

3 Channel LED PWM Controller

HomLiCon LCH3B

Application

- Control groups LED, LEDs strips, LED modules.
- Color Organ, Sound Activated Light Show, Light Sequencer, etc.

| Technical Specifications | |
|---|---|
| Number of Channels | 3 |
| Supply voltage | 12 VDC (8 – 16 VDC) |
| Current consumption | 15 mA |
| Maximum output current per channel | 2 A |
| Maximum total output current | 6 A |
| PWM steps for each channel | 110 |
| Color Organ bandwidth | LF 50-200Hz , MF 200Hz-7kHz , HF 7-14kHz |
| Line-in nominal level (set standart / high sensitivity) | 0.3 V RMS / 0.15 V RMS |
| Line-in maximum level | 1.5 V RMS |
| Mic-in range of sound level (with an added module MACL - not included in the kit) | 60 - 120 dB (with additional module) ⁽¹⁾ |
| Ambient temperature | 5 – 40°C |

Controller Features

- ✓ 16 Light Show programs : 2 - Color Organ, 6 - Sound Activated. 8 - Light Sequencer.
- ✓ Control of all settings and functions through one button
- ✓ Activation of Light Show controlled by sound from microphone⁽¹⁾, Line-in or unsynchronized
- ✓ Fully automatic Color Organ with digital division of the bandwidth in 3 range:
LF 50 - 200Hz , MF 200Hz - 7kHz , HF 7 - 14kHz
- ✓ Automatic gain control (AGC) : Line-in > 9dB , Mic-in > 60dB (with module MACL - optional).\
- ✓ Save all settings and the last used program in the non-volatile memory
- ✓ Settings Sound Activated programs : Mic-in , Line-in standard sensitivity, Line-in high sensitivity
- ✓ Settings Light Sequencer : speed - 6 steps. Settings Strobe: speed - 6 steps
- ✓ Settings Lighting - 6 levels
- ✓ LED on each one of the channels connected to the microcontroller pins for indication and diagnostics
- ✓ Power MOSFET for the output of each channel
- ✓ 32 MHz microcontroller

1.0 Basic operations and wired diagram

1.1 Light Show basic operations

All operations and settings are performed via the button mounted on the board.

Table switching between programs

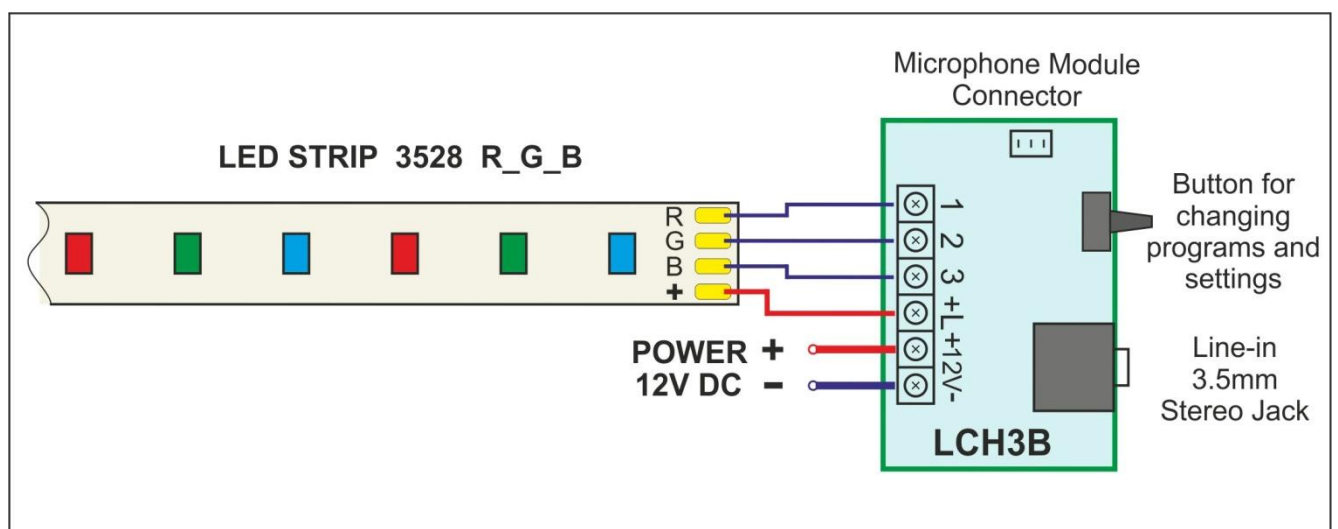
| | | |
|--------------|---|--|
| Single-click | Next program | Hold down the button for less than 0.3 seconds |
| Double-click | Previous program | Interval between clicks no more than 0.6 seconds |
| Triple-click | Sound activated programs group / Light sequencer programs group | Hold down the button for less than 0.3 seconds |

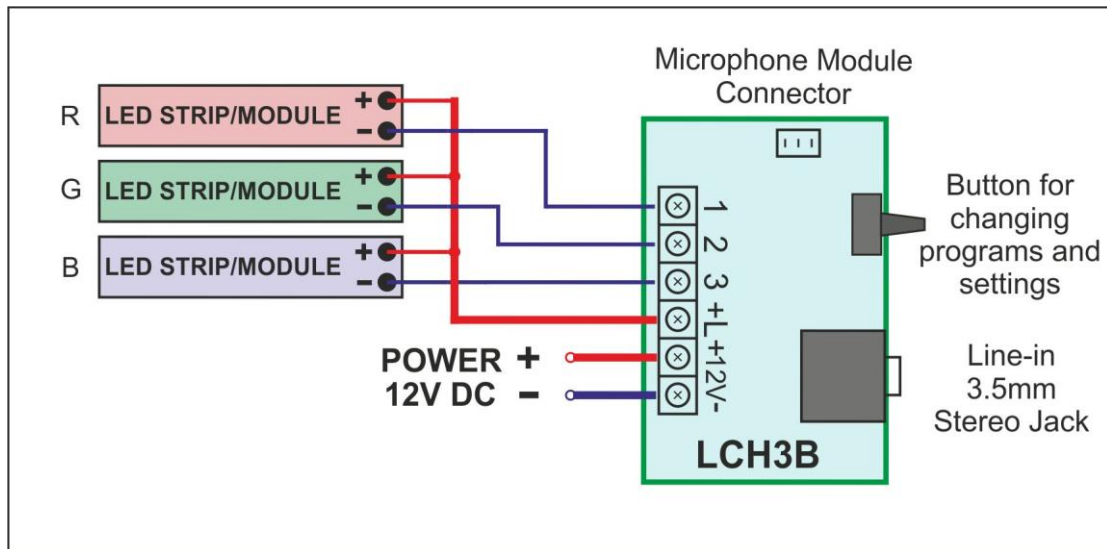
Table programs

| No | Programs with sound control | Programs without sound control |
|----|-------------------------------------|--------------------------------|
| 1 | Lighting mode 1 | Lighting mode 2 |
| 2 | Color organ with smooth transitions | Chaser → |
| 3 | Color organ classic | Chaser ← |
| 4 | Sound activated 1 - VU | Chaser →, ← |
| 5 | Sound activated 2 | Fill → |
| 6 | Sound activated 3 | Fill ← |
| 7 | Sound activated 4 | Fill →, ← |
| 8 | Sound Activated - Strobe chase | Strobe chase |
| 9 | Sound Activated - Strobe all | Strobe all |

Note: See section 2.0 for more details

1.2 Wiring diagram and description





The supply voltage 12VDC is connected to the terminal blocks marked + and - .

All + LED Strip / Module are connected together to the terminal blocks marked + L , and all - LED Strip / Module, respectively to terminals 1, 2, 3

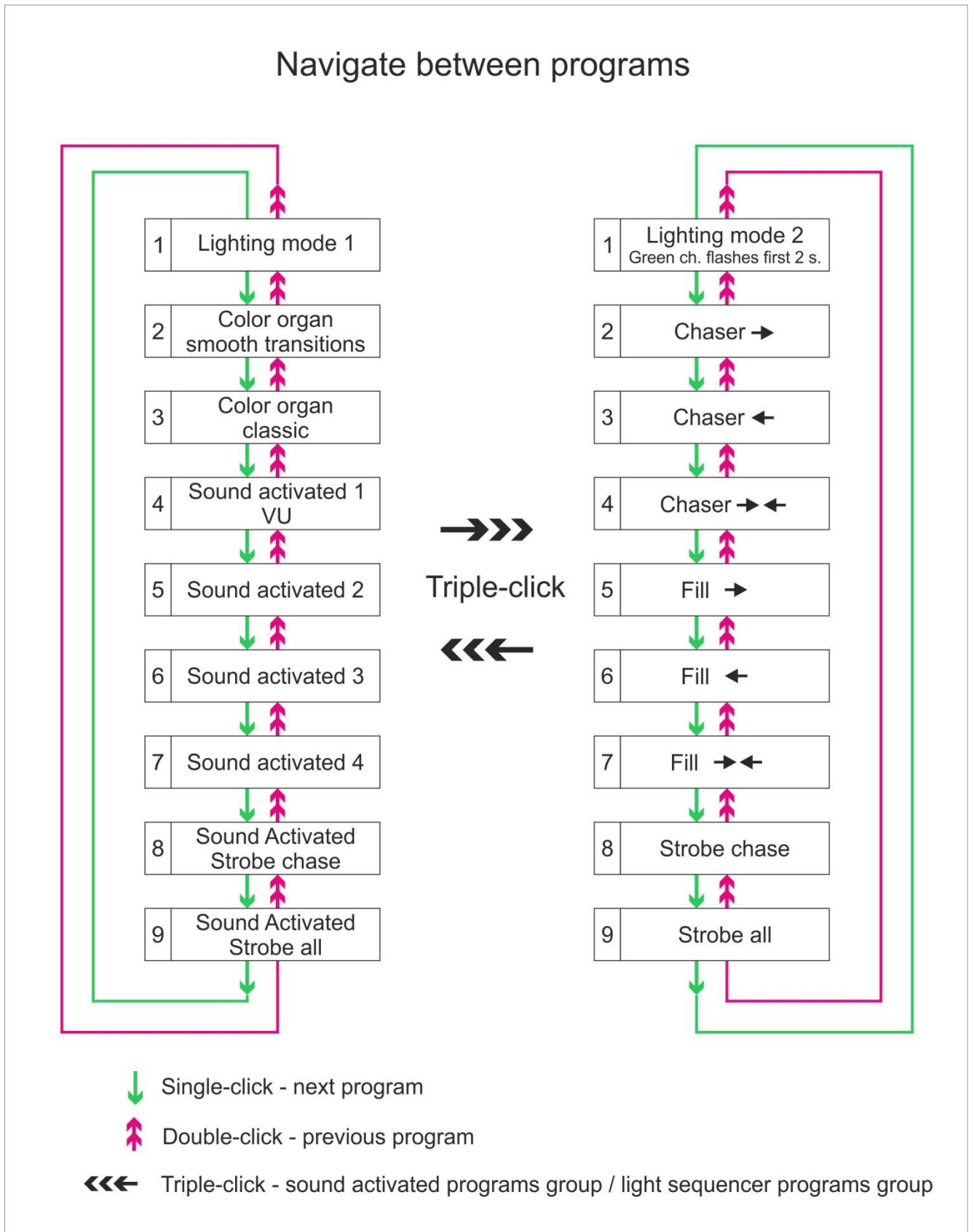
Warning:

Outputs do NOT have protection from short circuit or overload.
Improper connection will lead to a damaged controller.

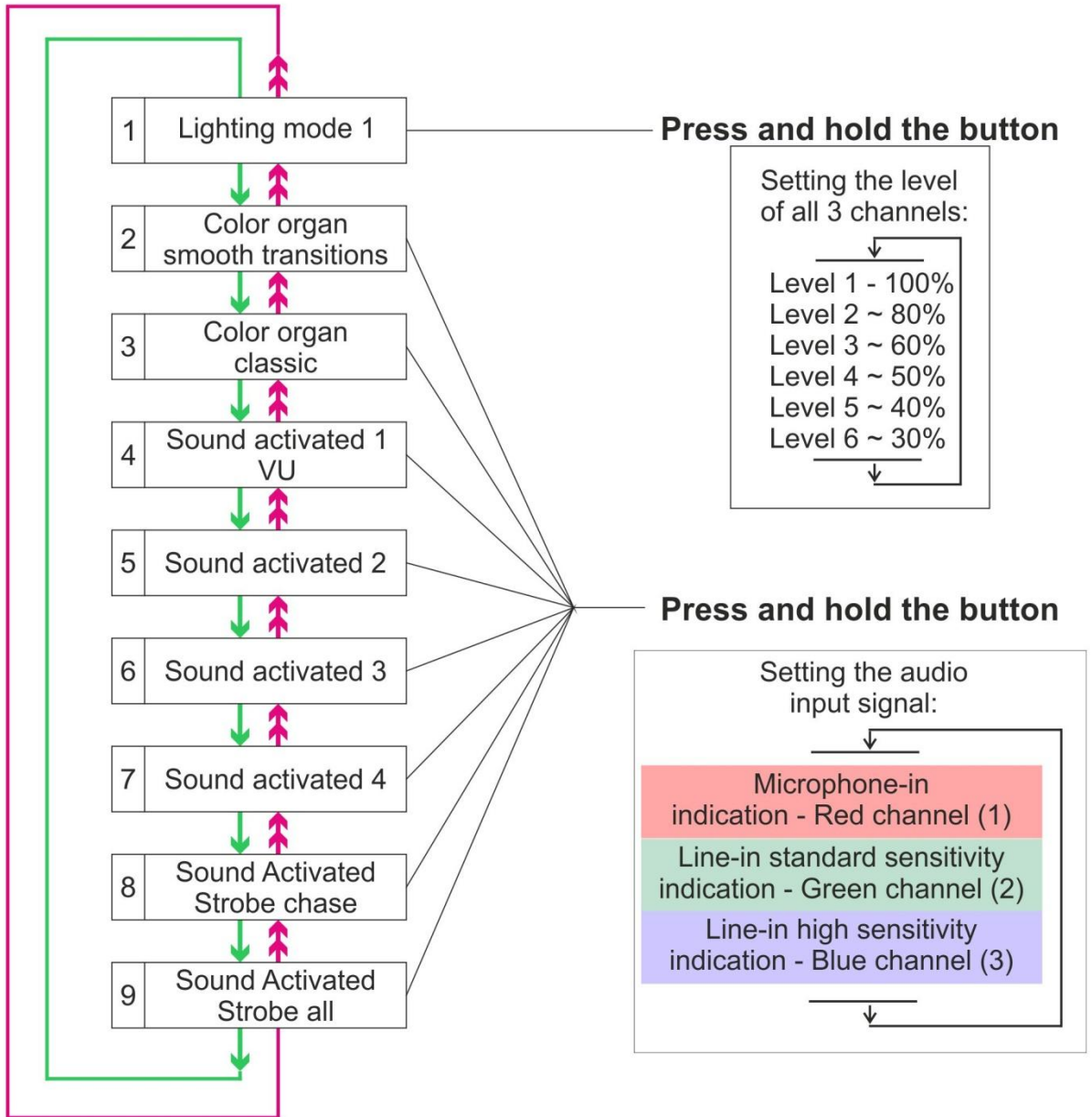
1.3 Hardware return to factory settings

1. Switch the power OFF.
 2. Press and hold the button
 3. Switch the power ON.
- After 2-3 seconds when LEDs turns ON :
4. Release the button and restart.

2.0 Light Show Control and Settings



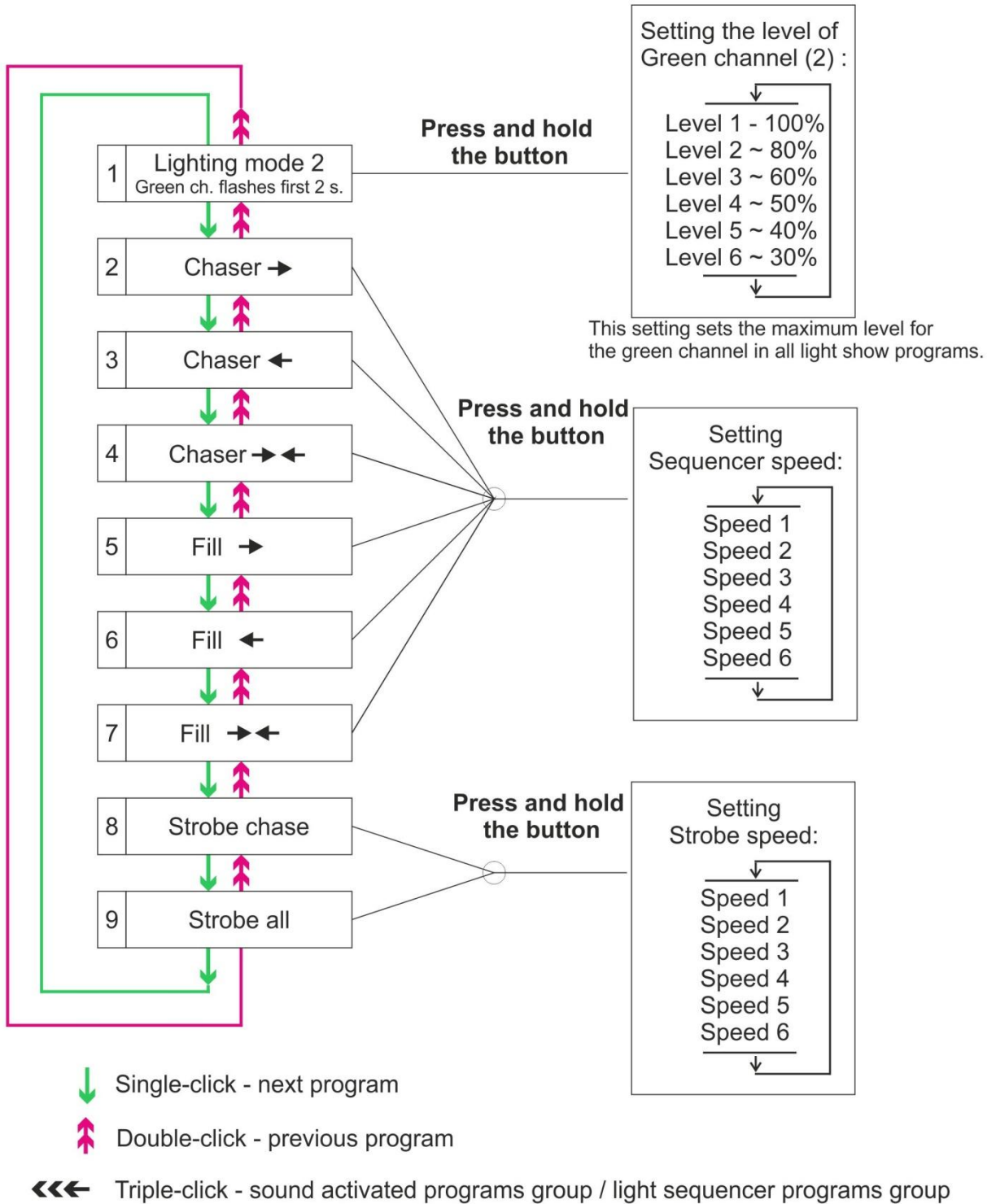
Settings in group of sound activated programs:



- ↓ Single-click - next program
- ↑ Double-click - previous program

⏪ Triple-click - sound activated programs group / light sequencer programs group

Settings in group of light sequencer programs:



Note: When switch to **Lighting mode 2**, Green channel flashes first 2 seconds.
 In this mode you can reduce the brightness of the green channel (often the green LEDs are much brighter).
 This setting sets the maximum level for the green channel in all programs except Lighting mode 1.

Table switching between programs

| | | |
|---------------------|--|--|
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| Double-click | Previous program | Interval between clicks no more than 0.6 seconds Hold down the button for less than 0.3 seconds |
| Triple-click | Sound activated programs group / Light sequencer programs group | |