

Module setup

Input setup

Output setup

Generator feed

Video feed

External DMX feed

Mixer

refresh list of connected modules

add column

delete column

add row

delete row

disconnect module from matrix

rotate orientation of module

selected module for information

selected module: #10

hardware id: 0000 0000 0031 0176

first use of module: 13 October 2009

hours of use since first use: 0012 hours

amount of electricity produced by module: 96Wh

amount of electricity used by module: 13Wh

Maximum power per module since reset: 8W

Maximum average power since reset: 176W

Maximum total power since reset: 3,45kWh

Energy used by floor since reset: 1,46kWh

Energy used by external sources since reset: 1,19kWh

Energy stored in batteries since reset: 0,80kWh

reset energy counter

module number

dmx adress

1

→

u1 #13

2

→

u1 #1

3

→

u1 #169

4

→

u1 #133

5

→

u1 #25

6

→

not con.

7

→

not con.

8

→

u1 #85

9

→

u1 #181

10

→

u1 #37

11

→

u1 #49

12

→

u1 #121

13

→

u1 #109

modules 14 to 25 ...

column 1

column 2

column 3

column 4

column 5

column 6

columns 7 to 9 ...

module #2
dmx #1
universe #1

module #1
dmx #13
universe #1

module #5
dmx #25
universe #1

module #10
dmx #37
universe #1

module #11
dmx #49
universe #1

module #14
dmx #61
universe #1

module #15
dmx #73
universe #1

module #8
dmx #85
universe #1

module #16
dmx #97
universe #1

module #13
dmx #109
universe #1

module #17
dmx #121
universe #1

module #4
dmx #133
universe #1

module #18
dmx #145
universe #1

module #19
dmx #157
universe #1

module #21
dmx #169
universe #1

module #9
dmx #181
universe #1

module #20
dmx #193
universe #1

module #30
dmx #205
universe #1

module #32
dmx #217
universe #1

module #42
dmx #229
universe #1

module #37
dmx #241
universe #1

module #40
dmx #253
universe #1

module #31
dmx #265
universe #1

module #38
dmx #277
universe #1

module #45
dmx #289
universe #1

module #49
dmx #301
universe #1

module #52
dmx #313
universe #1

not connected

not connected

not connected

module #33
dmx #325
universe #1

module #43
dmx #337
universe #1

module #36
dmx #349
universe #1

not connected

not connected

not connected

rows 7 to 10 ...

Module setup tab

The module setup tab allows for the patching of floor modules, changing its orientation and do a read-out of every module.

The number of modules connected to a controller unit are retrieved using a message via the RS232 bus. The response is send via de midi port using a sysex command.

What we do in the patch is connect every module to a dmx address and change its orientation. After every change an updated table is send back to the controller unit using the rs232 port (one output of the lanbox lc).

Internally in this software, a list of modules is made that shows every output per module. This list is then used by the output setup and the generator feed.

| Module setup | Input setup | Output setup | Generator feed | Video feed | External DMX feed | Mixer |
|--|-------------|--------------|----------------|------------|-------------------|-------|
| <div> <div> <h3>Digital output 1</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use on/off message</div> <div>use single message</div> </div> </div> </div> </div> <div> <h3>Digital output 2</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use text field</div> <div>use continuous message</div> </div> </div> </div> </div> <div> <div> <h3>Digital output 3</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use text field</div> <div>use single message</div> </div> </div> </div> </div> <div> <div> <h3>Digital output 4</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use text field</div> <div>use single message</div> </div> </div> </div> </div> <div> <div> <h3>Digital output 5</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use text field</div> <div>use single message</div> </div> </div> </div> </div> <div> <div> <h3>Digital output 6</h3> <div> <div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> </div> <div> <div>Connected to: video brightness</div> <div> <div>connect</div> <div>connect to midi</div> <div>disconnect</div> <div>connect to midi</div> </div> </div> <div>Activity: ●</div> <div> <div>text field for message use header "H" for hex and "D" for decimal</div> <div> <div>use text field</div> <div>use single message</div> </div> </div> </div> </div> </div> </div> </div> <div data-bbox="1639 263 1861 295" data-label="Section-Header"> <h2>Output setup tab</h2> </div> <div data-bbox="1639 320 2103 410" data-label="Text"> <p>The output setup tab allows for dedicating 6 relay outputs to actuators used by a client.</p> </div> <div data-bbox="1639 438 2094 560" data-label="Text"> <p>Outputs can be used either as a on/off switch or as a rs232 port to send messages to (for example) dvd players or other equipment.</p> </div> <div data-bbox="1639 585 2096 707" data-label="Text"> <p>For rs232 messages, enter the required message in the text field, start with a H to identify a hex message, start with a D to identify a decimal message.</p> </div></div></div> | | | | | | |

| Module setup | Input setup | Output setup | Generator feed | Video feed | External DMX feed | Mixer |
|--|-------------|--------------|----------------|------------|-------------------|-------|
| <div> <div> <h3>Analog input 1</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connected to: video brightness</p> </div> </div> <div> <h3>Analog input 2</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connect to:</p> </div> </div> <div> <h3>Analog input 3</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connected to: generator hue</p> </div> </div> <div> <h3>Analog input 4</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connected to: DMX merge up</p> </div> </div> <div> <h3>Analog input 5</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connect to:</p> </div> </div> <div> <h3>Analog input 6</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connect to:</p> </div> </div> <div> <h3>Analog input 7</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connected to: mixer red</p> </div> </div> <div> <h3>Analog input 8</h3> <div> <div>0V lower threshold +5V</div> <div>0V upper threshold +5V</div> <div>0% lower response 100%</div> <div>0% upper response 100%</div> <div>connect connect to midi disconnect connect to midi</div> </div> <div> <p>Connect to:</p> </div> </div> </div> | | | | | | |

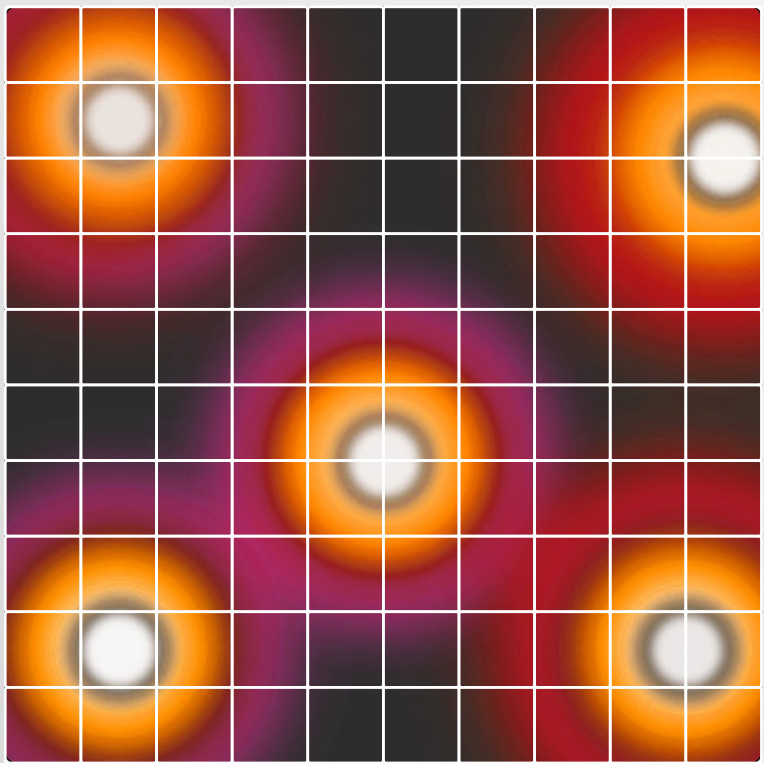
Input setup tab

The input setup tab allows for connecting external sensors to the controller unit software. In this way users can build user scenarios around the dance floor setting.

There are eight analog inputs, each have a 16bit resolution using a voltage from 0V to +5VDC.

In this tab, every sensor input can be set to allow for a range within this 5V. Every input can be connected to any other fader, popup or switch within this application. When faders are connected, the upper and lower response can be adjusted. Using a lower upper response limit than the lower response limit basically inverts the response.

All inputs can be connected and disconnected using switches in this tab. All switches can be connected to a midi c.c. message.

| Module setup | Input setup | Output setup | Generator feed | Video feed | external DMX feed | Mixer |
|--|-------------|--------------|----------------|------------|-------------------|-------|
| <div>  <p>output preview</p> </div> <div> <p>0% brightness 100% <input type="checkbox"/> connect to midi</p> <p>-180° hue 180° <input type="checkbox"/> connected</p> <p>0% saturation 100% <input type="checkbox"/> connect to midi</p> <p>0% random color 100% <input type="checkbox"/> connect to midi</p> <p>0% sensitivity 100% <input type="checkbox"/> connect to midi</p> <p>1 number of hotspots 10 <input type="checkbox"/> connect to midi</p> <p>no connect hotspots yes <input type="checkbox"/> connected</p> <p>1 connection type 5 <input type="checkbox"/> connected</p> </div> | | | | | | |

Generator feed tab

The generator feed tab produces a feed based on the information obtained from the controller unit hardware.

This will be a maximum of 160 values (modules) of 7 bit, showing the value of each module in the dance floor.

The generator feed gets its information from the module setup. Here the output of each module is determined. The output is a list; the modules, the crossings of modules or the joint edges of modules producing the most energy are on top.

The fader selecting the number of hotspots determines the number of glowing locations on the floor. This should be a ripple effect like water, fading away from the hotspot. This can be done using a small movie placed in the matrix on that location. Brightness, hue and saturation determine the color effect, random color adds randomness to the color and sensitivity adds a gain to the glow of the hotspot.

Hotspots can be connected using a glowing line between the number of hotspots used. Five types of glowing line can be selected (to be described).


All faders can be connected to a midi c.c. number message.

| Module setup | Input setup | Output setup | Generator feed | Video feed | External DMX feed | Mixer |
|--------------|-------------|--------------|----------------|------------|-------------------|-------|
|--------------|-------------|--------------|----------------|------------|-------------------|-------|

detect sources

Select source

Source information:
input: Canopus Firewire ADVC-100
size: 768x576 PAL @ 25FPS



input preview

connect to midi

0%
brightness
100%

connected

-180°
hue
180°

connect to midi

0%
saturation
100%

connect to midi

-360°
rotate
+ 360°

connect to midi

0%
width
200%

connect to midi

0%
height
200%

connected

-100%
position x
100%

connected

-100%
position y
100%


output preview

Video feed tab

The video feed tap allows for a video stream as an input to project on the dance floor.

Any kind of input can be used. Max/MSP should allow for easy access to usb and firewire cams (maybe using canopus ADVC series).

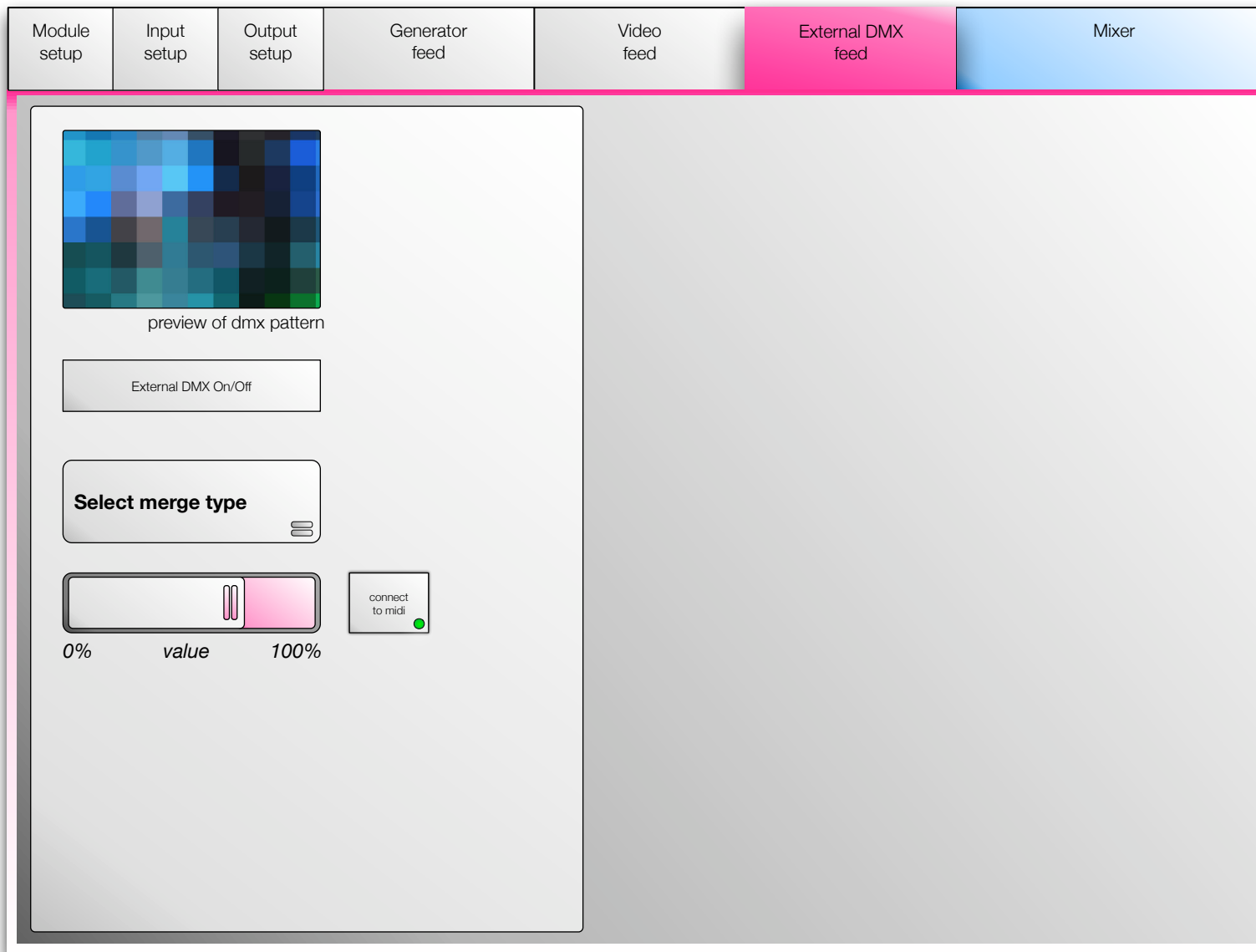
The sources should be detected automatically if possible. If not, we need to make a "detect sources" button.

Below the select source pop-up there should be an information box containing information about the source.

The input should be first scaled to the size of the dance floor used. It is best to scale to 4nx4m in size allowing for the scaling of 200% and the 2x2 matrix inside each dance floor module.

The faders on the right should allow for adjusting the scaled feed to the needs required by the operator of the software.

All faders can be operated using midi c.c. messages. By tapping each button once the faders is connected to or disconnected from the midi signal. Tapping twice shows a pop-up that allows for setting the c.c. message number. Led lights show message activity.



External DMX feed tab

The external dmx feed tab allows for merging data via dmx-512A from an external lightdesk to be merged with other data like video and generator data.

Data is not merged inside this application but in the Lanbox, saving processing power and latency.

Data is placed via the dmx input of the lanbox in a layer. The merge type is determined in this application but send to the lanbox so the data can be merged with the other information (that is placed in another layer).

Merge Types are

Copy (overwrite), c.c. 71, val 0

Mix up (HTP), c.c. 71, val 1

Mix down (LTP), c.c. 71, val 2

Transparent, c.c. 71, val 3

The preview of the dmx values can be drawn from the lanbox max object and fitted into the matrix (n*m) used.

The value does not work when in copy mode since then the values of the external dmx take precedence over all other data.

The value fader can be connected to a midi c.c. message.

| Module setup | Input setup | Output setup | Generator feed | Video feed | External DMX feed | Mixer |
|--|-------------|--------------|----------------|------------|-------------------|-------|
| <div> <div> <p>Generator feed</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>Merge mode</p> </div> <div> <p>Video feed</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>Merge mode</p> </div> <div> <p>External DMX feed</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>Merge mode</p> </div> <div> <p>Color floor</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>-180° hue 180°</p> <p>0% saturation 100%</p> <p>connected</p> <p>Merge mode</p> </div> <div> <p>Movie floor</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>-180° hue 180°</p> <p>0% saturation 100%</p> <p>connected</p> <p>Merge mode</p> <p>Select movie</p> </div> <div> <p>Pattern floor</p>  <p>0% value 100%</p> <p>connect to midi</p> <p>-180° hue 180°</p> <p>0% saturation 100%</p> <p>connected</p> <p>Merge mode</p> <p>Select pattern</p> </div> </div> | | | | | | |

Mixer tab

The mixer tab shows all the information to mix all the different feeds together to one output.

Here we assume all controls specific for one feed are connected to midi controls in the tab it concerns.

Three more feeds can be added in the mixer. These are very simple feeds: a color via HSB, a movie picked from HD via HSB and a pattern (basically an internal movie). Midi connections can be made here using a single tap or double tap for selecting midi c.c. message.

All feeds can be set to a merge mode.

- 1) add
- 2) subtract
- 3) multiply
- 4) min
- 5) max

The value of the feeds are the values of the jit.op object. This is different from the brightness used in the specific tabs for generator, video and external dmx.