

Outdoor Pixel-Router

User Guide



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Version October 2017: All technical data and the weight and dimension information were carefully created – errors reserved. Any colour deviations are printing-related.

We reserve the right to make changes that serve further improvement.

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Overview

The Outdoor Pixel-Router is a high-performance Ethernet-DPB-converter that is the ideal solution for supplying LED systems in outdoor areas with electricity and control data. It is especially suited for combining Outdoor Profiles from Schnick-Schnack-Systems.

The Outdoor Pixel-Router incorporates everything that is essential for an optimal outdoor permanent installation without being weighted down with redundancies; for example, it functions without DMX inputs, buttons and displays.

More than 11 years of experience in the field of "Video to LED Ethernet" has gone into the current technology-based design. The Outdoor Pixel-Router is therefore equipped with an optimized Video to LED circuitry that can process handle large quantities of data extremely quickly. It is one of the few devices on the market that can handle Ethernet bursts with more than 250 universes. What's more, it has an optimized multi-tasking, real-time operating system that processes and transmits video data synchronously and latency free. Its Ethernet hardware can accept large volumes of data and redirect to the processor without any delays. In this way, loss of data packages is prevented or data is not stored too long unnecessarily. Furthermore, The DPB interfaces are also synchronized. This therefore effectively prevents time lags that are especially noticeable and annoying in LED installations.

The Outdoor Pixel-Router is compatible with the protocols sACN, Art-Net™ and Schnicknet.

Thanks to an integrated HTML 5.0 webserver, the router can be completely configured remotely. The use of any specific software is not necessary, which is particularly important for long-standing, permanent installations.

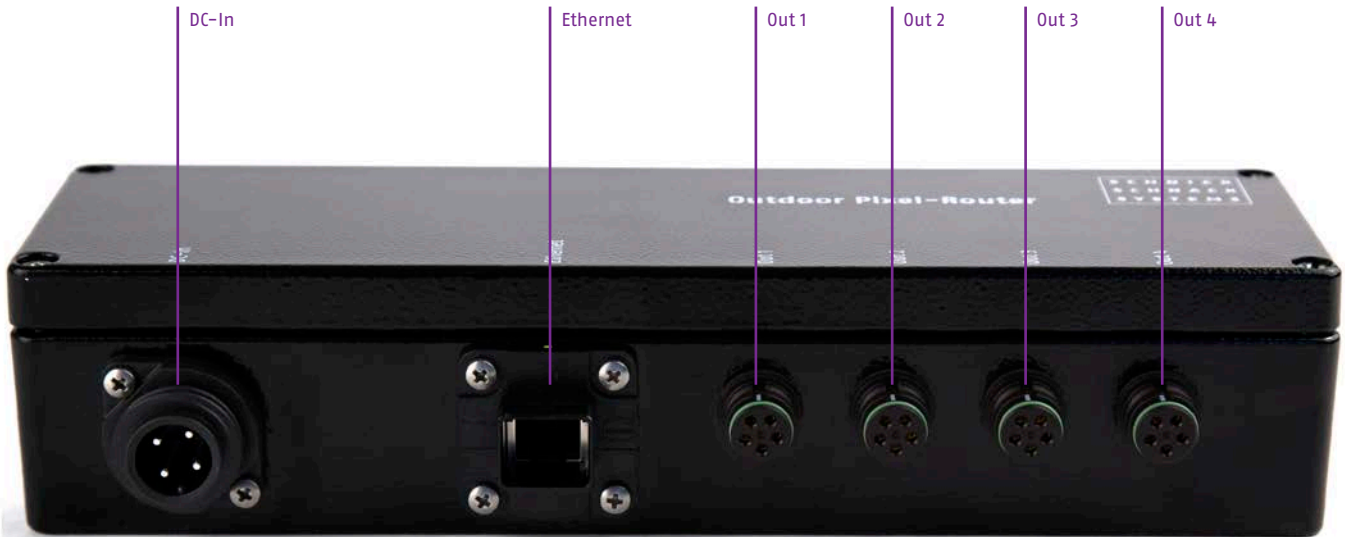
The very small, compact device can find a place in any application and is mounted with screws. The cabling effort is minimal. Up to four LED strands at 72 Watts each can be plugged into the Router with the IP connectors. Outside of a 320-Watt power supply* and an Ethernet cable, no other cabling is needed. XLR cables, XLR adapter boxes and return lines are omitted.

The Outdoor Pixel-Router is available in a 4 × 3A version and two 4 × 5A versions with one or two DC voltage inputs and also has a waterproof casing and plug. (IP 65)

*600 Watt power supply for version 5A

Connectivity

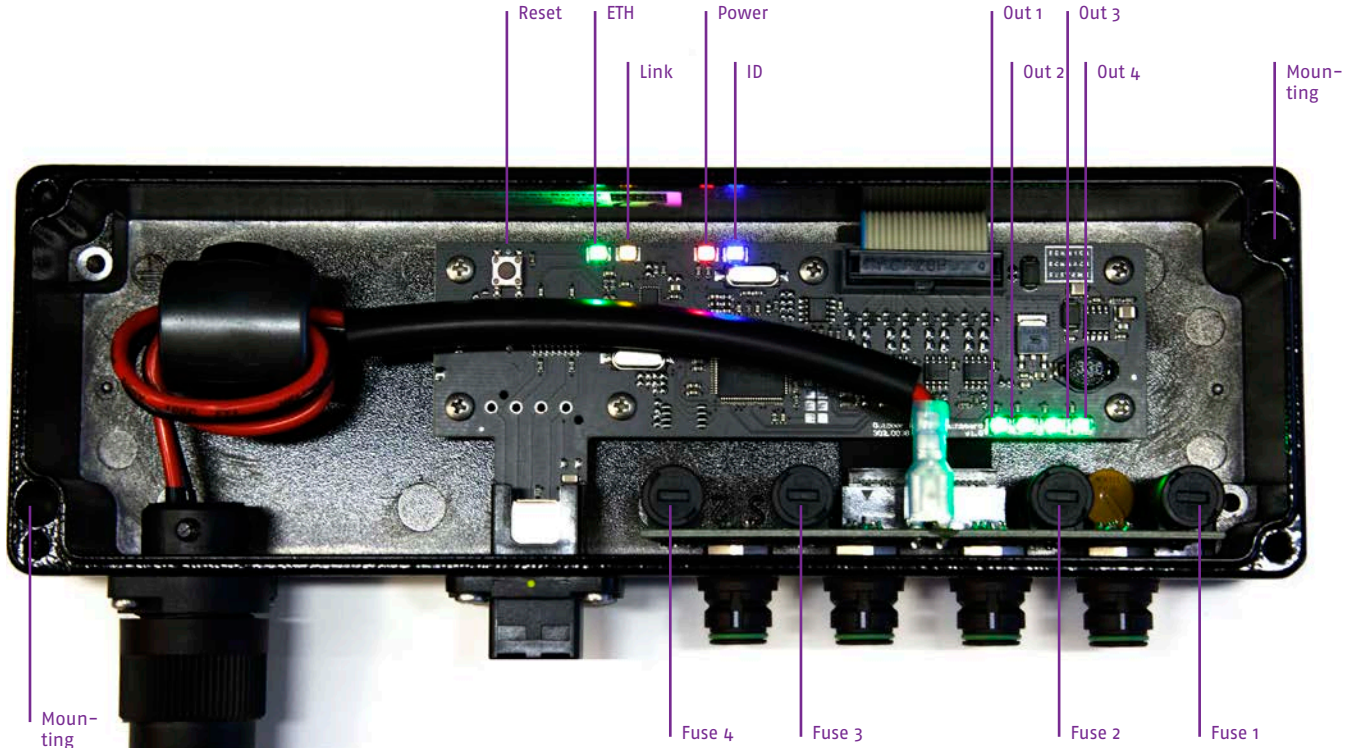
You can find the following connection options on the device:



DMX in-and outputs	Binder-5pin (4 × 3A or 4 × 5A, 24V)
Ethernet Input	Harting CAT5 built-in couplers IP 67
DC-In	24V connection, Binder cable socket (3pin + PE) Series 692/693

Menu/Display

In the inside of the device you can find the following Status-LEDs:



ID	Lights up blue when the search/highlight function is activated in the web server	Link	Lights up yellow when data is being received
Power	Lights up red when hooked up to electricity	Out 1-4	Lights up green when a DMX signal for the corresponding output is received and transmitted
ETH	Lights up green when a physical Ethernet connection exists	Fuse 1-4	Fine wire fuse

Reset

To restart the device, briefly press the reset button. If you hold the reset button longer than five seconds, the device will automatically return to the factory settings and starts new. (Power LED blinks) When you press the reset button for longer than 15 seconds, the factory settings as well as the IP settings will be reset and the device starts anew.

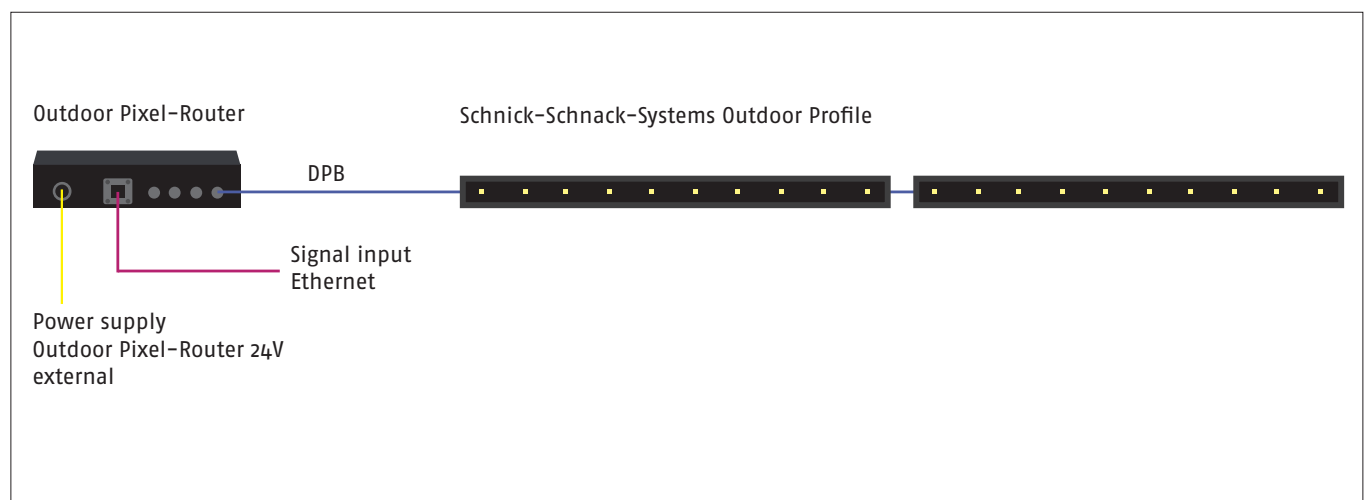
System Start Up

Check the device immediately after unpacking for any damage that might have occurred during transit. A damaged unit must not be put into operation.

Never clean the device with aggressive cleaning agents. For cleaning purposes, the wiping of the device with a moist cloth is sufficient. In the case of stubborn dirt, a mild cleanser may be used.

The mounting holes are accessible once you open the cover.

Cabling



To access the webserver

Step 1

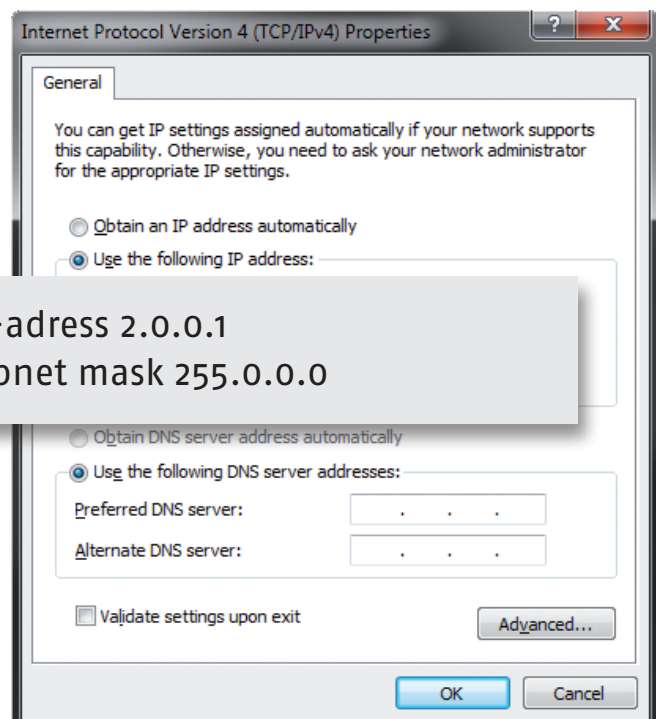
Connect the PC to the Outdoor Pixel-Router by using a network cable.



Step 2

Configure the network card on Art-Net.

Caution: please note previous settings so they can be re-entered later.



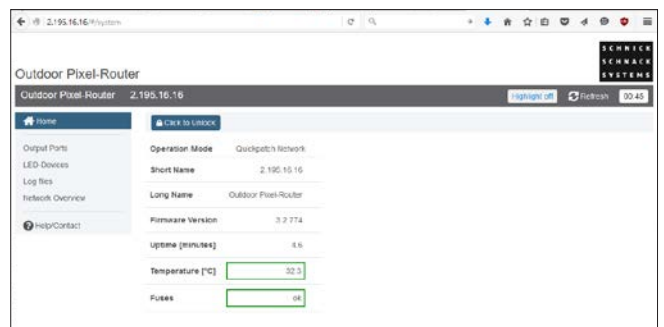
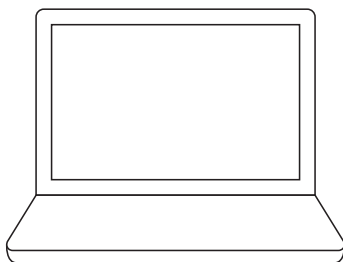
Step 3

Find the IP address on the side of the device.



Step 4

Enter the IP address into the browser.



Webserver settings

Homepage

The screenshot shows the web interface for an Outdoor Pixel-Router. The page title is "Outdoor Pixel-Router" and the IP address is "2.195.16.16". The interface includes a navigation menu on the left with options like "Home", "Output Ports", "LED-Devices", "Log files", "Network Overview", and "Help/Contact". A "Click to Unlock" button is visible at the top. The main content area displays the following data:

Operation Mode	Quickpatch Network
Short Name	2.195.16.16
Long Name	Outdoor Pixel-Router
Firmware Version	3.2.774
Uptime [minutes]	4.6
Temperature [°C]	32.3
Fuses	ok

Additional interface elements include a "Highlight off" button, a "Refresh" button, and a timer showing "00:45". The Schnick-Schnack-Systems logo is in the top right corner.

This is where the Outdoor Pixel-Router's basic data is displayed.

Highlight off/on: when switching the Highlight on, the blue ID-LED lights up on the Router. With the help of the Highlight-Buttons, especially for larger installations, the device can detect that it's being configured via the web server.

By clicking on „Click to unlock“ you can change the **Operation Mode** as well as the **name of the Router**.

Outdoor Pixel-Router 2.195.16.16 Highlight off Refresh 00:54

Home Click to Lock

Output Ports
LED-Devices
Log files
Network Overview
Help/Contact

Operation Mode

Short Name

Long Name

Firmware Version 3.2.774

Uptime [minutes] 4.6

Temperature [°C]

Fuses

Operation Mode

The following modes are available for your use:

QuickPatch Network

The QuickPatch Network Mode offers the possibility to handle several universes and to allocate outputs for the universes and start addresses.

Manual RGB

In this menu item it's possible to choose a colour for all output channels in a very easy manner.

Demo Fast/Demo Slow

In this mode, all connected RGB lights show a repetitive, predetermined colour change. The two modes only differ in their throughput speed.

Update

New software versions keep products up to date and are available upon request.

Click „Click to save changes“ in order store changes.

Short Name/Long Name

In this field, you can give the Outdoor Pixel-Router an individual name.

The names are show in the grey list making it easier to identify the different Routers.

They will also be displayed in the network overview as well as by some Art-Net capable devices or software tools.

Note: When the Router is delivered it is in Demo Mode (continuous colour gradient) on all four outputs.

When selecting the QuickPatch Network for the first time, the Combine Modes for all four outputs are on ALL (all LEDs are controlled through three DMX channels). If you want to control individual pixels, please set the Combine Mode to OFF. (No combinations)

Output Ports

Under the menu item „**Output Ports**“, you can find the overview of the power supply outputs. This is where you can set the Output Mode, the maximum data speed of the Colour Gain and the Combine Mode.

Output Mode

Switching the transfer protocol between DMX 512 and DPB. The mode can be freely selected for each output.

Max. Data Speed

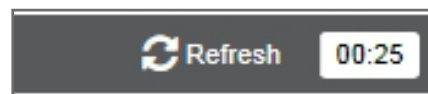
The following data speeds are available: 250kBit, 500kBit, 1MBit, 1,5MBit, 3MBit. This setting only has an impact in Mode DPB. The maximum speed on one port can be limited through this setting in order to enable a better transmission on poor lines. Please be aware that this will reduce the data throughput and depending on the number of connected devices not all of the received data can be carried on in its same volume and rate.

Colour Gain

This function enables the darkening of the colour channels red, green and blue. This function is deactivated at 255.

Combine Mode

A complete overview of the different possible repetitions and combinations for the system can be found on page 18.



Refresh

The page is reloaded and any changes that have not been saved will be lost.

LED-Devices

The screenshot displays the 'Outdoor Pixel-Router' web interface. The top navigation bar includes the router name and IP address (2.195.16.16), along with 'Highlight on', 'Refresh', and a timer (00:26). The left sidebar contains navigation options: Home, Output Ports, LED-Devices (selected), Log files, Network Overview, and Help/Contact. The main content area is divided into four columns for OUT 1, OUT 2, OUT 3, and OUT 4. Under OUT 1, a device '1 Streifen C25-250' is listed with the following specifications:

LEDs RGB	10
Max Current [mA]	250
CPU Temperature [°C]	29.10
Voltage [V]	26.1
Voltage LED [V]	4.35
Device version	3.2.61
Serial	0
Calibration load status	ok
LED error	ok
LED driver temperature	ok

A 'Hide details' button is located at the bottom of the device information panel.

On this page all connected, Generation-3 compatible LED products are listed. Available information on each product is displayed. This includes type and nature of the product, as well as status information such as temperature and voltage.

If the Output Mode of the output is set to DMX then information will not be available.

Products from the L and B series, as well as LED components designated as MKI cannot be displayed.

Log files

Outdoor Pixel-Router 2.195.16.16

SCHNICK
SCHNACK
SYSTEMS

Highlight on Refresh 00:06

all info **warning** error fatal filter

Download as text file

0.001 WARNING main.c [88]: BOR Reset detected.

Current time is: 390.381

Home
Output Ports
LED-Devices
Log files
Network Overview
Help/Contact

Service page for error analysis.

The processes in the Router will be logged making error analysis easier if applicable.

The log data can be downloaded as a text file if required via "Download as". The log data will be lost in the case of re-starting or loss of power and as of that moment will be newly logged.

Network Overview


The screenshot shows the 'Network Overview' page of the Outdoor Pixel-Router web interface. The page title is 'Outdoor Pixel-Router' and the current IP address is '2.195.16.16'. The interface includes a navigation menu on the left with options: Home, Output Ports, LED-Devices, Log files, Network Overview (selected), and Help/Contact. The main content area displays a table of network devices. The table has columns for IP Address, Type, Short Name, Long Name, and Universes (Out 1, Out 2, Out 3, Out 4). A single device is listed with IP address 2.195.28.124, Type 'Outdoor Pixel-Router', Short Name '2.195.28.124', Long Name 'Outdoor Pixel-Router', and Universes (Out 1: 0, Out 2: 1, Out 3: 2, Out 4: 3). The interface also features a 'Highlight on' button, a 'Refresh' button, and a timer showing '00:04'. The SCHNICK SCHNACK SYSTEMS logo is visible in the top right corner.

	IP Address	Type	Short Name	Long Name	Universes			
					Out 1	Out 2	Out 3	Out 4
1	2.195.28.124	Outdoor Pixel-Router	2.195.28.124	Outdoor Pixel-Router	0	1	2	3

This page clearly lists all Outdoor Pixel-Routers that can be found in the same network. Clicking on the the IP address takes you to the website of the respective device.

The list can be sorted by clicking on the respective column heading, for example, according to IP address or Short-Name.

Help/Contact



Outdoor Pixel-Router 2.195.16.16Highlight on Refresh 00:04

- Home
- Output Ports
- LED-Devices
- Log files
- Network Overview
- Help/Contact**

Help

You have technical problems with your system or any questions about this power supply? Please call us in Cologne or write us an email - Our technical support will help you!

Phone: +49 (0) 22 1/99 20 19 0
Opening hours: Monday to Friday from 9 a.m. - 6 p.m. Central Europe Time (UTC+01)
Email: info@schnickschnacksystems.com

We offer you the opportunity to create a diagnostic file and to send it by email to our support.

Push the following button, download the file and send it to info@schnickschnacksystems.com. Don't forget to add a short description of your technical problem and your application!

[Download support File](#)

Manufacturer Contact

Schnick-Schnack-Systems GmbH
Matthias-Brüggem-Straße 79
50829 Köln
Telefon: +49 221/99 20 19-0
Fax: +49 221/16 85 09-73

Log files to be used for error analysis can be downloaded with the "Download Support File" button.

Technical Data

Dimensions	250 × 54 × 80 mm (W×H×D)
Operating voltage	DC 24V
Power consumption	3,2W own usage
Mains connection	Binder cable socket (3pin + PE) Series 692/693
Protocol	DPB, DMX 512 A-1990 USITT
Output	IP67 cable socket binder Series 720
Network input	Harting CAT5 coupling IP 67
Network protocol	Art-Net™, Schnicknet, sACN (ANSII)
LED Outputs 1-4	Binder-5pin
Weight	0,93kg

Pin assignment

Binder cable socket (3pin + PE) Series 692/693

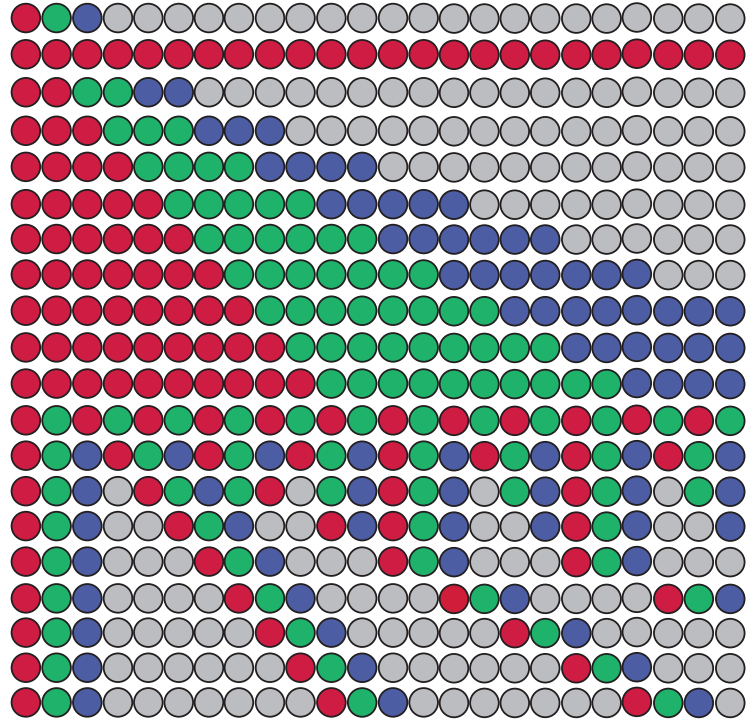
1	2
Data GND	24V

Binder-5pin

1	2	3	4	Case
GND	Data-	Data+	+24V	n/a

Combine and Repeat Modes for QuickPatch Network Combine Mode

- OFF: no combine
- ALL: all LEDs are steered by three DMX channels
- C2: always two LEDs are interconnected
- C3: always three LEDs are interconnected
- C4: always four LEDs are interconnected
- C5: always five LEDs are interconnected
- C6: always six LEDs are interconnected
- C7: always seven LEDs are interconnected
- C8: always eight LEDs are interconnected
- C9: always nine LEDs are interconnected
- C10: always ten LEDs are interconnected
- R2: each second LED is interconnected
- R3: each third LED is interconnected
- R4: each fourth LED is interconnected
- R5: each fifth LED is interconnected
- R6: each sixth LED is interconnected
- R7: each seventh LED is interconnected
- R8: each eighth LED is interconnected
- R9: each ninth LED is interconnected
- R10: each tenth LED is interconnected

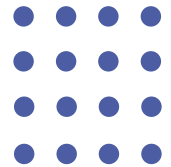


Extract of the Combine and Repeat Modes as Overview – Switchable to C99 and R99

Combine and Repeat Modes C16 and C64

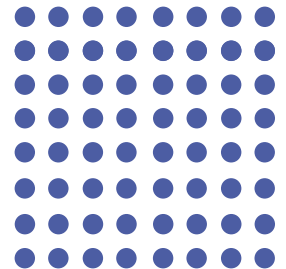
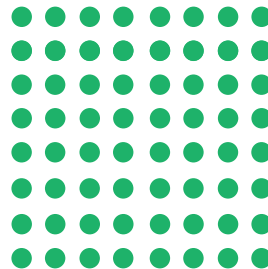
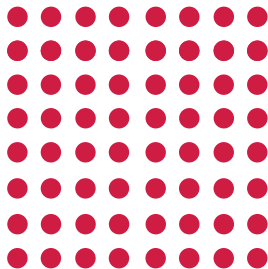
C16

- for LED-Tile C50
- for LED-Panels C60-50



C64

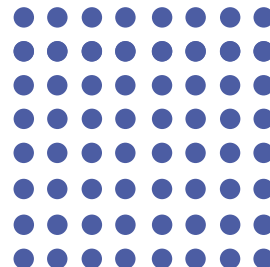
- for LED-Tile C25
- for LED-Panels C60-25



Combine and Repeat Modes Combine Device (CD)

Only for DPB

The Combine Mode CD allows you to combine different DPB Products, because it realizes how much channels a LED product requires: for example, the LED-Tile C25 (64 LEDs) and the LED-Strip C25-250 (10 LEDs). The products are controlled like the **Combine Mode ALL** (all LEDs are controlled by three DMX channels).



Conversion table Art-Net Universes

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
0	0	0	1
0	1	1	2
0	2	2	3
0	3	3	4
0	4	4	5
0	5	5	6
0	6	6	7
0	7	7	8
0	8	8	9
0	9	9	10
0	A	10	11
0	B	11	12
0	C	12	13
0	D	13	14
0	E	14	15
0	F	15	16
1	0	16	17
1	1	17	18
1	2	18	19
1	3	19	20
1	4	20	21
1	5	21	22
1	6	22	23
1	7	23	24
1	8	24	25
1	9	25	26
1	A	26	27
1	B	27	28
1	C	28	29
1	D	29	30
1	E	30	31
1	F	31	32
2	0	32	33
2	1	33	34
2	2	34	35
2	3	35	36
2	4	36	37
2	5	37	38
2	6	38	39

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
2	7	39	40
2	8	40	41
2	9	41	42
2	A	42	43
2	B	43	44
2	C	44	45
2	D	45	46
2	E	46	47
2	F	47	48
3	0	48	49
3	1	49	50
3	2	50	51
3	3	51	52
3	4	52	53
3	5	53	54
3	6	54	55
3	7	55	56
3	8	56	57
3	9	57	58
3	A	58	59
3	B	59	60
3	C	60	61
3	D	61	62
3	E	62	63
3	F	63	64
4	0	64	65
4	1	65	66
4	2	66	67
4	3	67	68
4	4	68	69
4	5	69	70
4	6	70	71
4	7	71	72
4	8	72	73
4	9	73	74
4	A	74	75
4	B	75	76
4	C	76	77
4	D	77	78

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
4	E	78	79
4	F	79	80
5	0	80	81
5	1	81	82
5	2	82	83
5	3	83	84
5	4	84	85
5	5	85	86
5	6	86	87
5	7	87	88
5	8	88	89
5	9	89	90
5	A	90	91
5	B	91	92
5	C	92	93
5	D	93	94
5	E	94	95
5	F	95	96
6	0	96	97
6	1	97	98
6	2	98	99
6	3	99	100
6	4	100	101
6	5	101	102
6	6	102	103
6	7	103	104
6	8	104	105
6	9	105	106
6	A	106	107
6	B	107	108
6	C	108	109
6	D	109	110
6	E	110	111
6	F	111	112
7	0	112	113
7	1	113	114
7	2	114	115
7	3	115	116
7	4	116	117

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
7	5	117	118
7	6	118	119
7	7	119	120
7	8	120	121
7	9	121	122
7	A	122	123
7	B	123	124
7	C	124	125
7	D	125	126
7	E	126	127
7	F	127	128
8	0	128	129
8	1	129	130
8	2	130	131
8	3	131	132
8	4	132	133
8	5	133	134
8	6	134	135
8	7	135	136
8	8	136	137
8	9	137	138
8	A	138	139
8	B	139	140
8	C	140	141
8	D	141	142
8	E	142	143
8	F	143	144
9	0	144	145
9	1	145	146
9	2	146	147
9	3	147	148
9	4	148	149
9	5	149	150
9	6	150	151
9	7	151	152
9	8	152	153
9	9	153	154
9	A	154	155
9	B	155	156

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
9	C	156	157
9	D	157	158
9	E	158	159
9	F	159	160
A	0	160	161
A	1	161	162
A	2	162	163
A	3	163	164
A	4	164	165
A	5	165	166
A	6	166	167
A	7	167	168
A	8	168	169
A	9	169	170
A	A	170	171
A	B	171	172
A	C	172	173
A	D	173	174
A	E	174	175
A	F	175	176
B	0	176	177
B	1	177	178
B	2	178	179
B	3	179	180
B	4	180	181
B	5	181	182
B	6	182	183
B	7	183	184
B	8	184	185
B	9	185	186
B	A	186	187
B	B	187	188
B	C	188	189
B	D	189	190
B	E	190	191
B	F	191	192
C	0	192	193
C	1	193	194
C	2	194	195

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
C	3	195	196
C	4	196	197
C	5	197	198
C	6	198	199
C	7	199	200
C	8	200	201
C	9	201	202
C	A	202	203
C	B	203	204
C	C	204	205
C	D	205	206
C	E	206	207
C	F	207	208
D	0	208	209
D	1	209	210
D	2	210	211
D	3	211	212
D	4	212	213
D	5	213	214
D	6	214	215
D	7	215	216
D	8	216	217
D	9	217	218
D	A	218	219
D	B	219	220
D	C	220	221
D	D	221	222
D	E	222	223
D	F	223	224
E	0	224	225
E	1	225	226
E	2	226	227
E	3	227	228
E	4	228	229
E	5	229	230
E	6	230	231
E	7	231	232
E	8	232	233
E	9	233	234

Art-Net Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
E	A	234	235
E	B	235	236
E	C	236	237
E	D	237	238
E	E	238	239
E	F	239	240
F	0	240	241
F	1	241	242
F	2	242	243
F	3	243	244
F	4	244	245
F	5	245	246
F	6	246	247
F	7	247	248
F	8	248	249
F	9	249	250
F	A	250	251
F	B	251	252
F	C	252	253
F	D	253	254
F	E	254	255
F	F	255	256

Release Notes

Why Schnick Schnack Systems?

As installation times become increasingly shorter the complexity of systems simultaneously increases as do the requirements of customers.

We are a supplier who delivers high-quality reliable systems – under tight deadline constraints that are not only quick to install but also simple to operate and service.

Schnick-Schnack-Systems GmbH

Mathias-Brüggen-Straße 79
50829 Cologne (Germany)

Phone +49 (0) 221/99 2019-0
Fax +49 (0) 221/16 85 09-73

info@schnickschnacksystems.com
www.schnickschnacksystems.com