

PX133

PxLight Controller

INSTRUCTION
MANUAL



CONTENTS

1. General description.....	1
2. Safety conditions.....	1
3. Controller description.....	2
3.1. Front panel view.....	2
3.2. Rear panel view.....	2
4. Turning the device on.....	2
5. Playing.....	3
6. Special functions.....	3
6.1. Colour mode.....	4
6.1.1. Colours programming.....	4
6.2. Fading time.....	4
6.3. Number of lamps.....	5
6.4. PxLink protocol.....	5
6.4.1. Initialization.....	6
6.4.2. Individual settings.....	6
6.4.2.1. DMX address.....	6
6.4.2.2. White balance.....	7
6.4.2.3. Copying parameters to lamps.....	7
6.4.3. Master / Slave mode.....	8
6.4.4. "No DMX" settings.....	9
6.5. Language selection.....	10
7. Controller programming.....	10
7.1. Parameters programming.....	10
7.1.1. Colours programming.....	10
7.1.2. Colours copying.....	11
7.1.3. Speed.....	12
7.1.4. Xfade.....	12
7.2. Scene programming.....	13
7.3. Chasers programming.....	13
7.3.1. Chaser parameters programming.....	14
7.3.1.1. Pattern lenght.....	14
7.3.1.2. Pattern repetition number.....	14
7.3.1.3. Direction.....	14
7.4. Programs defining.....	15
7.4.1. Program step parameters setting.....	15
7.4.2. Last step setting.....	15

Manufacturer reserves the right to make modifications in order to improve device operation.

PXM s.c.	tel.: (+48 12) 626 46 92
ul. Przemysłowa 12	fax: (+48 12) 626 46 94
30-701 Kraków	E-mail: info@pxm.pl
POLAND	Internet: www.pxm.pl

1. GENERAL DESCRIPTION

PX133 PxLight is a dedicated RGB lighting controller. The device allows to control up to 170 RGB lamps (LED illuminators or fluorescent lamps). PX133 works with spotlights as well. The only condition that has to be fulfilled is 3 DMX channels (red, green and blue) maintenance.

Controller is programmed with 4 buttons or through the PC computer with Microsoft Windows 98 SE, 2000 or XP operating system installed. Device may be connected to a computer through USB port. Controller allows to programme up to 10 scenes, 4 chasers and 4 sequences, chasers' speed, step duration time and Xfade (step-to-step colour and brightness fading).

PX133 has two different colour modes - standard RGB (range from 0 to 255 for each colour), and brightness (0-100%) / colour (0% = violet - 100% = white) mode.

Controller accepts PxLink protocol. With this attribute the user has the opportunity to remotely assign DMX addresses and other parameters to each lamp. This system was entirely created by PROXIMA.

PX133 allows to choose from two menu languages - Polish or English.

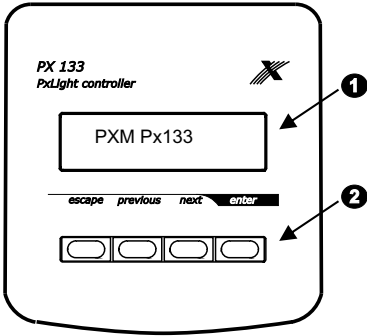
2. SAFETY CONDITIONS

PX133 PxLight Controller is a device powered with safe voltage 9 - 12 V; however, during its installation and use the following rules must be strictly observed:

1. The device may only be connected to 9 - 12 V AC / DC with current-carrying capacity compatible with technical data.
2. All the conductors should be protected against mechanical and thermal damage.
3. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data and attestations.
4. Connection of DMX signal can only be made with shielded conductor.
5. All repairs and connections of outputs or DMX signal can only be made with cut off power supply.
6. PX133 should be strictly protected against contact with water and other liquids.
7. All sudden shocks, particularly dropping, should be avoided.
8. The device cannot be turned on in places with humidity exceeding 90%.
9. The device cannot be used in places with temperature lower than 2°C or higher than 40°C.
10. Clean only with damp duster.

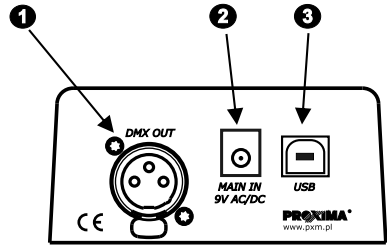
3. CONTROLLER DESCRIPTION

3.1 FRONT PANEL VIEW



- 1 LCD display
- 2 Programming buttons

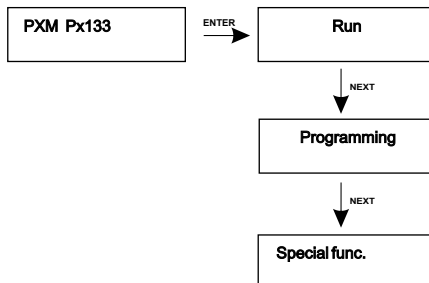
3.2 REAR PANEL VIEW



- 1 DMX output socket
- 2 9 V main in
- 3 USB port for PC connecting

4. TURNING THE DEVICE ON

When you turn the controller on the LCD display will show the device name and software version number, and, after approximately 2 seconds, PX133 starts playing automatically the predefined program. Pushing the "enter" button causes getting into the main menu, categorised to 3 divisions: *Run*, *Programming* and *Special functions*. With *Run* function you may choose from *Programs*, *Chasers* or *Scenes* to be launched. *Programming* allows to define scenes, chasers and programs and *Special functions* are for setting such parameters as colour mode, scene step duration time, number of lamps and language.

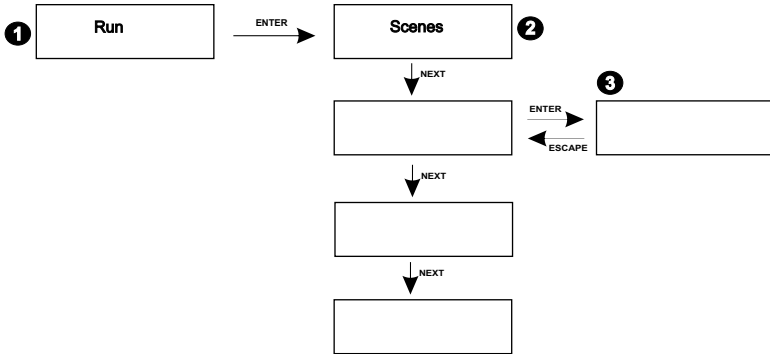


the PX133 controller main menu scheme

5. PLAYING

Run allows to launch and play previously defined scenes, chasers or programmes.

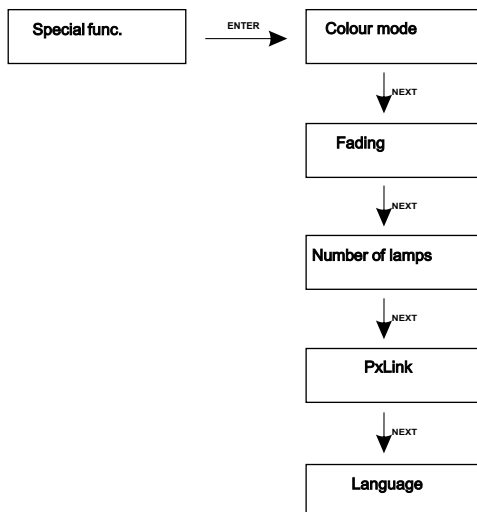
1. Enter the *Run* option.
2. With “next” or “previous” button choose scene, chaser or program.
3. With “next” or “previous” button choose proper show to be played.
4. Press "enter" to start show.



6. SPECIAL FUNCTIONS

By dint of special functions you may set colour mode, step-to-step fading time, number of lamps connected to the controller, menu language and PxLink parameters.

The scheme below shows how to move through *Special functions* submenu.



6.1. COLOUR MODE

PX133 controller may operate in 3-channel or 2-channel mode. When working in 3-channel mode every single colour: R (red), G (green) and B (blue) is adjusted separately. 2-channel mode consists in adjusting brightness and one of 256 factory-defined colours.

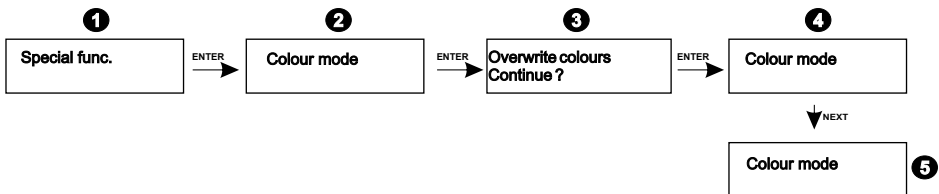
ATTENTION: Every change of colour mode settings causes deleting ALL previous colours settings for scenes, chasers and programs. Therefore it is recommended to decide of operation mode before starting shows programming.

The accidental change of this parameter is protected with additional question:
Overwrite colours Continue?

6.1.1. COLOURS PROGRAMMING

To set colour mode:

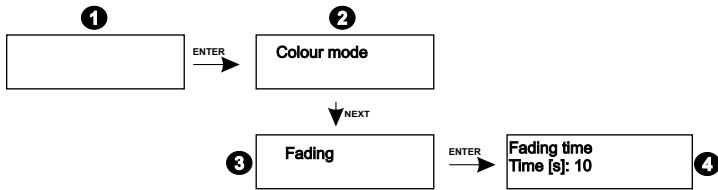
1. Enter the *Special functions* option.
2. With "next" or "previous" button set *Colour mode* option.
3. You will be asked about overwriting colours. If you agree (by pressing the "enter" button) this will change all colour settings previously made.
- 4, 5. With "next" or "previous" button choose proper colour mode - *RGB* or *Brightness/Colour*.
6. Confirm selection by pressing "enter".



6.2. FADING TIME

Fading time is a period in which scenes or chasers smoothly fade from one to another. To avoid sudden lighting up this parameter also sets time of fading in and out of scenes and chasers.

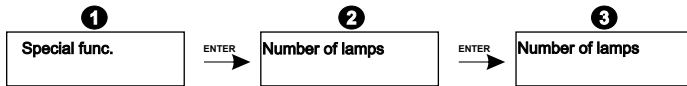
1. Go to *Special functions* submenu.
- 2, 3. With "next" or "previous" button set the *Fading time* option.
4. With "next" or "previous" button set required value.
5. Confirm selection by pressing "enter".



6.3 NUMBER OF LAMPS

PX133 module allows to control simultaneously up to 170 lamps. But if we connect less than 170 lamps there is no need for the controller to work in 170 lamps mode. All the more, you must remember that the more lamps you connect, the slower the controlling signal is. Therefore it is recommended to define number of lamps according to their factual number.

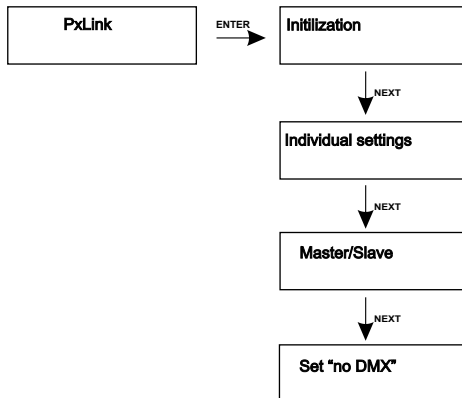
1. Enter the *Special functions* submenu.
2. With “next” or “previous” button choose *Number of lamps* option.
3. With “next” or “previous” button set the actual number.
4. Confirm your selection by pressing "enter".



6.4. PxLink PROTOCOL

PxLink is a registered trademark of a remote programming protocol of the DMX signal receivers through the DMX line entirely created by PROXIMA.

It is particularly useful when the access to a lamp is difficult or burdensome (for example because of mounting place).



PxLink option scheme

6.4.1. INITIALIZATION

The initialization process confers remotely the physical addresses (unidentical to DMX addresses) to particular lamps. Each lamp in a DMX chain is given a subsequent number, what makes controlling much simpler. You must execute initialization after every installation of DMX system.

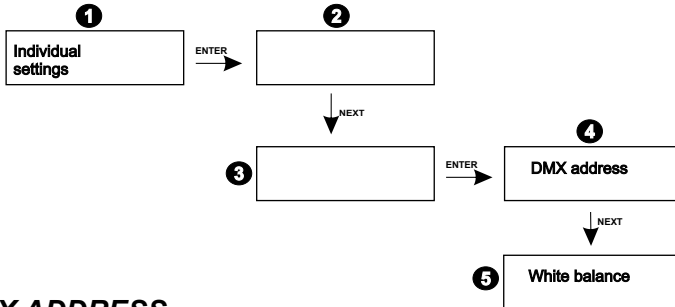
ATTENTION: When the DMX installation is large or complex the initialization may last tens seconds.



6.4.2. INDIVIDUAL SETTINGS

In the *Individual settings* submenu you may assign the DMX addresses to the lamps, set the white balance and copy those parameters to other lamps, if needed.

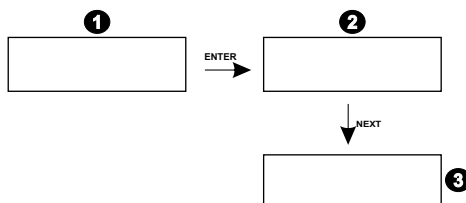
1. Set the *DMX addressing* option.
- 2, 3. With “next” or “previous” button choose a particular lamp. Lamp will light up to indicate your choice.
- 4, 5. Now you may set the DMX address and white balance for the chosen lamp.



6.4.2.1. DMX ADDRESS

This function allows to set remotely the DMX address for each lamp. Choose from range from 1 to 512.

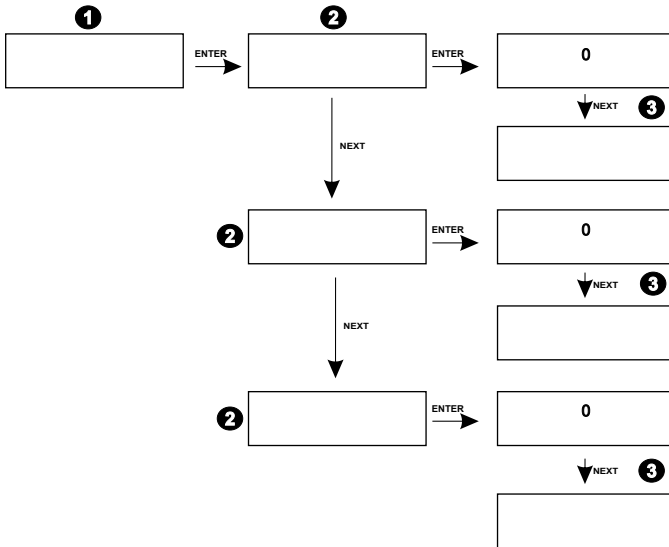
1. Set the *DMX address* option.
- 2, 3. With “next” or “previous” button set the proper DMX address.
4. Confirm your selection by pressing “enter”.



6.4.2.2. WHITE BALANCE

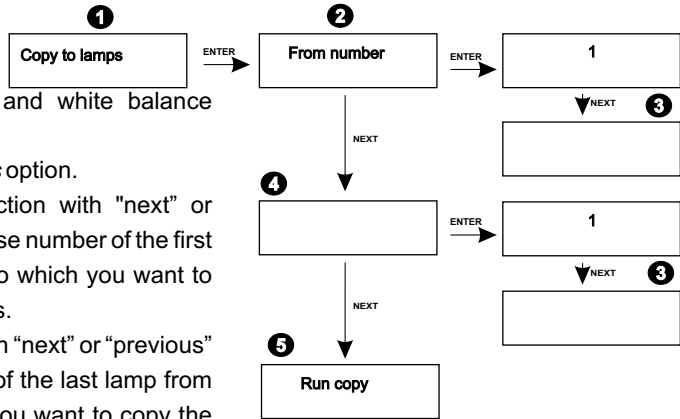
Sometimes troubles with achieving pure white colour on RGB LEDs may occur. It is often caused by applying diods of different technical parameters. For this reason PX133 controller is equipped with *White balance* option, that helps you to attune the colour temperature for full steering of all three outputs (white colour).

1. Enter the *White balance* option.
2. With “next” or “previous” button set the required colour to adjust.
3. Reduce the intensity of a colour that seems to be too bright.
4. Confirm selection by pressing "enter".



6.4.2.3. COPYING PARAMETERS TO LAMPS

The DMX address and white balance settings of each lamp configured with PxLink protocol may be copied to any other lamp - therefore it is no need to set each of them separately. The *Copy to lamps* option allows you to send the settings of the individual lamp to a series of the sequent ones.



To copy DMX address and white balance settings:

1. Enter the *Copy to lamps* option.
2. In *From number* function with "next" or "previous" button choose number of the first lamp from sequence to which you want to copy the colour settings.
3. In *To number* option with "next" or "previous" button select number of the last lamp from the sequence where you want to copy the colour settings.

4. Copy parameters.

Number of a lamps set in *From number* has always to be less or equal than number set in *To number* option.

6.4.3. MASTER / SLAVE MODE

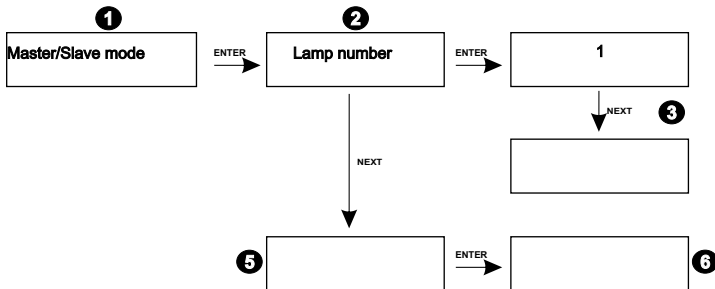
Master mode forces on a selected lamp to become a DMX signal transmitter and send its program to other lamps. *All slave* mode sets all the lamps as DMX signal receivers.

To set one lamp in *Master* mode:

1. Enter the *Master / Slave mode* option.
- 2, 3. Set the *Lamp number Master* option and with "next" or "previous" button choose a required lamp number.
4. Confirm your selection by pressing "enter".

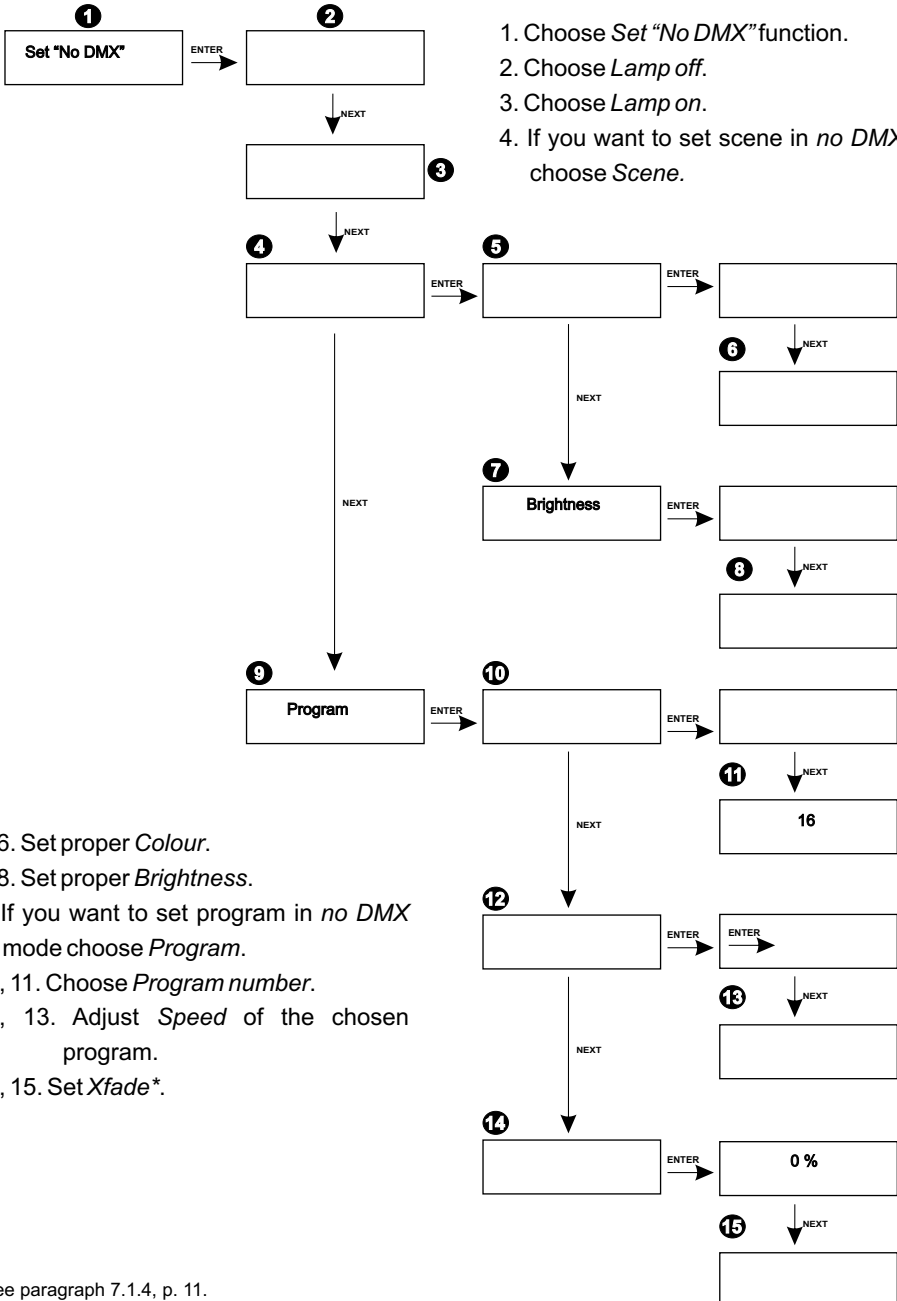
To subordinate all the lamps to the external controller:

5. Choose option *All Slave*.
6. Confirm selection by pressing "enter".



6.4.4. "No DMX" SETTINGS

These settings let you define the lamp reaction on lack of the DMX signal. You may choose from four possibilities: all lamps turn off, light with full brightness, show chosen program or scene.



1. Choose Set "No DMX" function.
2. Choose *Lamp off*.
3. Choose *Lamp on*.
4. If you want to set scene in *no DMX* mode choose *Scene*.

- 5, 6. Set proper *Colour*.
- 7, 8. Set proper *Brightness*.
9. If you want to set program in *no DMX* mode choose *Program*.
- 10, 11. Choose *Program number*.
- 12, 13. Adjust *Speed* of the chosen program.
- 14, 15. Set *Xfade**.

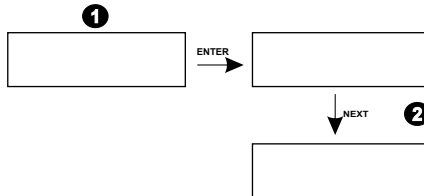
*see paragraph 7.1.4, p. 11.

6.5. LANGUAGE SELECTION

PX133 controller allows you to choose menu language: Polish or English.

To set one of two available languages:

1. Go to *Language* function.
2. With “next” or “previous” button set the required language.
3. Confirm your selection by pressing “enter”.

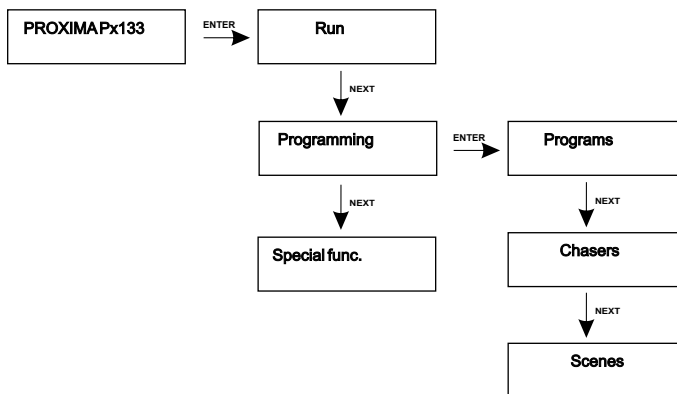


7. CONTROLLER PROGRAMMING

7.1. PARAMETERS PROGRAMMING

PX133 PxLight Controller allows to define your own scenes, chasers, sequences, chasers' speed, step-to-step fading time and Xfade.

In chasers and programs you may adjust speed, colour and Xfade and copy colours. These options are set in the very same way.

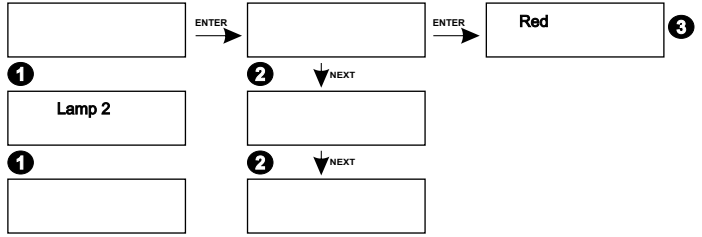


7.1.1. COLOURS PROGRAMMING

The controller may operate in one of two colour modes: RGB (range from 0 to 255 for each colour) or brightness/colour. There is no difference in setting up colour mode for scene, chaser or program.

To set a lamp in RGB mode:

1. Choose the lamp you want to adjust.
- 2, 3. With "next" or "previous" button choose colour and define its value.
4. Confirm selection by pressing "enter".



To set the lamp in *Brightness/colour* mode:

1. Choose the lamp you want to adjust.
2. 3. For *Colour* value set (from range 1 to 100) a required colour, for value *Brightness* choose desired brightness (from range 1 to 100%).
4. Confirm your selection by pressing "enter".

The scheme shows full colour values for *Brightness/colour* mode:

Violet: 0 R-B

Red: 16 R

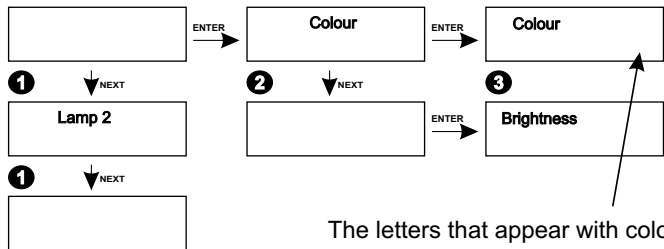
Yellow: 33 R-G

Green: 49 G

Cyan: 66 G-B

Blue: 82, 83 B

White: 99, 100 RGB

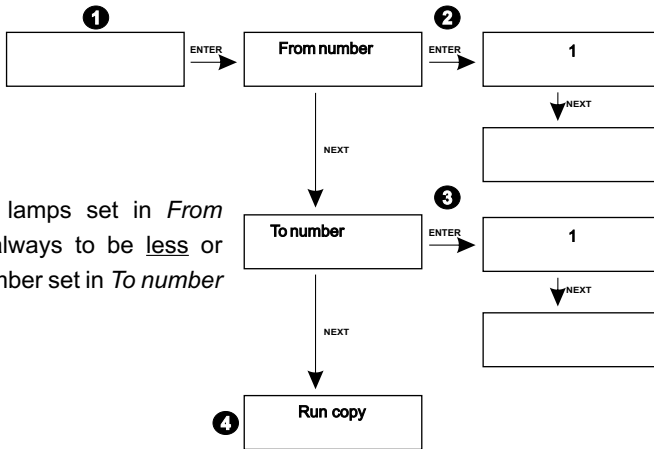


The letters that appear with colour values stand for "full" colours.

7.1.2. COLOURS COPYING

The adjusted colour and brightness for one lamp can be easily copied to other lamps.

1. Set *Copy to lamps* option.
2. In *From number* function with "next" or "previous" button choose number of the first lamp in a range to which you want to copy the colour and brightness settings.
3. In *To number* option with "next" or "previous" button choose number of the last lamp in a range to which you want to copy the colour and brightness settings.
4. Perform copying.

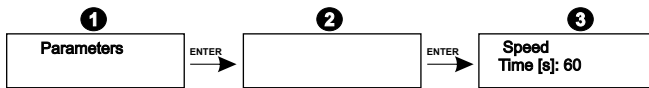


Number of a lamps set in *From number* has always to be less or equal than number set in *To number* option.

7.1.3. SPEED

Speed means how long the one step lasts.

1. Enter the *Parameters* function.
2. With “next” and “previous” button choose *Speed* function.
3. Set the proper speed with “next” or “previous” button.
4. Confirm your selection by pressing "enter".



7.1.4. Xfade

Xfade stands for the smoothness of fading in and out of colours and brightness. The higher the value is set, the smoother the colour fades. The maximal value is 100%, minimal 0%. When the value is set at minimum the fading is off and the change is sudden.

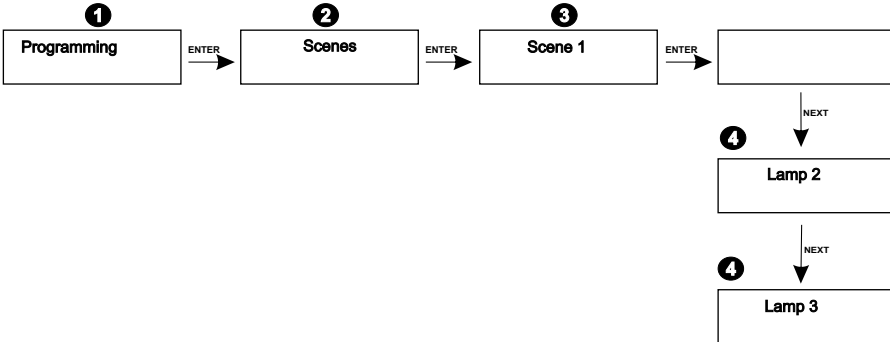
1. Enter the *Parameters* function.
2. With “next” or “previous” button choose *Xfade* option.
3. With “next” or “previous” button adjust the fading value.
4. Confirm your selection by pressing "enter".



7.2. SCENES PROGRAMMING

A scene is a static light show. The controller lets you to set up to 10 different scenes.

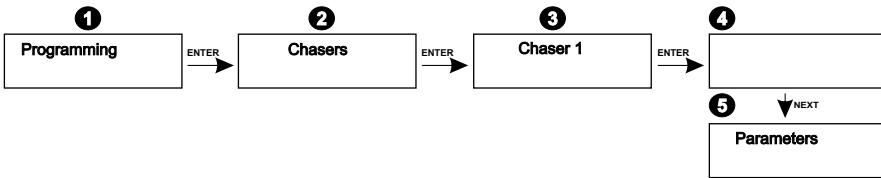
1. Choose the *Programming* option.
2. Choose *Scenes*.
3. Choose number of a scene you want to define.
4. Adjust colour values for particular lamps.



7.3. CHASERS PROGRAMMING

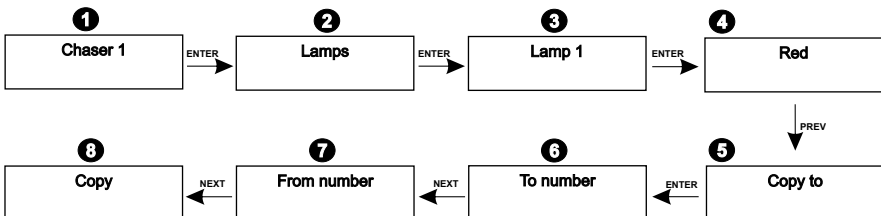
A chaser is a repetitive dynamic lights sequence. The controller memory stores up to 4 chasers.

1. Choose the *Programming* function.
2. With “next” or “previous” button choose *Chasers* option.
3. Choose chaser you want to define.
4. Choose *Lamps* you want to set and adjust the required colour values.
5. Define all other chaser parameters.



It is worth to add, that when setting a greater number of lamps than physically connected you may attain interesting effects, for instance having 8 lamps at disposal you may declare in *Special functions* submenu 16. Consequently, when defining a chaser you may achieve an "escaping lights" effect.

Below is an example of use such a possibility:

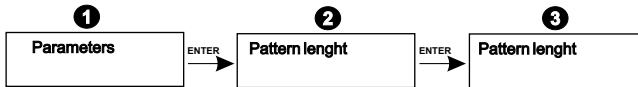


7.3.1. CHASER PARAMETERS PROGRAMMING

7.3.1.1. PATTERN LENGHT

Pattern lenght defines which every other lamps are going to repeat colour settings of the initial lamp. For instance, if the first lamp is defined red and the *Pattern lenght* is set as 2, the next red-shining lamp will be lamp number 3.

1. Enter the *Parameters* function.
2. Choose *Pattern lenght* option.
3. With “next” or “previous” button set the required value.
4. Confirm selection by pressing "enter".

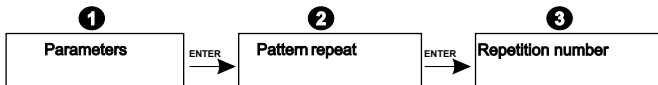


7.3.1.2. PATTERN REPETITION NUMBER

Repetition number defines for how many subsequent (determined in *Pattern lenght*) lamps are going to repeat the colour of the initial lamp.

For instance: defining first lamp as red, setting *Pattern lenght* as 2 and the *Pattern repeat* as 3, lamps number 1, 3 and 5 will turn red.

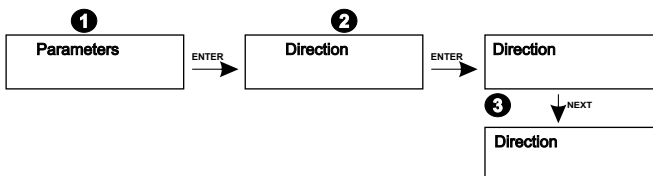
1. Enter the *Parameters* function.
2. Choose *Pattern repeat* option.
3. With “next” or “previous” button set the desired value.
4. Confirm selection by pressing "enter".



7.3.1.3. DIRECTION

With *Direction* option, you may set to which side the lights are going to run.

1. Enter the *Parameters* option.
2. Enter the *Direction* option.
3. With “next” or “previous” button set the direction to right or left.
4. Confirm your selection by pressing "enter".



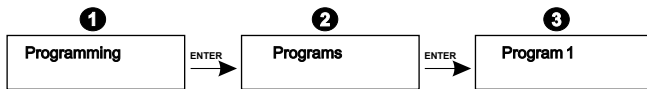
7.4. PROGRAMS DEFINING

The program is a sequence of scenes. In program, apart from options available in scenes' programming you may also define the scenes changing speed, Xfade (the smoothness of colour fading from one step to another) and the last step, which defines on which scene the program will finish and start playing again.

You may define 4 different programs, consisting of up to 31 steps each.

To define a program:

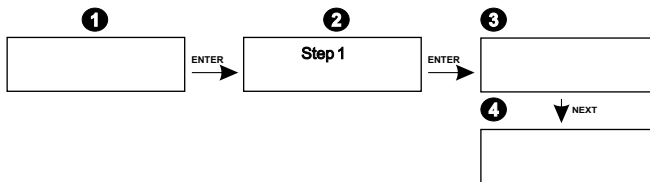
1. Enter the *Programming* function.
2. Choose the *Programs* option.
3. Set the number of the program you want to define.



7.4.1. PROGRAM STEP PARAMETERS SETTING

To define parameters of the particular steps of the program:

1. Enter the chosen program.
2. Choose number of a step you want to adjust.
3. Set the lamps' colour for this step.
4. Set other parameters, as *Speed* and *Xfade*.

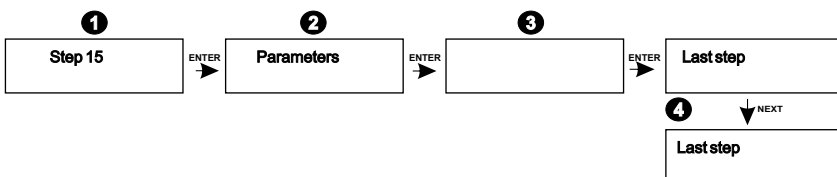


7.4.2. THE LAST STEP SETTING

The last step defines on which scene the program will finish.

To set the last step of the program:

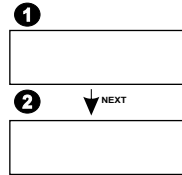
1. Enter the particular step settings.
2. With "next" or "previous" button choose the *Parameters* option.
3. With "next" or "previous" button choose the *Last step* option.
4. Set with "enter" button option: *Last step Yes*.



8. STOP

To abort the light show:

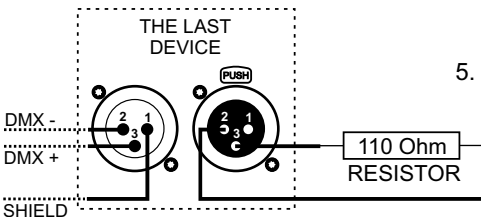
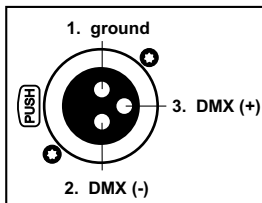
1. Enter the *Run* option.
2. With "next" or "previous" button choose *Stop* option.
3. Confirm your selection by pressing "enter".



9. PC CONNECTING

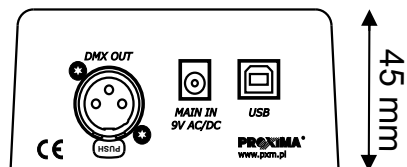
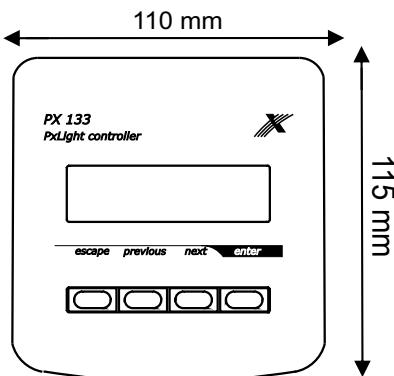
PX133 controller may be connected to a computer through the USB port. The software that allows to programme the device can be launched on the PC computers with Microsoft Windows 98 SE, 2000 or XP operating system installed. The application and all its updates are free and can be downloaded from our website <http://www.pxm.pl>.

10. DMX SIGNAL CONNECTION



1. To connect devices use of the microphone cable is recommended (two strands in the shield).
2. The devices should be connected in series.
3. To split the DMX line it is necessary to use DMX SPLITTER (PX094).
4. In case of the great number of devices or long distances use DMX REPEATER (PX097). It is an amplifier of the DMX signal.
5. In the last device a terminator (110 Ohm resistor) must be installed.

11. DIMENSIONS



12. SPECIFICATION

- DMX channels	512
- supply	9 - 12 VAC
- current consumption	150 mA
- programming	scenes (10) chasers (4) programmes (4)
- PxLink	yes
- weight	150 g
- dimensions	
- width	110 mm
- height	45 mm
- depth	115 mm





ul. Przemysłowa 12
30-701 Kraków, Poland

tel: +48 12 626 46 92
fax: +48 12 626 46 94

e-mail: info@pxm.pl
http://www.pxm.pl

DECLARATION OF CONFORMITY according to guide lines 89/336/EWG

Name of producer: PXM s.c.

Address of producer: ul. Przemysłowa 12
30-701 Kraków

declares that the product:

Name of product: **PxLight Controller**

Type: **PX133**

answers the following product specifications:

EMC: **PN-EN 55103-1**
PN-EN 55103-2

Additional informations:

The DMX-512 output must be shielded and the shielding must be connected to the ground responding to the DMX connectors.

Kraków, 01.09.2005

PXM S.C.
Danuta i Marek Żupnik
30-701 Kraków, ul. Przemysłowa 12
NIP 677-002-54-53

Marek Żupnik M.Sc.