

PX126

Mirage  
*RedLine II*

INSTRUCTION  
MANUAL



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

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# 1. GENERAL DESCRIPTION

PX126 Mirage *RedLine II* is a versatile DMX controller for scanners, stage lighting or advertising lighting installations control. With PX126 the user can control any device compatible with the DMX-512 standard, as the dimmers, smoke generators, colours' changers, central effects or scanners and heads, for which the controller is mainly intended.

Mirage RL controls 256 DMX channels, that are divided into sixteen 16-channel groups. In a single group the user can control one 16-channel device or a few devices, that are controlled through lower number of DMX channels (eg. sixteen 1-channel dimmers).

As for the programming, the controller allows to define 48 programs, consisting of up to 1022 scenes. The entirely new feature is the possibility of simultaneous rendering of up to three programs with the different speeds. The maintenance comfort is extended by the maximal simplification of programs' saving and rendering processes.

By dint of RS-232 interface the Mirage controller can be connected to the PC computer.

# 2. SAFETY CONDITIONS

PX126 Mirage RedLine is powered directly from standard 230 V grid, what can cause electric shock when safety rules are not observed. Therefore it is necessary to observe the following:

1. The device can be connected to the mains through the enclosed power cable only.
2. Controller can be connected to socket which has protecting instalation in working order (3 - wire grid) only.
3. All the conductors should be protected against mechanical and thermal damage.
4. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data and attestations.
5. All repairs demanding casing opening should be made with cut off power supply.
6. Controller should be strictly protected against contact with water and other liquids.
7. All sudden shocks, particularly dropping, should be avoided.
8. Device with damaged (cracked) casing should not be connected to the mains.
9. The device cannot be turned on in places with humidity exceeding 90%.
10. The device cannot be used in places with temperature lower than 2°C or higher than 40°C.
11. Cleaning with damp duster only - PX126 has to be cut off the power supply.

## ATTENTION:

For user comfort two modes of "moved slider" are available:

1. "10%" - the programmed device starts to react when the control slider has been moved for at least 6 milimeters.
2. "interception" - the programmed device starts to react when the control slider's value exceeds (regardless of the direction) the programmed value for the particular DMX channel.

For the description of selection of sliders' reaction mode see page 13.

### 3. CONTROLLER AND EFFECTS CONNECTING

The Mirage controller sends out the signals compatible with the DMX-512 standard. The proper operation of the whole set requires the correct setting of the DMX addresses in the controlled devices and the correct connection between the devices, made with the signal cable.

Below are a few practical tips:

1. To connect the devices use a microphone cable (two strands in a shield).
2. Connect all the XLR couplings according to the following pattern:

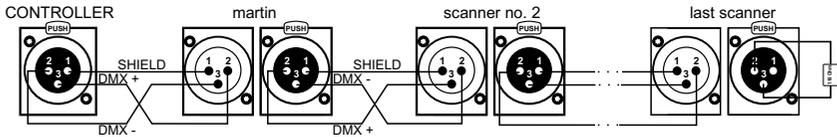
pin 1 = shield

pin 2 = DMX-

pin 3 = DMX+

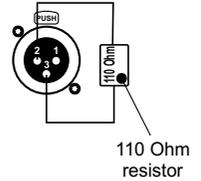
#### PRACTICAL COMMENT:

The older devices produced by MARTIN company have switched "DMX+" and "DMX-" lines. That is why the special signal cables with interweaved signal lines should be prepared to connect these devices.



3. The controller and all the effects must be connected in series only, that is:

- the controller output to the first effect input,
- the first effect output to the second effect input,
- the second effect output to the third effect input, etc.



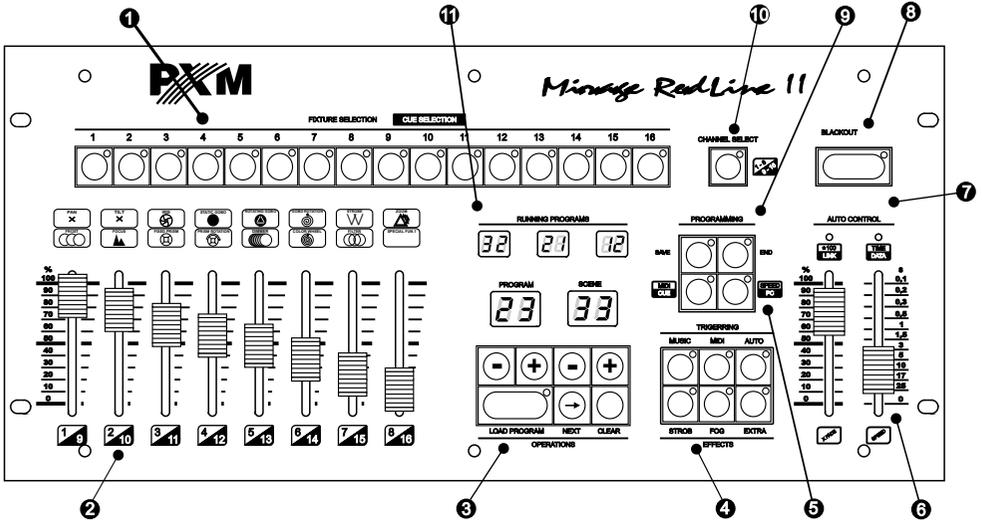
4. The "terminator" must be installed in the last device's DMX output socket (XLR plug with the 110 Ohm resistor between 2<sup>nd</sup> and 3<sup>rd</sup> pin installed).

5. Set the DMX addresses in the controlled effects according to the following pattern:

1		7 (97)		13 (193)	
2 (17)		8 (113)		14 (209)	
3 (33)		9 (129)		15 (225)	
4 (49)		10 (145)		16 (241)	
5 (65)		11 (161)			
6 (81)		12 (177)			

**ATTENTION:**  
DMX addresses setting example for 16 16-channel scanners.

## 4. FRONT PANEL DESCRIPTION



- 1** DEVICE SELECTION BLOCK      Set of 16 keys for controlled device selection. The key activity status is indicated by an appropriate LED. The control over the selected devices is executed in a *DMX channels configuration block*.
- 2** DMX CHANNELS CONFIGURATION BLOCK      Sliders for 16 DMX channels control, corresponding to the selected devices. You can switch between "1 - 8" and "9 - 16" channels ranges with the **10** key.
- 3** SCENES AND PROGRAMS SELECTION BLOCK      The block contains the displays and the scene and program number selection keys. "LOAD" starts rendering the selected program.
- 4** SPECIAL EFFECTS      Three keys for loading the special effects (eg. stroboscope, smoke generator, etc.).
- 5** RENDERING SYNC BLOCK      With these keys you can select the synchronization mode during program rendering: manual, automatic, to the music rhythm or MIDI signal.
- 6** "AUTO" MODE RENDERING CONTROL SLIDERS      These sliders change the parameters of programs' rendering in the automatic mode. The "SPEED" slider adjusts the frequency of scenes changes. The "X-FADE" slider defines the mode of step-to-step change - when set to the minimal position the change is instant, when in maximal position, the change is totally smooth.
- 7** INDICATORS      Rendering speed in the automatic mode and PC co-operation LED indicators.
- 8** BLACKOUT      When switching the "BLACKOUT" feature on, all the DMX channels are set to the zero level, that means, all the effects are instantly dimmed.
- 9** PROGRAMMING BLOCK      This panel contains the keys used in the controller programming process. You can find their exact description in the further part of the present manual.
- 10** RANGE SELECTION      Key for the addresses range selection for the programmed device.
- 11** RENDERED PROGRAMS NUMBERS DISPLAYS      The set of displays, showing numbers of currently rendered programs.

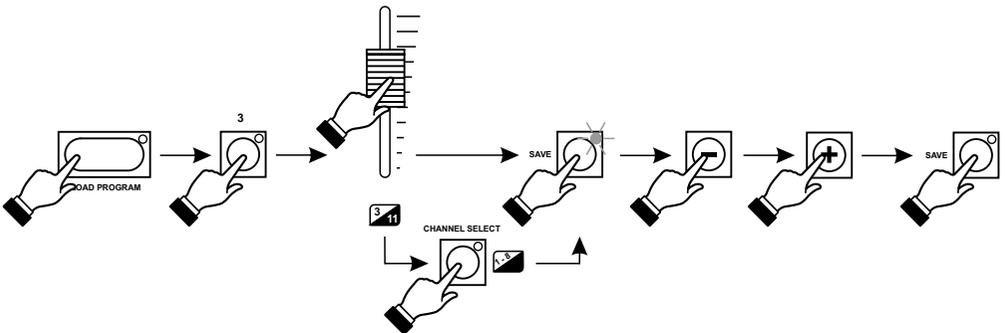
## 5. SCENES PROGRAMMING

The controller programming lies in creating the scenes (1022 maximum), that are saved as the programs' steps. A single scene has a full set of the control data for all 16 devices. The created scenes can be modified freely, but you must remember, that saving the modified scene deletes the previous one. During scene formation all the settings can be sent directly to the devices, so the modifications' effect is visible in the room.

### 5.1. SCENE PROGRAMMING

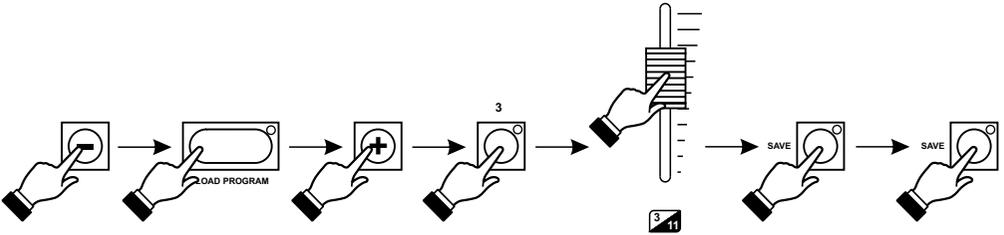
1. By pressing the "LOAD PROGRAM" key launch any program (on one of the RUNNING PROGRAMS small displays its number will be displayed).
2. If any LEDs in the TRIGGERING block are lit, turn them off by pressing the corresponding keys.
3. In the FIXTURE SELECTION block press the key ascribed to the appropriate scanner - the corresponding LED will light up. You can choose a few scanners at the same time (if they are of the same kind only). In such case the settings (eg. GOBOS or colours) will be changed on the slider movement in all the selected scanners concurrently.
4. Set the selected scanners according to your plans with the slider.
5. To get the access to channels 9 - 16 press the range selection key.
6. Press the "SAVE" key in the PROGRAMMING block - the corresponding LED will light up, that means, the controller is ready to record.
7. With the left pair of "+" and "-" keys select the number of the program, where you want to save the edited scene. With the right pair of "+" and "-" keys select the position, where you want to place the scene in the sequence. Do not press the "LOAD PROGRAM" key during saving!
8. Press the "SAVE" key again. The LED will go out, that means, the changes have been saved in the controller's memory. The scene programming process is finished.

To save another scene repeat the activities starting from point 3 or 4.



## 5.2. SCENE EDITION

1. With the left pair of the "+" and "-" keys set the number of program you want to edit.
2. Press the "LOAD PROGRAM" key.
3. If any LEDs in the TRIGGERING block are lit, turn them off by pressing the corresponding keys.
4. With the right "+" and "-" keys set the number of scene you want to edit. The selected scene will be rendered with the last saved settings.
5. In the FIXTURE SELECTION block select the scanners you want to be modified.
6. Adjust all the selected scanners according to new settings with the sliders.
7. Press the "SAVE" key in the PROGRAMMING block twice - the modified scene will be saved in the controller's memory.



## 6. PROGRAMS DEFINING

The controller's memory allows to create and save 48 programs consisting of different number of steps. Each step corresponds with a single scene - during program rendering particular scenes are rendered according to the programmed order. The memory is divided in such a way, as it assigns a different numbers of steps to the programs, but you can merge a few successive programs in one longer sequence.

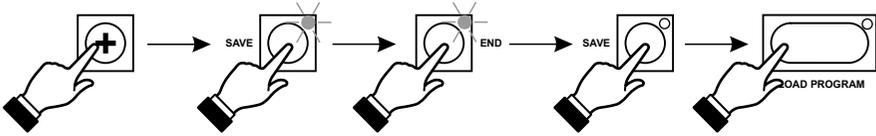
program number	1 - 16	17 - 47	48
number of steps	32	16	14

### 6.1. PROGRAM END MARKER

Each program is rendered until it reaches the "END" marked step (description below). If the "END" marker is not saved in the program, the successive program will be rendered automatically, what allows to merge programs into the longer sequences. When the "END" marker is found, the selected program will be rendered from the beginning. In practice the short programs are mostly used. That is why the program "END" markers should be applied.

1. If any LEDs in the TRIGGERING block are lit, turn them off by pressing the corresponding keys.
2. With the right "+" and "-" keys set the scene, you want to end the program. This scene will be rendered as the last one.

3. Press the "SAVE" and "END" keys by turns. Both corresponding LEDs will light up.
4. Press the "SAVE" key again - the LED in "SAVE" key will go out. Now, press the "LOAD PROGRAM" key - LED in the "END" key will also go out and the first scene of the program will be launched. From now on, the program will be automatically rendered to the scene, where you have put the "END" marker, and after that the program will be automatically rendered from the beginning.

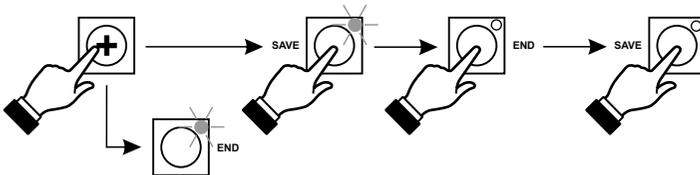


## 6.2. END MARKER EDITION

1. If any LEDs in the TRIGGERING block are lit, turn them off by pressing the corresponding key.
2. With right "+" and "-" keys set the scene, on which the program ends. In the "END" key the LED will light up automatically.
3. Press the "SAVE" key.
4. Press the "END" key - the corresponding LED will go out.
5. Press the "SAVE" key again. The corresponding LED will go out and the "END" marker will be deleted.

You have two possibilities now:

1. You do not define a new program "END" marker - when the program finishes, the successive program will be launched automatically.
2. You define program "END" marker in the other place, according to the description in chapter 6.1 of the present manual.

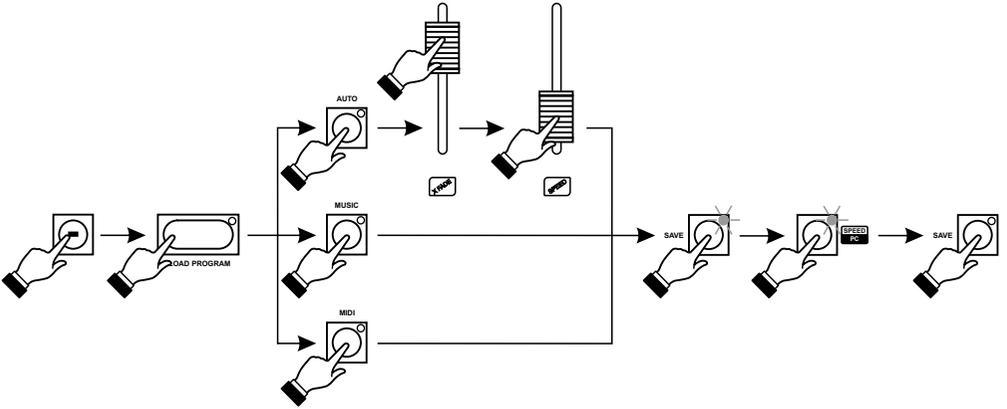


## 6.3. SYNCHRONIZATION PROGRAMMING

Each program can be rendered with a different speed and synchronization. These parameters must be programmed first.

1. With the left pair of "+" and "-" keys set the number of the program where you want to change synchronization.
2. Press the "LOAD PROGRAM" key.
3. In the TRIGGERING block select a required synchronization mode.
4. If you select AUTO, adjust speed and step-to-step fading smoothness with the "SPEED" and "X-FADE" sliders.
5. Press the "SAVE" and "SPEED" keys, both corresponding LEDs will light up.

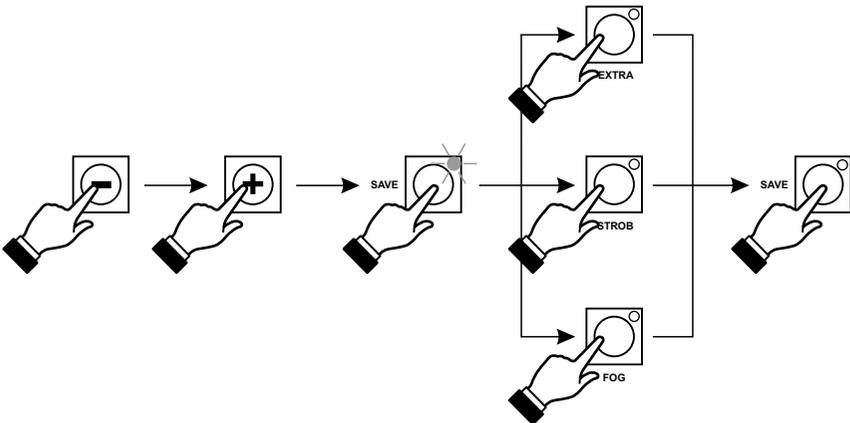
6. Press the "SAVE" key again - all the synchronization parameters for this program have been saved.



## 6.4. SPECIAL KEYS PROGRAMMING

Regardless of rendered programs each of EFFECTS special keys can launch any scene, saved in the controller's memory. The selected scene will be rendered as long, as the special key is pressed.

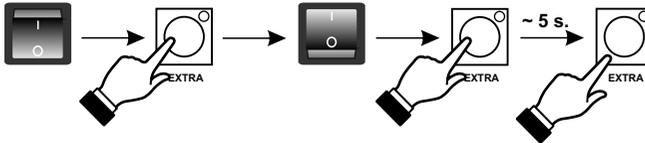
1. With "+" and "-" keys select the program, containing the scene you want to launch with one of the special keys.
2. If any LED in the TRIGGERING block is lit, turn it off by pressing the corresponding key.
3. With "+" and "-" keys select the scene, you want to be launched with one of the special keys.
4. Press the "SAVE" key and, after that, the selected key from the EFFECTS block.
5. Press the "SAVE" key again. The selected scene will be ascribed to the special key.



By pressing one of the EFFECTS keys during programs rendering you can cause (apart from launching the scene, ascribed to this key) an automatic dimming of all the other devices (BLACKOUT) until this key is released.

To turn this feature on:

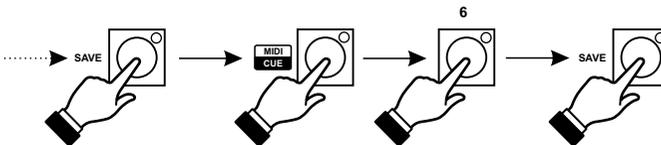
1. By pressing the appropriate key (eg. EXTRA) check, if that causes BLACKOUT. If not, go to point 2.
2. When the controller is switched off, press and hold the EXTRA key in the EFFECTS block and switch the power on. Hold the key pressed, until the software version number disappears from the display. The reaction to the EFFECTS keys has been changed.
3. To turn this feature off, proceed the procedure from point 2.



## 6.5. COLLECTIONS (CUES) PROGRAMMING

The controller is equipped with a very useful feature - collections programming. To each of 16 collections you can assign three (or less) programs.

1. Load the selected programs (refer to chapter 7 of the present manual).
2. Press the "SAVE" and "CUE" keys by turns.
3. In the CUE SELECTION block select a collection number.
4. Press the "SAVE" key again - the collection will be saved.



## 6.6. SPEED PROGRAMMING

The controller can render the scenes in two ranges of scene-to-scene change speed:

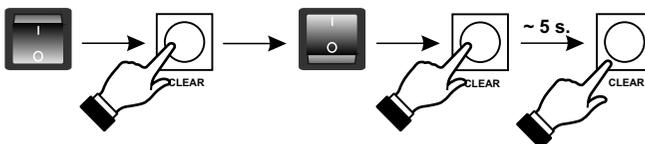
- 0.1 secs - 25 secs

- 10 secs - 40 mins

The appropriate range must be programmed.

If the slower range is programmed, LED "100" is lit.

When the controller is switched off, press and hold "CLEAR" key in the OPERATIONS block and switch the controller on. Hold the key pressed, until the software version number disappears from the display. The speed range has been changed.



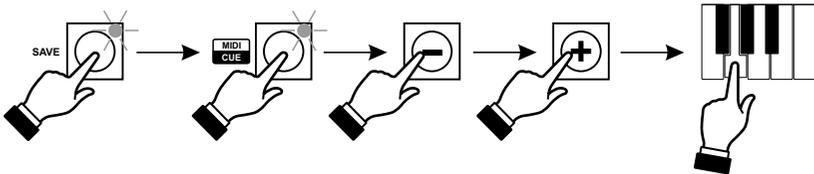
## 6.7. MIDI ASSIGNMENTS PROGRAMMING

In this mode, you can launch a scene ascribed to a key of the MIDI instrument, by simply pressing that key. Each instrument key can have a scene ascribed.

The Mirage controller interprets the MIDI signals according to the standard. You must pay attention to the fact, that some of the MIDI instruments carry the MIDI communication out according to the protocol modified by the producer. When troubles appear, you need to check the conformity of the MIDI transmitter to the standards. For instance, some instruments generate the "play note" code when the key is pressed and released, regardless of the fact, that the "press" and "release" codes are different.

## 6.8. SCENES TO INSTRUMENT KEYS ASSIGNMENT

1. Press the SAVE and MIDI keys in the PROGRAMMING block by turns.
2. With the "+" and "-" keys set the number of program, after that the number of scene, you want to be launched with MIDI.
3. In the MIDI instrument press the key, you want to link with the selcted scene. The changes made will be confirmed by going out of the LED in the "SAVE" and "MIDI" keys of the Mirage RL controller.

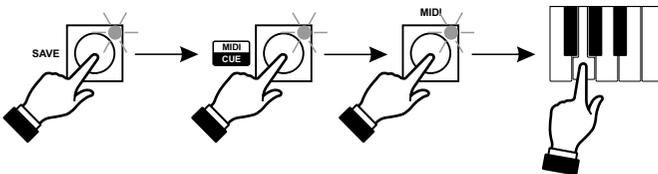


## 6.9. SYNCHRONIZATION TO INSTRUMENT KEYS ASSIGNMENT

The controller allows to make the assignments for three independent scopes (A, B and C).

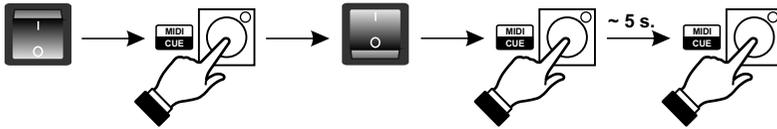
By dint of this, you can launch different programs ascribed to the same scope with one instrument key.

1. Press the "SAVE" and "MIDI" keys in the PROGRAMMING block by turns.
2. Press the "MIDI" key in the TRIGGERING block.
3. Press the instrument key, that you want to launch the successive scenes. The changes made will be confirmed with going out of the LEDs in the "SAVE" and "MIDI" keys in the PROGRAMMING and TRIGGERING blocks.



## 6.10. MIDI ASSIGNMENTS DELETION

When the controller is switched off, press and hold the "MIDI" key in the "PROGRAMMING" block and switch the controller on. Hold the key pressed until the software version number disappears from the display.



## 7. PROGRAMS RENDERING

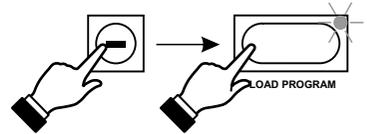
Rendering the programs, saved in the controller's memory, is a basic operation mode of the device. The programs rendering maintenance has been significantly simplified. It is confined to program number selection or collection launching.

### ATTENTION:

Directly after switching the controller on, the software version number is displayed for a few seconds, after that the controller is automatically set in the stand-by mode with the "BLACKOUT" feature turned on.

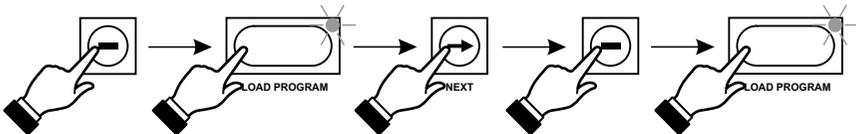
### 7.1. ONE PROGRAM RENDERING START

1. Switch "BLACKOUT" off.
2. With "+" and "-" keys select the program number you want to render. In the "LOAD PROGRAM" key the LED will light up, that means, the controller is ready to start rendering the selected program.
3. Press the "LOAD PROGRAM" key. The selected program will be launched automatically, its number will be displayed on this RUNNING PROGRAMS display, where the decimal dots are visible.



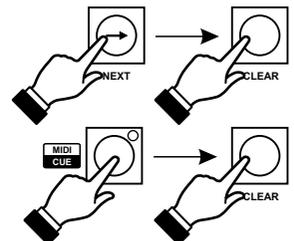
### 7.2. ANOTHER PROGRAM RENDERING START

1. Perform all the activities described in the previous paragraph.
2. With the arrow key (NEXT) "move" the decimal dots to the next display.
3. Perform all the activities described in points 2 and 3 from the previous paragraph.



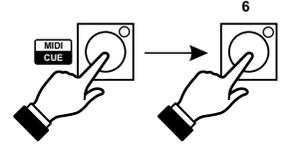
### 7.3. PROGRAM RENDERING STOP

1. With the arrow key (NEXT) set the dots on the program display you want to switch off.
2. Press the CLEAR key.
3. If you want to switch off all the running programs press MIDI / CUE and CLEAR keys in turn.



## 8. COLLECTIONS (CUEs) RENDERING

1. Turn "BLACKOUT" off.
2. Press the CUE key in the PROGRAMING block.
3. Press one of the keys from CUE SELECTION block. The collection ascribed will be launched.



## 9. SPECIAL KEYS

During programs rendering you can press one of special keys (EFFECTS) in any moment, to activate, for instance, the strobo or smoke generator. The chosen effect will be active as long, as long you will hold the "EXTRA" key pressed.

### 9.1. MANUAL CONTROL

During program rendering you can manually interfere in particular devices operation. After selecting the device in the SCANNER block you can change its settings with the sliders - the selected device responds to the changes in the channels, where the sliders have been moved only, the remaining channels are controlled according to the rendered program.

By dint of this feature you can illuminate a selected point with the chosen scanner, without necessity of program modification and interrupting other scanners operation.

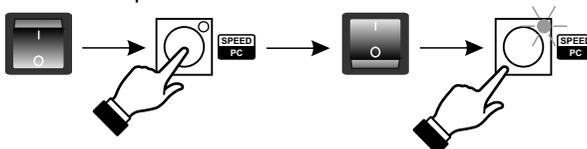
The selected scanner will return to programmed settings automatically after the "LOAD PROGRAM" key is pressed.

## 10. BLACKOUT FEATURE

By pressing the "BLACKOUT" key you can dimm all the controlled devices. Regardless of currently rendered program, the controller sends to all the 256 channels a "0" value. The active status of this feature is shown by the lit LED indicator in the "BLACKOUT" key. By pressing the key again you can return to the regular operation mode.

## 11. PROGRAMS COPYING TO SOLO RL CONTROLLER

1. Connect the Mirage RL and Solo RL controllers with the programming cable (both devices have to be switched off!).
2. When holding the "SPEED/PC" key pressed switch Mirage RL on. Yellow "PC" LED will light up.
3. Switch Solo RL on. "In" inscriptions will show on Solo RL display.
4. Press the "LOAD" key on Solo RL - the data transmission will start.
5. When the transmission is carried out properly, the "Ed" inscription will appear on Solo RL display.
6. When errors appear during the transmission, "Er" insription will be displayed on Solo RL controller. In such case return to p. 1.



## 12. PROGRAMS COPYING FROM SOLO RL CONTROLLER

1. Connect the Mirage RL and Solo RL controllers with the programming cable (both devices have to be switched off!).
2. When holding the "SPEED/PC" key pressed switch Mirage RL on. Yellow "PC" LED will light up.
3. Switch Solo RL on. "In" inscriptions will show on Solo RL display.
4. Press "+" or "-" key on Solo RL controller - the "Ou" will show on Solo RL display.
5. Press the "LOAD" key on Solo RL - the data transmission will start.
6. When the transmission is carried out properly, the "Ed" inscription will appear on Solo RL display.
7. When errors appear during the transmission, "Er" inscription will be displayed on Solo RL controller. In such case return to p.1.

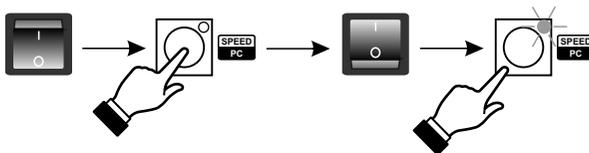
## 13. CO-OPERATION WITH A PC COMPUTER

The controller is equipped with a standard serial port RS-232, that allows to connect it with the computer. This connection can serve for:

1. sending the controller memory content to the PC, where the settings can be archived on the hard drive,
2. rewriting the previously saved on the hard drive archival settings and programs,
3. adjusting all the controller's parameters with the PC,
4. updating the FirmWare applications, that control the PX126 operation.

Communication with the PC requires appropriate software installation, you can download the application from producer's website: [www.pxm.pl](http://www.pxm.pl).

1. Connect the Mirage RL controller to the PC with the RS-232 cable (Mirage RL controller has to be switched off!).
2. While holding the "PC" key switch the Mirage RL controller on. The "LINK" LED will light up.
3. Launch the "mirageRL\_e.exe" application on your PC.



### PC application

After launching the application, the window shown on the next page will appear on your PC display screen.

Choose a bookmark:

- "FirmWare upgrade" - allows to install the latest software version in the Mirage RL controller
- "Action" - you can launch the tools for scenes, sequences and settings storage, or to control PX126 with the PC.



### Reaction to slider movement selection

Change of reaction to slider movement requires the appropriate FirmWare installation:

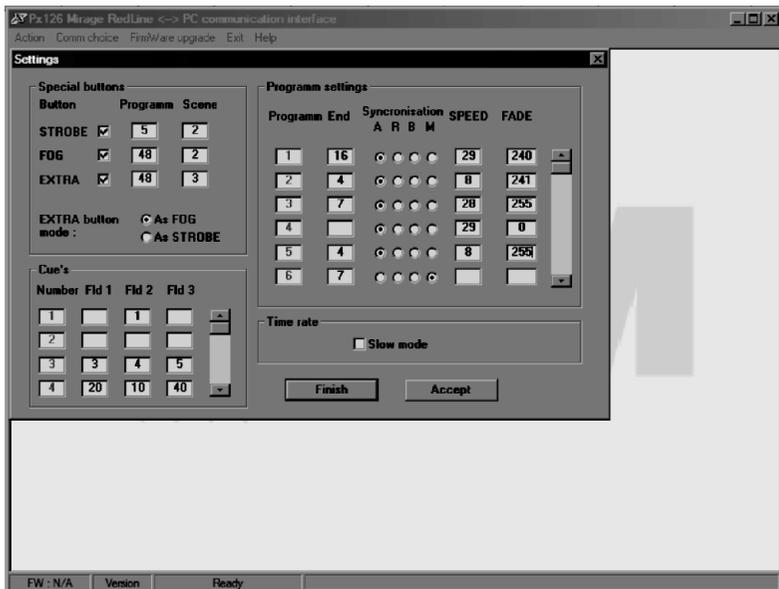
- "10%" reaction - all FirmWare versions ended with an odd number
- "interception" reaction - All FirmWare versions ended with an even number

For instance:

P1.07 FirmWare version - the sliders react when moved for at least 10%

P1.08 FirmWare version - the sliders react when the saved control level is exceeded

The window below appears after the "Action / Edition / Settings" bookmark has been entered. It allows to easily define the controller operation modes.



**ATTENTION:**

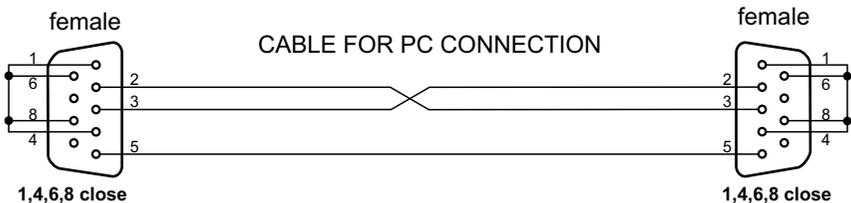
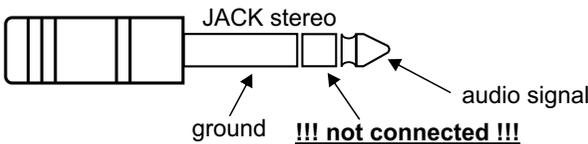
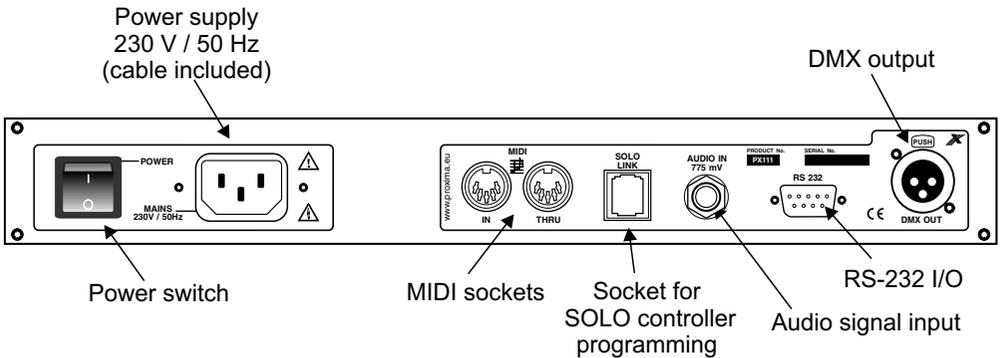
If such a communicate is displayed during application opening:



check if:

- the activation order has been kept: first the controller, after that the application
- both RS-232 cable plugs are properly nested in the sockets
- the COM port is active (BIOS settings)
- COM port settings in the PC computer are properly defined

## 14. CONNECTION SOCKETS



# 15. TECHNICAL SPECIFICATION

- DMX channels	256
- scenes	1022
- programs	48
- collections (CUEs)	16
- inputs:	
- audio 0 dB	JACK STEREO socket
- MIDI	5-pin DIN socket
- RS-232	9-pin D-SUB socket
- for Solo controller	telephone socket
- outputs:	
- DMX-512	3-pin XLR socket
- MIDI	5-pin DIN socket
- RS-232	9-pin D-SUB socket
- for Solo controller	telephone socket
- power supply	230 V / 50 Hz
- power consumption	6 VA
- weight	2 kg
- dimensions:	
- width	520 mm
- height	210 mm
- depth	80 mm





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## DECLARATION OF CONFORMITY

according to guide lines 73/23/EWG and 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: **MirageRedLine II**

Type: **PX126**

*answers the following product specifications:*

**LVD:** **PN-EN 60065**

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

*Additional informations:*

1. All DMX512 inputs and outputs must be shielded and the shielding must be connected to pin 1 XLR plug.
2. A ground wire of the controller power cable must be connected to efficient ground installation.

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

Kraków, 01.06.2006

Marek Żupnik M.Sc.