

Programming manual

LanBox interface

version 1.0, October 2012

1. General guidelines

The LanBox interface is the dedicated physical user interface for the LanBox series controllers. It is connected using a single cat5e cable, carrying both the DMX signals and power. Multiple interfaces can be daisy chained, for this purpose, the LanBox interface has both an input and output connector.

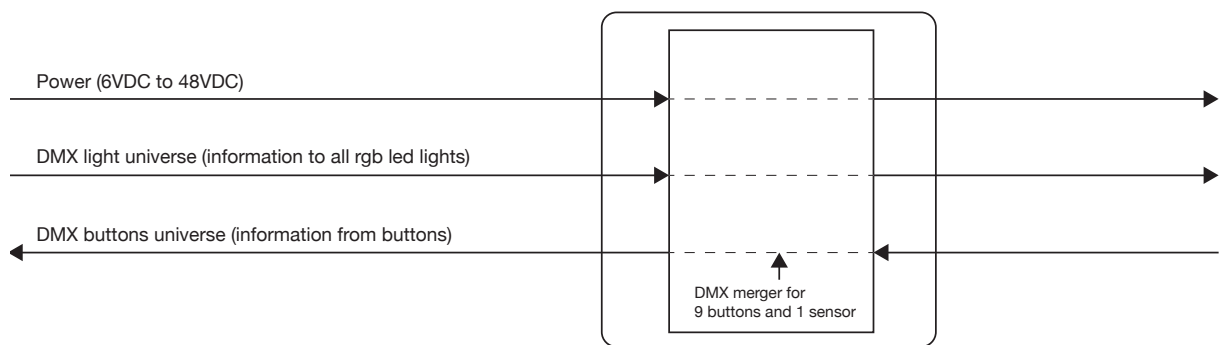


figure 1: Cat5e cable connected to the back side of the LanBox interface

2. First startup

When you start-up the LanBox interface for the first time, all settings are in default. All settings you make from that moment will be automatically stored, also when the LanBox interface is not powered. The default values are stated below in table 1. The several settings are explained in the next chapters.

Setting	Mode, value
DMX lights universe start channel (information to the nine LED lights)	channel 1
DMX lights universe mode	27 channels (mode 1)
DMX buttons universe start channel (information from 10 sensors)	channel 1
Button merge mode	merge color mode (mode 2)
Button color mode	white instantaneous (mode 1)
Button toggle mode	mode 1 (instantaneous)

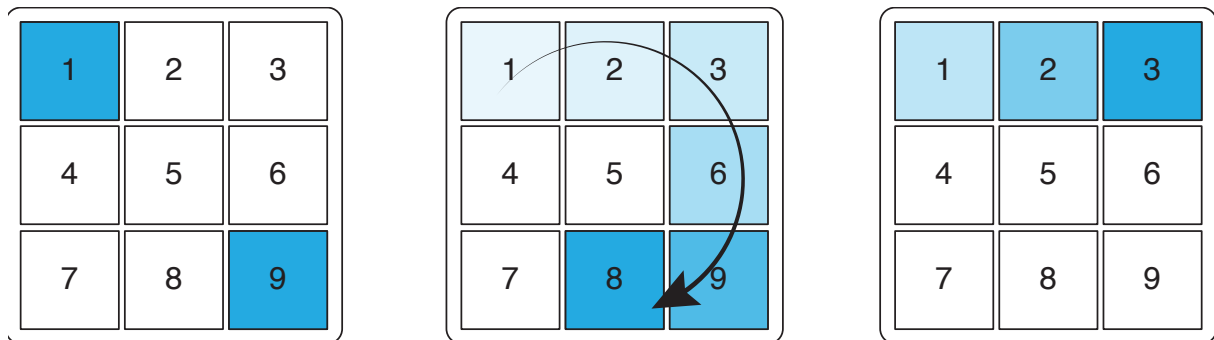
above: table 1: default mode

3. setting the DMX lights universe start channel

The DMX lights universe contains the information that allows the 9 led lights to function. You can program cues in the LanBox that will allow any LanBox interface to behave as a simple light fixture. The nine LED lights are all RGB lights, so the LanBox interface uses 27 DMX channels. You can set the start address of each LanBox interface to accommodate your requirements.

To set the DMX lights universe start channel of a LanBox interface (see also figure 2):

- Simultaneously push buttons 1 (top left) and 9 (bottom right) for 5 seconds. When pushing these buttons they will light up in blue after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour blue
- Buttons 1, 2 and 3 in the LanBox interface represent the three digits for the start address. Push each button for the correct number. For example, setting the channel to 018 would mean pressing button 2 once and button 3 eight times. The light behind each button will briefly flash the number as selected.
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 2

Note 1: if you enter this mode and you don't set the start channel, it will return to the normal operating state in 5 seconds. Since not pressing any buttons at all would indicate a start channel 0, since this is not possible the LanBox interface will be set to channel 1.

Note 2: since the LanBox interface can use up to 27 channels (9x RGB) please make sure that you set a start channel that allows all used channels to be in the data stream. For example, when in 27 channel mode, selecting any start channel higher then $(512 - 27 = 485)$ will be not useful.

Note 3: the dmx stream has the following format:

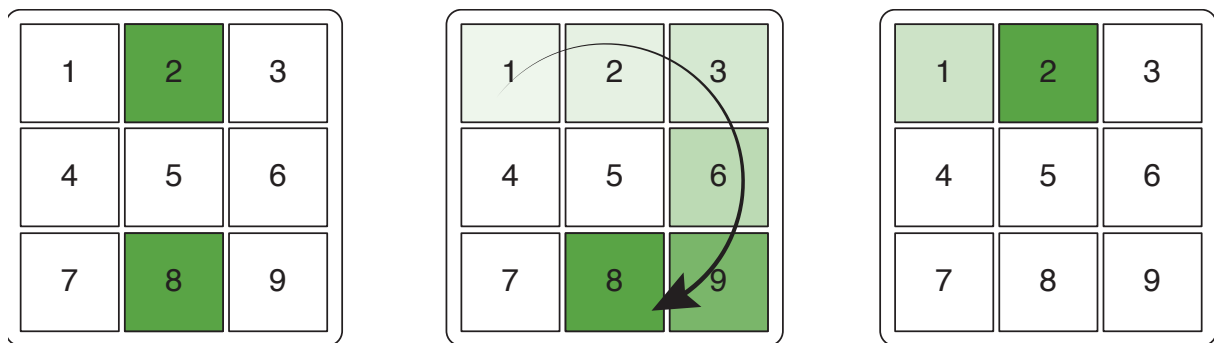
relative channel	button	relative channel	button
1	1 top left red	15	5, centre blue
2	1 top left green	16	6, centre right red
3	1 top left blue	17	6, centre right green
4	2, top centre red	18	6, centre right blue
5	2, top centre green	19	7, bottom left red
6	2, top centre blue	20	7, bottom left green

7	3, top right red	21	7, bottom left blue
8	3, top right green	22	8, bottom centre red
9	3, top right blue	23	8, bottom centre green
10	4, centre left red	24	8, bottom centre blue
11	4, centre left green	25	9, bottom right red
12	4, centre left blue	26	9, bottom right green
13	5, centre red	27	9, bottom right blue
14	5, centre green		

4. Setting the DMX lights universe mode

You can select between two modes that will allow the LanBox interface to act as a light fixture for either 3 or 27 channels. In 3 channel mode, all nine rgb lights will behave like one rgb led light. When in 27 channel mode, all rgb lights can be controlled individually. To set the DMX lights universe mode of a LanBox interface (see also figure 3):

- Simultaneously push buttons 2 (top left) and 8 (bottom right) for 5 seconds. When pushing these buttons they will light up in green after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour green
- buttons 1 selects mode 1 and button two mode 2. The button representing the mode chosen will light up in the colour green.
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 3

mode	type	channel used	remarks
1	9x RGB	27	all 9 led lights can be individually controlled
2	1x RGB	3	all 9 led lights behave as one light

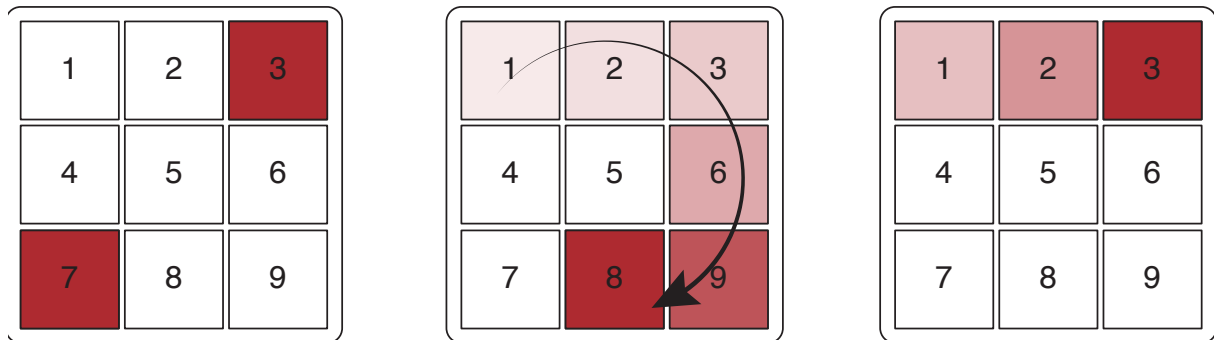
5. setting the DMX buttons universe start channel

The LanBox interface has nine push buttons and the aluminium housing that acts as a touch sensor. The information about these ten sensors will be broadcasted via DMX to the LanBox-LCX. Therefore, the LanBox interface is a small light desk.

You can connect multiple LanBox interfaces. For this a DMX merger is integrated into the LanBox interface. The information of one LanBox interface will be merged in HTP (highest takes precedence) mode with the incoming DMX signal from the previous LanBox interface (or other light desk).

To set the DMX buttons universe start channel of a LanBox interface (see also figure 4):

- Simultaneously push buttons 3 (top right) and 7 (bottom left) for 5 seconds. When pushing these buttons they will light up in dark red after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour dark red
- buttons 1, 2 and 3 in the LanBox interface represent the three digits for the start address. Push each button for the correct number. For example, setting the channel to 121 would mean pressing button 1 once, button 2 twice and button 3 once. The light behind each button will briefly flash the number as selected.
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 4

Note 1: if you enter this mode and you don't set the start channel, it will return to the normal operating state in 5 seconds. Since not pressing any buttons at all would indicate a start channel 0, since this is not possible the LanBox interface will be set to channel 1.

Note 2: since the LanBox interface uses 10 channels please make sure that you set a start channel that allows all used channels to be in the data stream. For example, you can set the start address to 504, but then buttons 9 and 10 will be disregarded since this implies these would be on channels 513 and 514 which is not possible.

Note 3: the dmX stream has the following format:

relative channel	button	relative channel	button
1	1 top left	6	6, centre right
2	2, top centre	7	7, bottom left
3	3, top right	8	8, bottom centre
4	4, centre left	9	9, bottom right

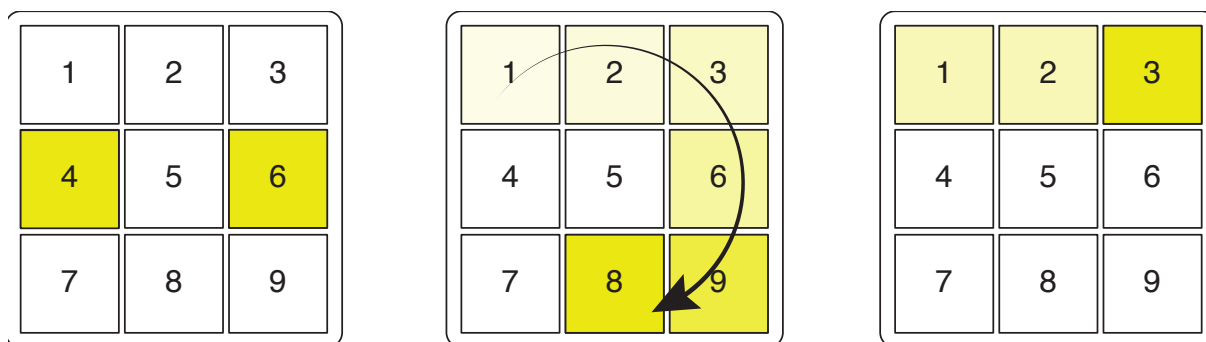
5	5, centre	10	aluminium housing
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6. setting the button merge modes

The LanBox interface will respond to the incoming DMX signal, to the buttons pressed or to a merged combination between the incoming DMX signal and the buttons pushed.

To set the DMX buttons merge mode (see also figure 5):

- Simultaneously push buttons 4 (centre left) and 6 (centre right) for 5 seconds. When pushing these buttons they will light up in yellow after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour yellow
- buttons 1, 2 and 3 in the LanBox interface represent the three modes. Push each button for the correct number. Setting mode 1 requires pressing button 1, and this button will light. The default mode is mode 2 (factory settings)
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 5

mode	response	function
1	button one lights in yellow	only responding to incoming DMX values
2	button two lights in yellow	merges in colour mode over incoming DMX signal (temporarily replacing the DMX value)
3	button three lights in yellow	only responding to the buttons pressed (see color mode)

7. setting the button colour modes

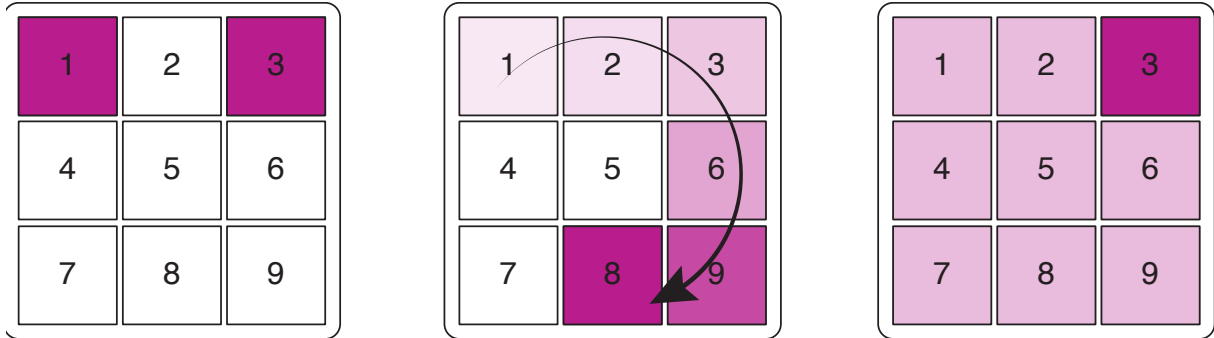
You can set the behaviour of the buttons on the LanBox interface with the button merge mode menu. If you have chosen mode 2 or 3, the LanBox interface will control the lights behind each of the nine buttons button.

You can select a mode where the lights behave as a toggle or as an instantaneous button. You can select this mode in several colours, see the table below. The toggle selection (both for DMX output as lights response) can be set using the toggle mode selection (see next chapter)

When in mode 2 or 3, touching the aluminium housing will fade in (0,5 second fade time) all nine led lights in the colour selected for 2 seconds, then it fades out again (2 second fade time).

To set the DMX buttons colour mode (see also figure 6):

- Simultaneously push buttons 1 (top left) and 3 (top right) for 5 seconds. When pushing these buttons they will light up in purple after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour purple
- buttons 1 to 9 in the LanBox interface represent the nine modes. Push each button for the correct number. Setting mode 1 requires pressing button 1, and this button will light. The default mode is mode 1 (factory settings)
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 6

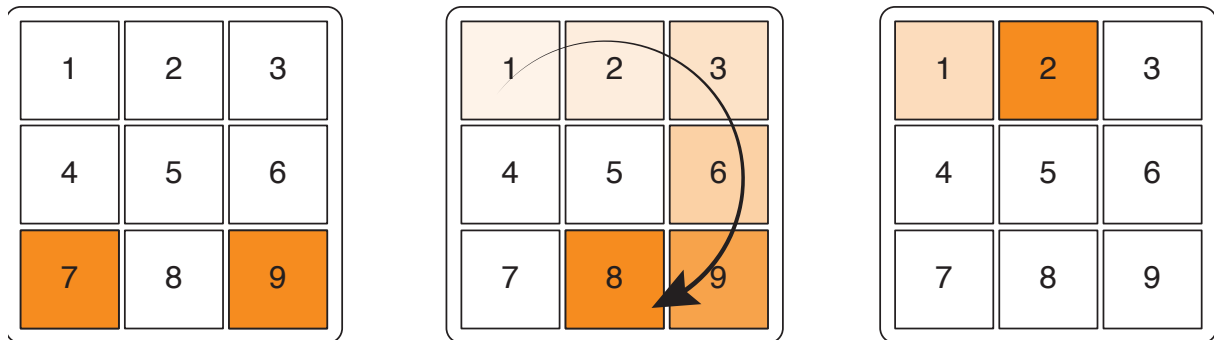
mode	response	mode	response
1	white	6	dark blue
2	lime	7	deep blue
3	warm red	8	yellow
4	purple	9	orange
5	cyan		

8. Setting the buttons toggle mode

You can set the toggle mode of the buttons of the LanBox interface. This mode only applies all to the nine push buttons. The aluminium housing always operates as a instantaneous button with a minimum pulse length of of 0,25 seconds. When in instantaneous mode, the nine buttons will have a minimum pulse length of 50ms. Pressing one button will set the DMX address of that button to 255 for a minimum length of 50ms.

To set the DMX buttons toggle mode (see also figure 7):

- Simultaneously push buttons 7 (bottom left) and 7 (bottom right) for 5 seconds. When pushing these buttons they will light up in orange after 3 seconds.
- After 5 seconds in total, the lights of the LanBox interface will light up for one round in the colour orange
- buttons 1 to 9 in the LanBox interface can be used to select the mode for each button. Push each button for the correct setting. Pressing a button once, and this button will light up and be set to mode 2, pressing it once more and the light will go off so it is in instantaneous mode. The default mode is mode 1 (factory settings)
- After not pressing any buttons for 5 seconds the LanBox interface will go back to its normal mode.



above: figure 7

mode (per button)	response
1	instantaneous mode
2	toggle mode