 15mA
4	Input 3 +24vdc sensitive 15mA
5	Input 4 +24vdc sensitive 15 mA
6	Output 4 relay NO max 0.6 A @ 24vdc
7	Output 3 relay NO max 0.6A @ 24vdc
8	Output 2 relay NO max 0.6A @ 24vdc
9	Output 1 relay NO max 0.6A @ 24vdc
10	Relay Common

SD memory card show recording

Can BUS

USB host

Ethernet for ART NET

Art Net command Reading and Writing input and output
 UDP packed to send thru ArtNet port in node default (default 6454), 6 bytes:

```
[0]        00        MSB command len
[1]        04        LSB command len
[2]        D2        'JOB_CAPYREMOTECONTROL'  opcode
[3]        04        'CAPY_SETAUTOPATCHPARAM' subcommand
[4]        xx        Bitmap valid data byte  (if bit = zero,relay stay stable)
[5]        xx        Bitmap new state relay (d0 = RELAY1, d1 = REL.2, d2 = REL.3, d3 = REL.4)
```

Answer (7 bytes):

```
[0]        00        MSB command len
[1]        05        LSB command len
[2]        D3        'JOB_CAPYREMOTECONTROL_RESPONSE' opcode
[3]        04        'CAPY_SETAUTOPATCHPARAM' subcommand
[4]        xx        Relay status (bitmap as before)
[5]        xx        Input status (d0 = IN1, d1 = IN2, d2 = IN3, d3 = In4)
[6]        xx        Contraves Status on-board (0-9) IP setting N
```
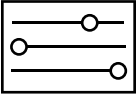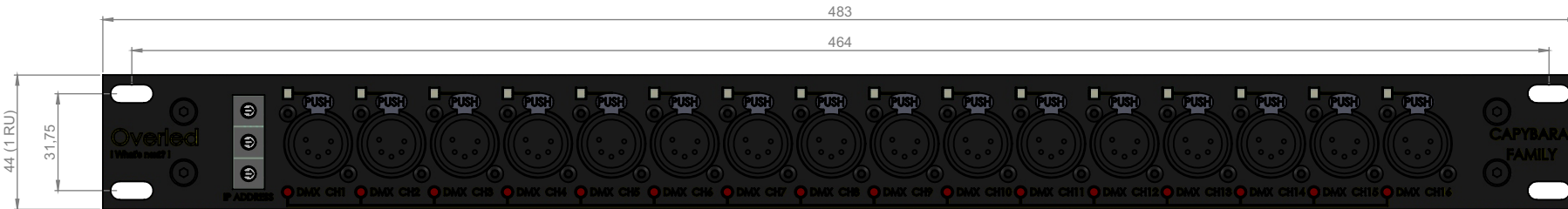
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| What's next? |

C I I I I O O O O C
1 1 2 3 4 4 3 2 1 0

12-48

POWER SUPPLY   DIGITAL I/O

MICRO SD   CAN BUS   USB HOST   MICRO USB   ETHERNET

483

464

44 (1 RU)

31,75

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| What's next? |

IP ADDRESS

PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH PUSH

DMX CH1 DMX CH2 DMX CH3 DMX CH4 DMX CH5 DMX CH6 DMX CH7 DMX CH8 DMX CH9 DMX CH10 DMX CH11 DMX CH12 DMX CH13 DMX CH14 DMX CH15 DMX CH16

CAPYBARA
FAMILY

298

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| What's next? |

Capybara Family

Main layout Computer data center with fiber optic BUS recomended

Main computer

Ethernet patch cord

HP SWITCH 1920-16

SFP interface

SFP Hp x121

Fiber optic main 1

Fiber optic main 2

Fiber optic main 3

Fiber optic main 4

Multimode Fiber optic
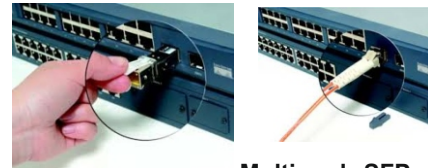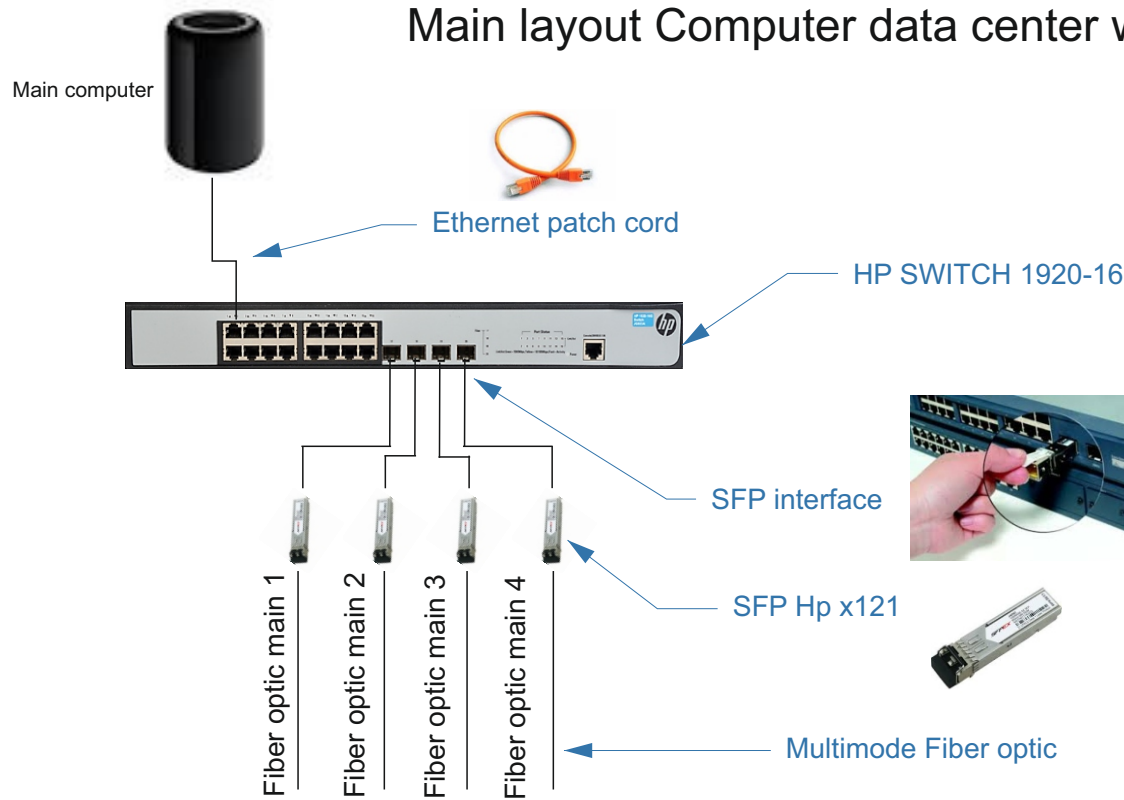
Multimode SFP
Multi-mode fiber (MMF) uses a much bigger core and usually uses a longer wavelength of light. Because of this, the optics used in MMF have a higher capability to gather light from the laser. In practical terms, this means the optics are cheaper. The common multimode SFPs (MMF SFPs) work in 850nm wavelength and is only used for short distance transmission reaching 100m and 500m. Though it's not able to transport for long distance, it can transport many kind of optical signals. Their color coded bale clasp and color arrow on label are black and the used fiber optic patch cord is usually orange.

Buffer/jacket color	Meanings
Yellow	Single-mode optical fiber
Orange	Multi-mode optical fiber
Aqua	10 Gig laser-optimized 50/125 μm MM optical fiber
Grey	Outdated color code for MM optical fiber
Blue	Sometimes used to designate Polarization-Maintaining optical fiber

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| What's next? |

FROM Fiber optic main 1   TO Fiber optic main 1 network

Main layout of 1st Main fiber optic BUS

SFP Hp x121

HP SWITCH 1920-16

Rj45 Ethernet plug

ART NET to 16 DMX universe

ART NET to 16 DMX universe

Up to 16 ART NET module for each Switch

DMX CONNECTOR

1   5
2   4
  3

XLR DMX 5 pole MALE connector

Shielded twisted pair 120 ohm balanced cable

Data + A
Data - B
DMX Shield

Shield = GND   Twisted pair
Data (+)   Data (-)

To luminaire, max 32 phisical devices per Universe.The cable

To luminaire, max 32 phisical devices per Universe.The cable

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| What's next? |