PX749

Multimedia Player 4K

User manual

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

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1 Description

PX749 is a multimedia file player controlled by DMX, Art-Net, sACN, UDP protocol or external buttons. The player allows you to play 4K video files up to 60 fps, audio files with 5.1 surround sound and static images.

It can be powered by 12 – 24V DC or using PoE 802.3af.

In the event of a control signal failure, it can operate independently according to programmed settings.

The device is equipped with:

- 1 x Ethernet 10/100/1000Base-T,
- 1 x SD card reader,
- 2 x USB 3.0,
- 1 x DVI-D*,
- 1 x S/PDIF,
- 1 x balanced audio connector,
- 1 x unbalanced audio connector,
- 8 x external button connectors,
- 1 x open collector (OC) output connector.

The device comes with a PC application that allows you to create a configuration.

The application is used to upload and download configurations and multimedia files using the Ethernet network.

A properly formatted SD memory card must be connected to the device.

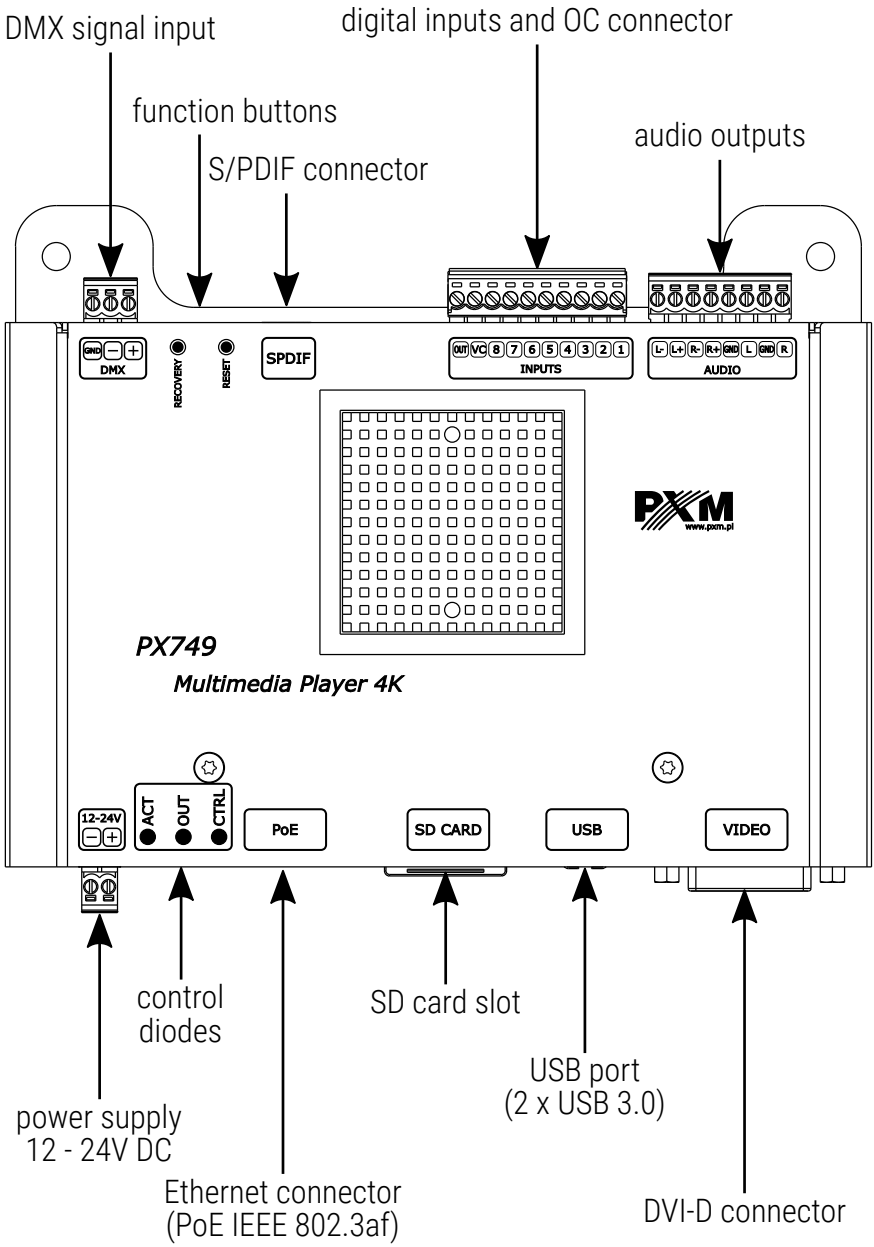
Multimedia Player 4K is equipped with RDM protocol support.

2 Safety conditions

PX749 is a device powered by 12 – 24V DC or twisted-pair PoE (Power over Ethernet) in the IEEE 802.3af standard, during its installation and use the following safety rules must be strictly observed:

1. The device may only be connected to 12 – 24V DC (stabilized voltage) or PoE in the IEEE 802.3af standard 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.
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. PX749 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 with damp duster only.

3 Connectors and control elements



4 Supported resolutions

Supported CTA (formerly CEA) compliant resolutions include:

Name	Resolution
HD	1280 x 720px
Full HD	1920 x 1080px
2K	2560 x 1440px
4K	3840 x 2160px

NOTE! The player does not support 16:10 screen resolution.

5 Supported file formats

The player supports the following file formats:

Video	Audio	Images
**.mkv*	**.mp3*	**.jpg*
**.avi*	**.wav*	**.jpeg*
**.mpeg*	**.flac*	**.png*
**.mp4*		**.bmp*
**.wmv*		**.svg*
**.mpg*		
**.ts*		

NOTE! File names can only contain alphanumeric characters (A – Z, a – z, 0 – 9).

NOTE! All multimedia files and configuration are saved on the SD card. The SD card must not be removed while the device is running – only when the power is off. The card should be formatted in NTFS or exFAT file system.

Recommended 4K@60 format:

- **container:** MPEG-4 (MP4) or Matroska (MKV),
- **codec:** H.265 (HEVC),
- **color depth:** 8 or 10 bits,
- **bitrate:** up to 50 Mb/s,
- **audio:** any (e.g. AAC, MPEG Audio, PCM, Vorbis, AC-3).

6 Installation

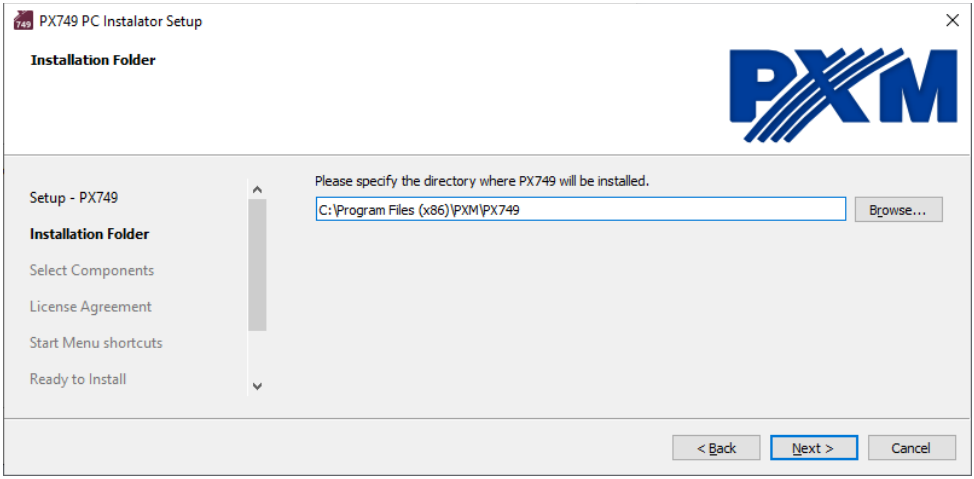
The PX749 software can be installed on Windows® 7 or later. The software installation procedure may vary depending on your computer's operating system. Windows® 10 is shown as an example.

The installation is as follows:

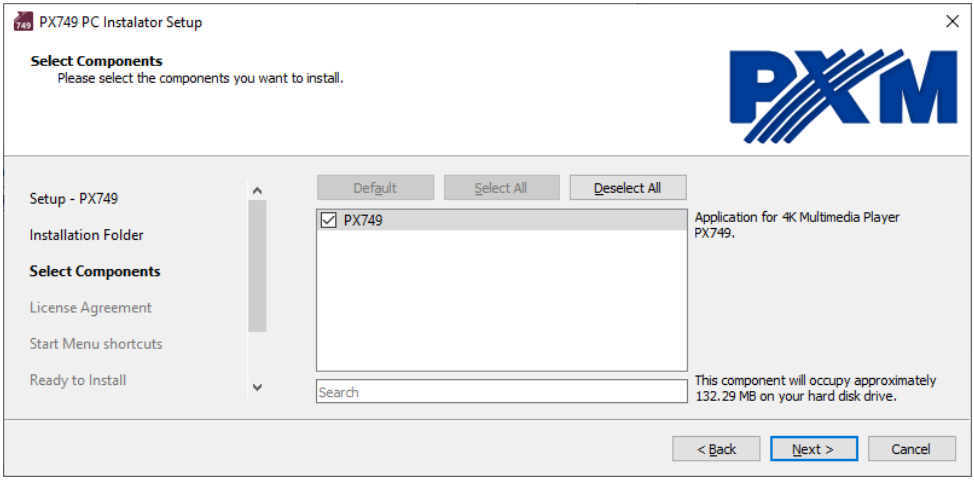
1. Open the setup file, click ***Next*** to proceed to the PX749 setup wizard.

The installation file is available for download from the manufacturer's website (pxm.pl).

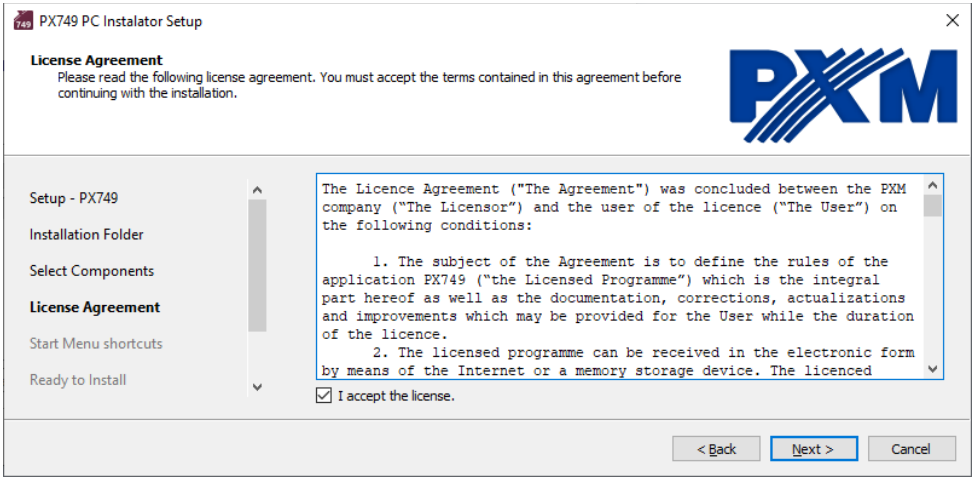
2. Select the directory where the software will be installed. Confirm your selection by clicking ***Next***.



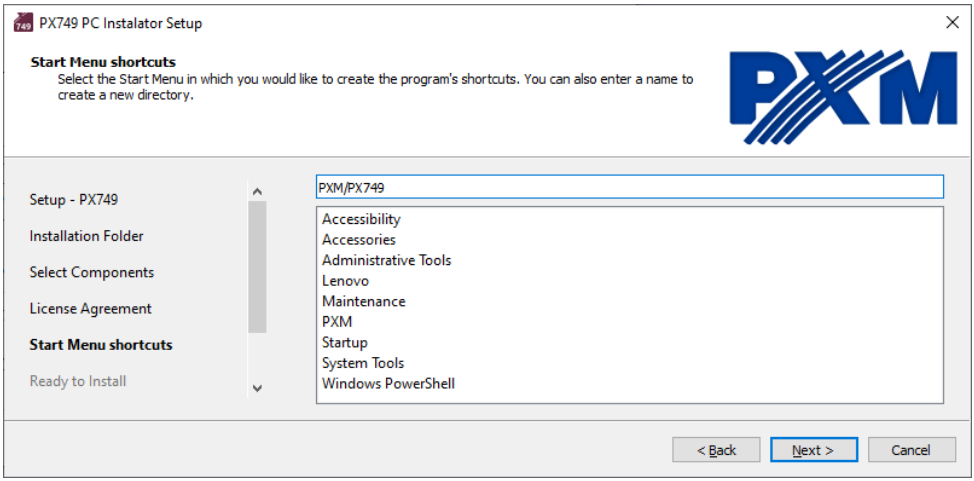
3. Select the components you want to install and then click ***Next***.



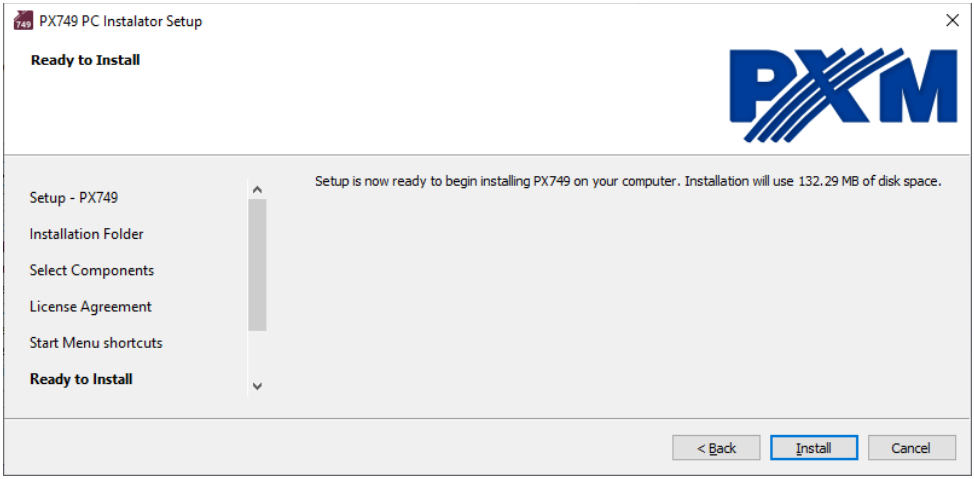
4. Read the license agreement carefully, if you agree to the terms of the agreement, select ***I accept the license terms***, to continue the installation click ***Next***.



5. Select the Start menu where you want to create a shortcut to the program. You can also rename the directory, then click ***Next***.



6. The software is ready to be installed. Click ***Install*** to begin the installation process.



7. When the installation completion window appears on the screen, press ***Finish*** to exit the installation wizard.

7 Connecting to the PC

The module has a built-in Web Server, which allows to change all settings via a web browser. To use the web interface, it is necessary to connect the PX749 module to a computer.

In automatic mode (DHCP), after connecting to the network the converter attempts to get the network configuration from a DHCP server (e.g router). Thanks to this, manual configuration of networks parameters is not needed. In the absence of a DHCP server on the network the converter will operate according to the static configuration (manual setup). When selecting static addressing, configure the network parameters so that the PX749 works in the same subnet as the computer and that there is no conflict of IP addresses (devices must have unique IP addresses in the network).

If the converter obtained the IP address from the DHCP server, unplugging the network cable will cause the loss of the assigned IP address. If PX749 is reconnected to the network, it will try to get a new address from the DHCP server, if it fails to receive the address, it will work according to the saved static settings.

It is recommended to use automatic addressing and connect the converter to the network with a running DHCP server.

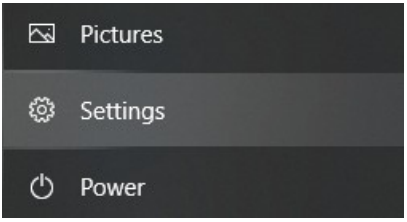
If the converter is connected directly to the computer (no DHCP server), it is necessary to manually set the network parameters of both the computer and PX749 so that they work in one network and connect the devices with a crossover Ethernet cable.

7.1 Change of the computer network configuration

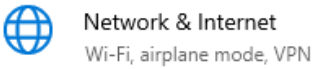
The procedure for changing the computer network configuration varies depending on the operating system. Windows® 10 system is an example here.

Change of the computer network configuration in the Windows® 10 operating system in done in the following:

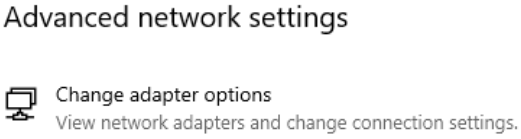
1. Click **[Start]** 
2. Select **[Settings]** tab



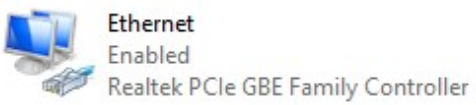
3. Go to **[Network & Internet]** tab



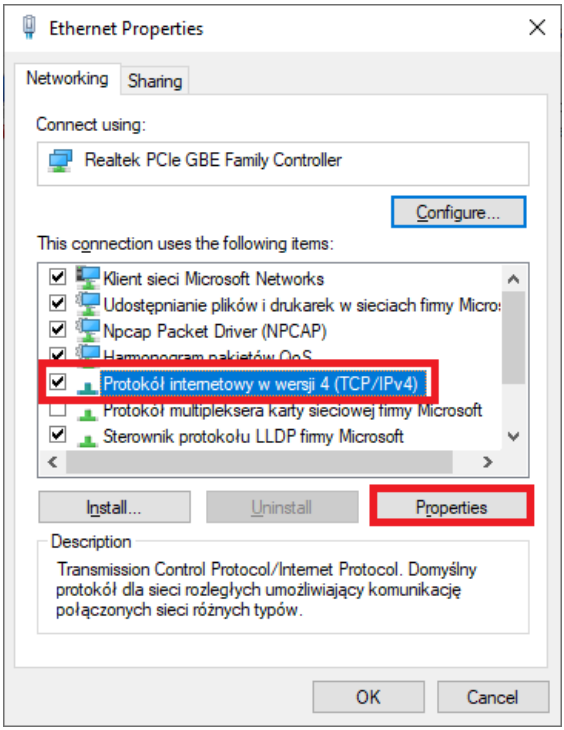
4. Select **[Advanced network settings]**



5. Right-click on the appropriate connection, for example it could be **[Ethernet]** and select **[Properties]**

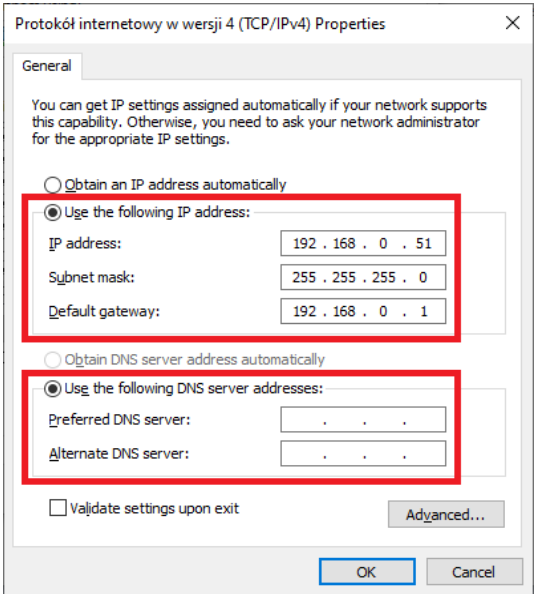


6. In the new window that appears, select **[Internet Protocol Version 4 (TCP/IPv4)]** and then press properties



7. In the next window, select **[Use the following IP address:]**

   To connect directly (computer – driver) with a controller that has a default configuration, use the sample settings:



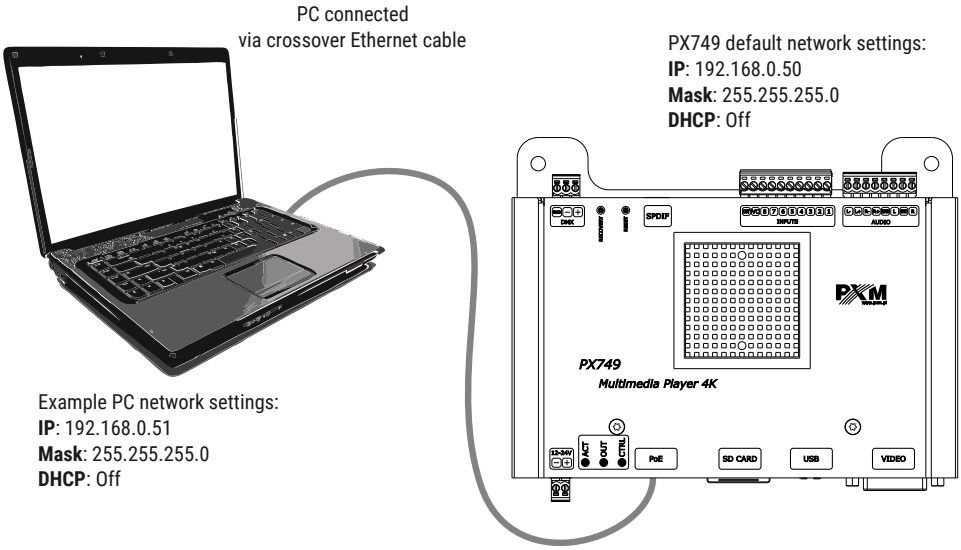
IP address: 192.168.0.51

Subnet mask: 255.255.255.0

Default gateway: 192.168.0.1

7.2 Connecting directly to a PC

If you connect the player directly to a computer, use a crossover Ethernet cable.



NOTE! Please remember that the player and the computer must be on the same network and there must be no IP address conflict.

Alternatively, if the DHCP service is enabled on both devices (PC and PX749), then both devices will set an APIPA-compliant address without the need to set a manual IP address (a random address from the pool 169.254.0.0 – 169.254.255.255/16 will be set after 40 seconds if there is no DHCP server connected in the network).

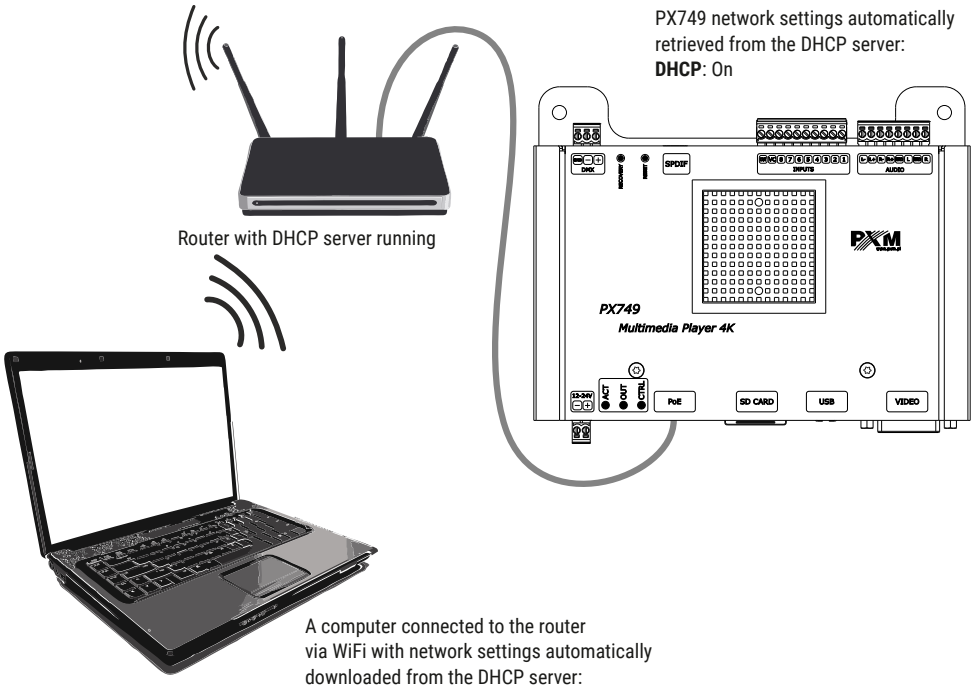
APIPA (*Automatic Private IP Addressing*) is a mechanism that allows devices to automatically assign themselves an IP address when a DHCP server is unavailable.

7.3 Connecting to a computer using a router

When connecting the player to the router, there are two network setting options available. The first one is to use a router with a DHCP server running, the network configuration on all devices is set automatically. The second option is to connect the PX749 and the computer to a switch or router that does not support a DHCP server, in which case all devices must have their network settings manually configured so that each device works on the same network and has a unique IP address.

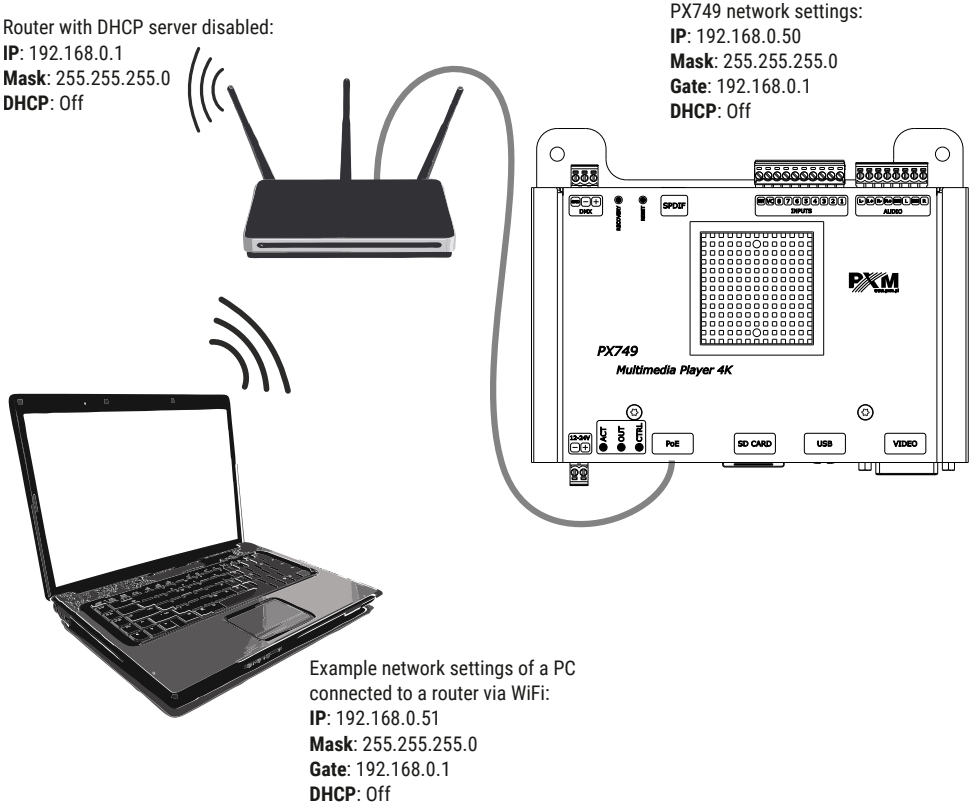
7.3.1 Automatic addressing

Below is a diagram of how to connect the device to a router running a DHCP server.

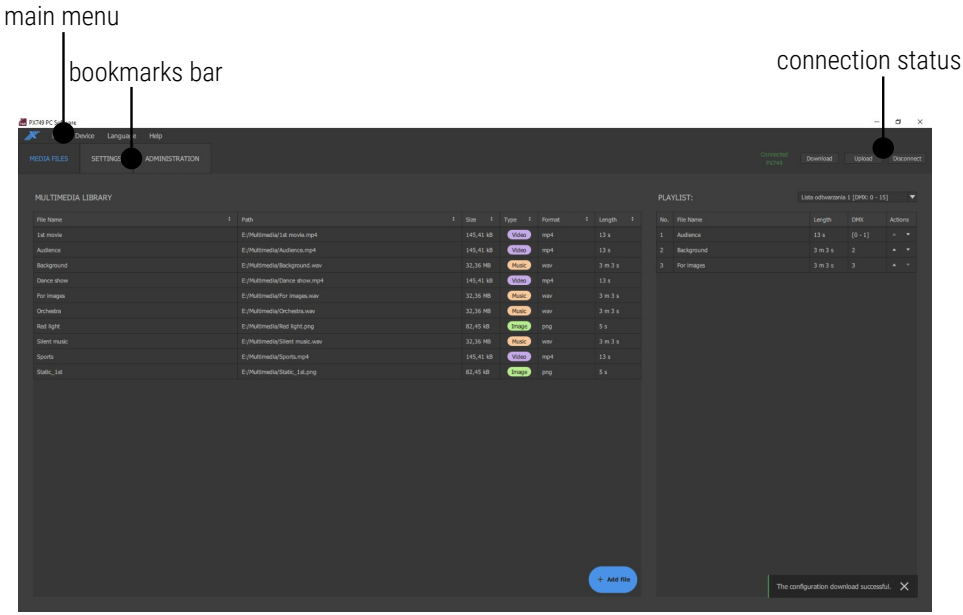


7.3.2 Static addressing

Below is an example diagram of the network settings of the player, router and computer, in case there is no working DHCP server in the network.



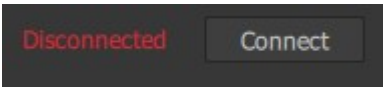
8 Application window structure



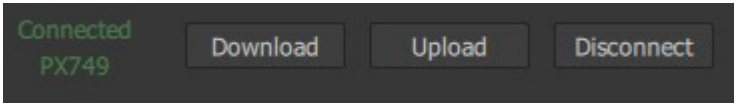
9 Connection

In the upper right corner there is information about the connection:

- application disconnected
  - *Disconnected* / *Connect*

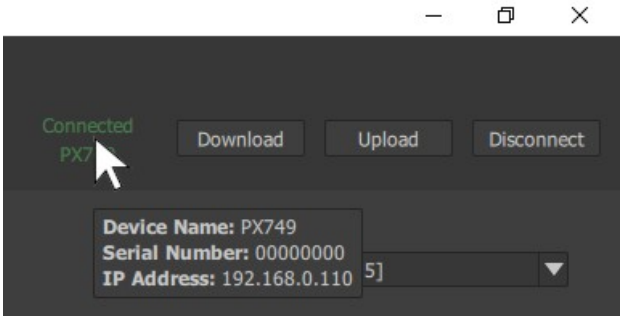


- connected application
  - Status (*Connected*), ***Download*** (configuration), ***Upload*** (configuration).



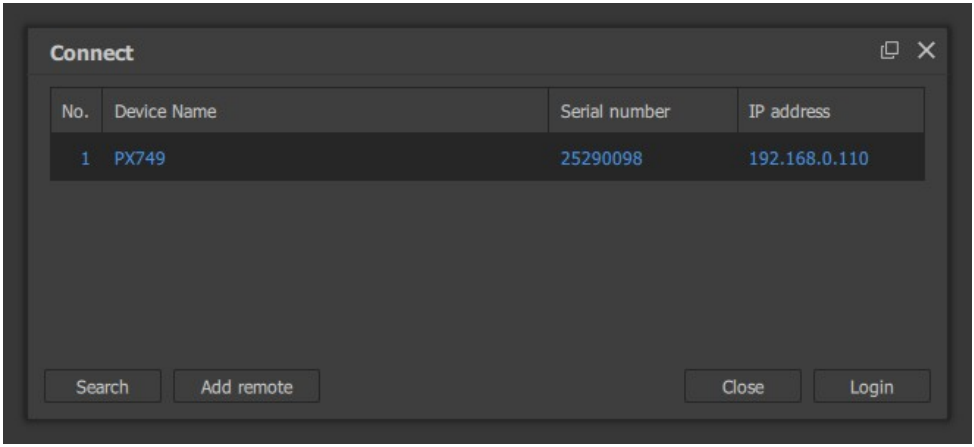
Current messages appear in the lower right corner.

The user can read the device name, serial number and IP address by hovering the mouse cursor over the connection status.



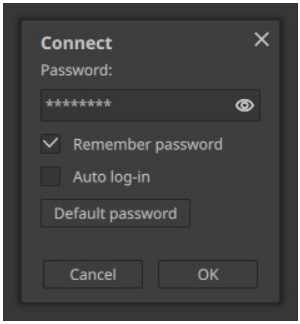
9.1 Connecting to the device

By selecting the Connect button in the upper right corner or selecting *Device* → *Connect* from the main menu, a new window with the found devices will appear.



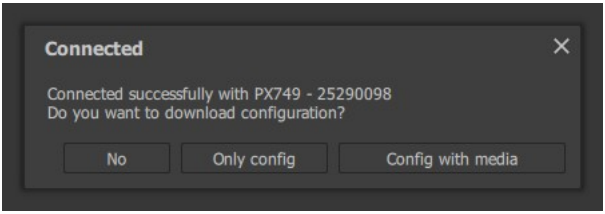
The user can choose:

- *Search* – re-scan the local network,
- *Add remote* – adding a driver that is not on the local network,
- *Close* – close the window,
- *Login* – logging in to the selected player



- you must enter a password – by default it is the serial number of the device,
- selecting the *Remember password* option will cause the application to remember the password for this device and will automatically fill in this field during subsequent connection attempts,
- the *Auto log-in* option is only available when the *Remember password* option is selected. Selecting this option will cause the app to automatically attempt to connect to the device using the remembered password when it starts.
- clicking *Default password* will enter the default password – the device serial number.

Once connected, the application will display a dialogue asking whether to download the configuration, the configuration with media files, or nothing.



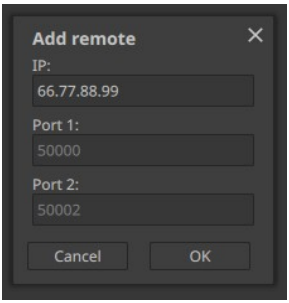
9.1.1 Add remote

The user can add a player to the application that is not located in the local network, to do this:

- have an external IP address on the router assigned by the Internet provider and be able to establish connections from outside (incoming packets are not blocked by the provider's and router's firewall),
- forward ports 50000 and 50002 to the IP address of the player operating in the local network (so-called forwarding port),
- unblock the appropriate ports in the router's firewall,
- set the protocol TCP / UDP or *both*,
- the address of the player/players in the local network cannot change (the player must have a static IP address set or the DHCP server must assign the same addresses to the same devices each time).

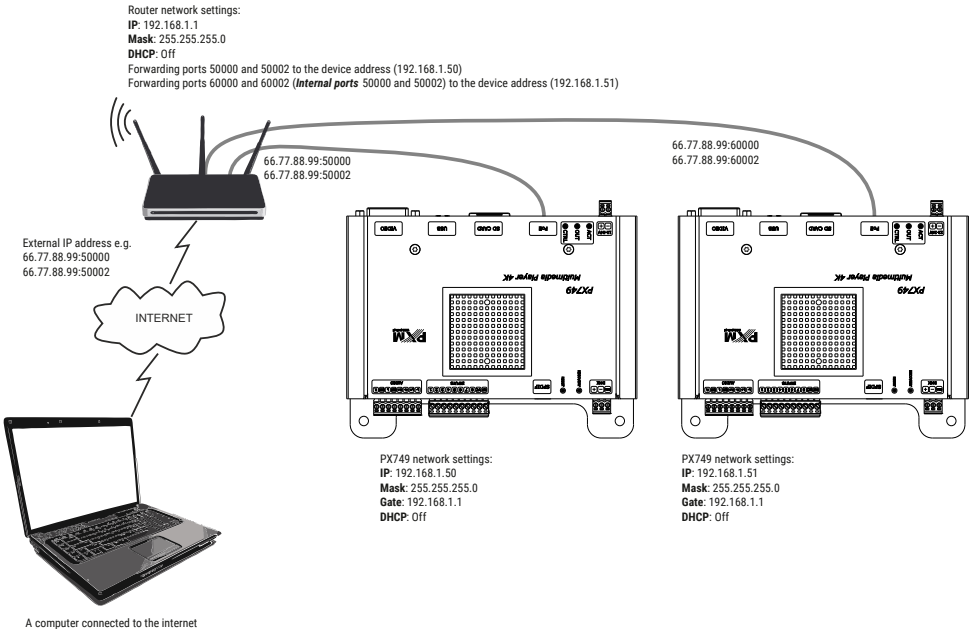
Most routers available on the market typically have several parameters in their port forwarding options:

- forwarding number,
- port range (port) to be forwarded,
- IP address of the device to which redirection is to be made,
- protocol type (TCP / UDP or both),
- enabling/removing forwarding.



NOTE! If you do not enter ports, the default ports (50000 and 50002) will be used.

Example configuration:



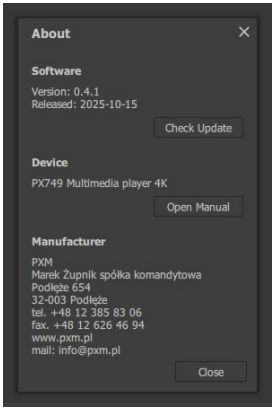
10 Main menu

The following options are available in the main menu:

- *File*
  - *New* – opens a new empty configuration,
  - *Open* – opens the configuration file saved on disk,
  - *Save* – saves the current file to disk,
  - *Save as...* –saves the file to disk with the specified name and location,
  - *Export archive* – creates a zip archive containing the configuration file and all multimedia files in a location specified by the user on the computer's local disk,
- *Device*
  - *Connect* – option available only when the application is not connected to the device,
  - *Disconnect* – option available only when the application is connected to the device – it interrupts the connection,
  - *Download configuration* – option available only when the application is connected to the device – the configuration file is downloaded from the device,
  - *Download configuration with media* – option available only when the application is connected to the device – the configuration file and multimedia files are downloaded from the device,

- *Upload configuration* – option available only when the application is connected to the device – a configuration file is uploaded to the device,
- *Upload configuration with media* – option available only when the application is connected to the device – the configuration file and multimedia files are uploaded to the device,
- *UDP control* – opens the UDP control window,

- *Language*
  - *Polski* – selection of the Polish language,
  - *English* – English language selection,
- *Help*
  - *About* – displays information about the program, device and manufacturer, also allows you to check for program updates and open the user manual,



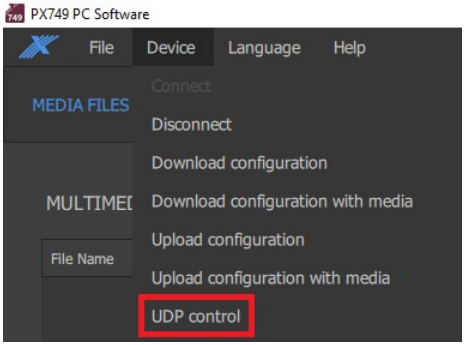
  - *Manual* – opens a PDF with the application's user manual,
  - *About Qt* – displays information about Qt,
  - *Licence* – the license is displayed,

- *Check for Update* – checks if a newer version of the application is available on the server. If a newer version is available on the server, it will be downloaded (you must manually uninstall the current version and install the new one).

10.1 UDP control

The user can send UDP commands from the application level if ***UDP*** control is selected in the ***Settings*** tab. (11.2.1. Control).

When you select UDP control from the tab bar, a new dialog box will appear.

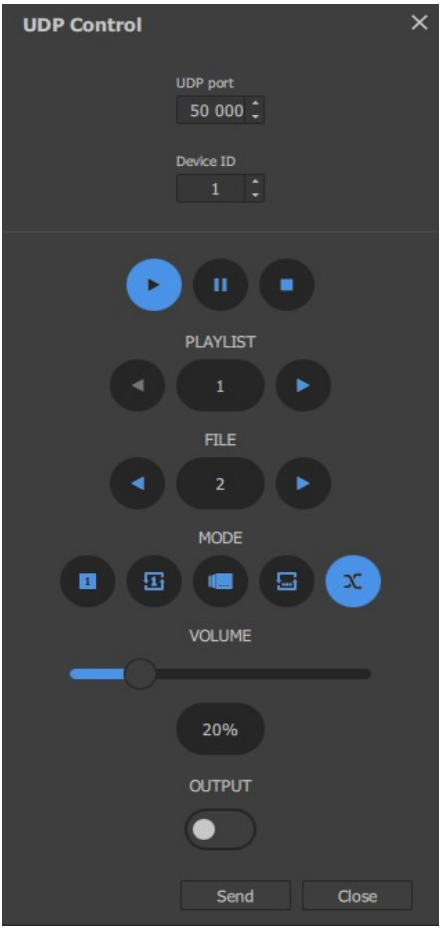


In this dialog box, the user can set the following options:

- UDP port to which the command is to be sent,
- ID of the device to which the command is to be sent,
- command:
  - behavior:
    - *play* ▶,
    - *pause* ⏸,
    - *stop* ■,

- playlist number (1 – 16),
- file number (1 – 255),
- mode of operation:
  - *single*  – play the selected song once,
  - *loop single*  – looping the song playback,
  - *playlist*  – play the entire playlist once, starting from the specified file number,
  - *loop playlist*  – looping the entire playlist, starting from the specified file number,
  - *shuffle*  – random playback of files from the specified playlist, starting from the specified file number,
- volume (0 – 100%),
- OC output behavior – external open collector output.

NOTE! To send the UDP command to the device, press the ***Send*** button.


UDP Control
UDP port
50 000
Device ID
1
PLAYLIST
1
FILE
2
MODE
VOLUME
20%
OUTPUT
Send
Close

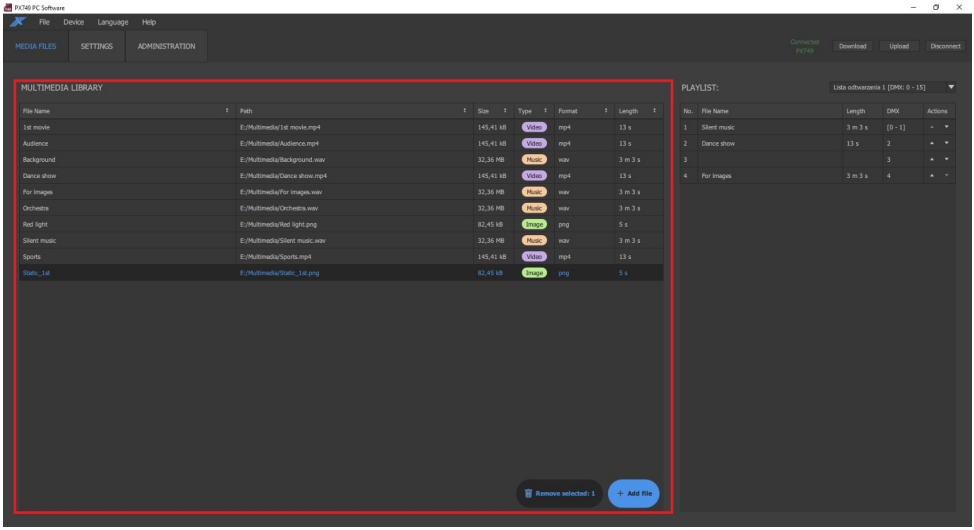
11 Bookmarks bar

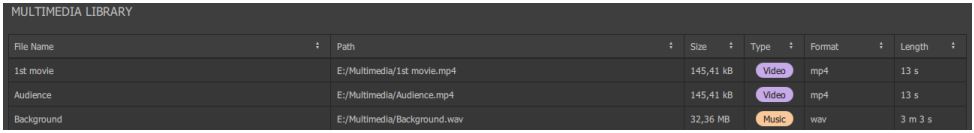
The following options are available in the bookmarks bar:

- *Media files* – this tab contains two tables – the current configuration's media file library and playlists. The user imports all media files used in the configuration into the library and then places them in the appropriate playlists in the order they choose.
- *Settings* – this tab contains grouped fields that allow you to define the operation of the device (control, inputs, control signal loss, image settings, messages on the screen),
- *Administration* – this tab is only available when connected to the device. The tab allows you to: change device settings, change the administrator password, update firmware, network settings, and output signal.

11.1 Media files

11.1.1 Multimedia library

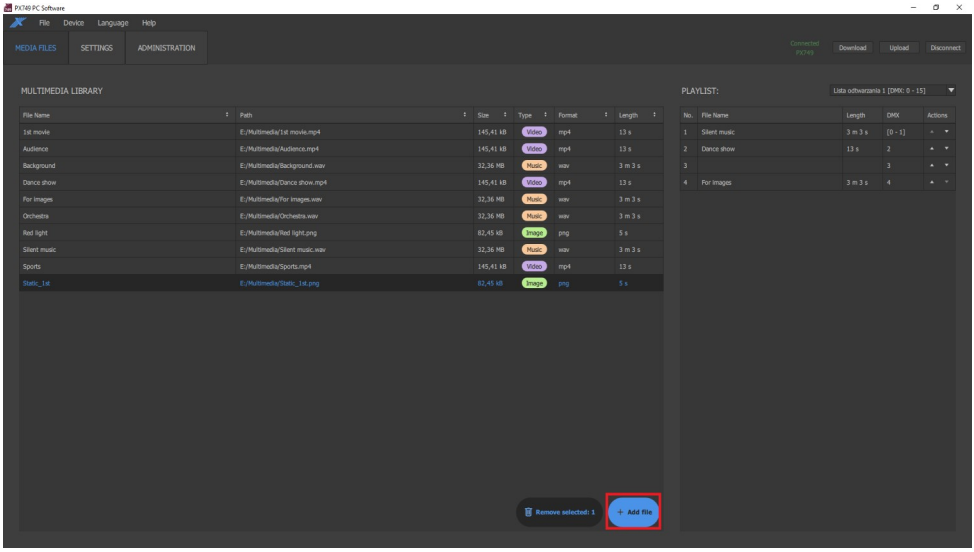




The media library contains files added to it, and the table displays:

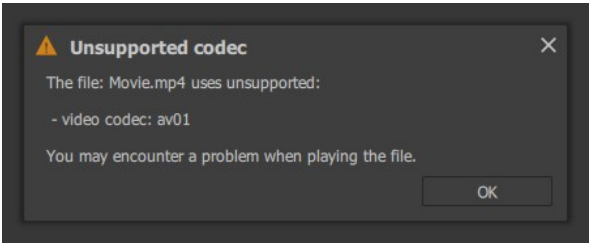
- file name,
- file path,
  - if a file is added and it is not on the local disk, then an icon  is displayed next to the path,
- file size,
- file type (*Video* / *Music* / *Image*),
- format,
- length.

To add files to the library, click the button in the lower right corner and then select the files you want to add.



Double-clicking a table cell containing the file name or path will display a file selection window – the file will be replaced in the library and all playlists.

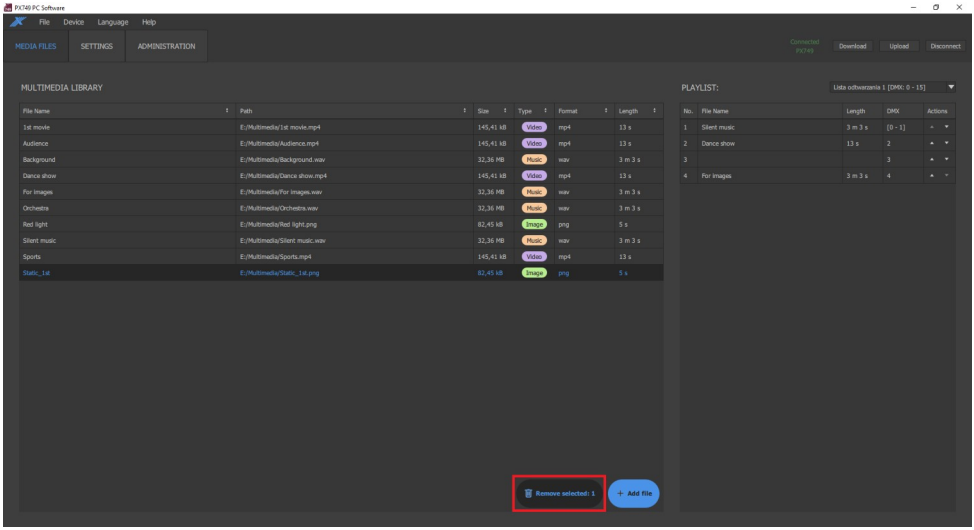
NOTE! Media files not supported by your device will be displayed in a new window.



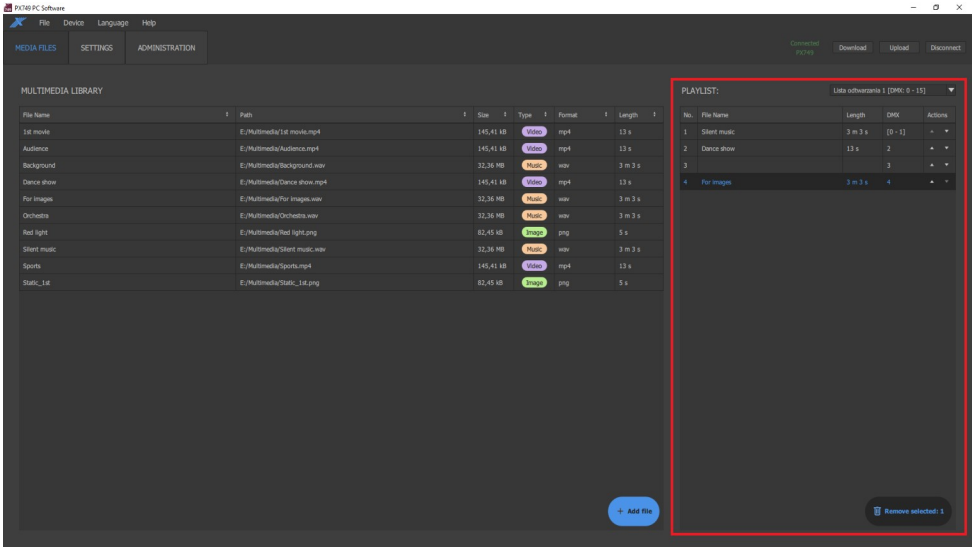
Media files in the library and playlists can be selected:

- in groups (Ctrl + LMB),
- in groups from a selected file (Shift + LMB),
- all (Ctrl + A) – one item in the list must be selected.

To remove a file from the library, select one or a group and press the *Del (Delete)* key on your keyboard, or select *Delete Selected: x* in the application window.



11.1.2 Playlist

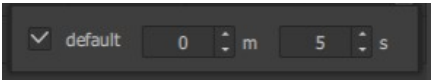


The user can choose from 16 playlists, each with a DMX value responsible for playing the playlist. Each playlist can contain up to 255 items (files from the media library can be added to the playlist multiple times).

The table displays:

- position on the list,
- file name,
- length,

- double-clicking on the *Image* time allows you to change its display time from the default 5s,



- DMX – the value responsible for playing the song,

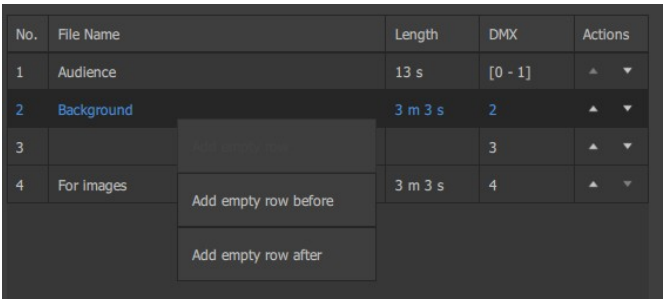
NOTE! The first media file in the playlist is selected with DMX values 0 and 1.

- actions
  - [▲] – swipe up,
  - [▼] – swipe down.

NOTE! It is possible to move items in the playlist by pressing and holding the LMB on the selected file.

Adding an empty item to a playlist:

- right-click in the playlist,
- if you click on an existing item, select one of the following options:
  - *Add empty row before*,
  - *Add empty row after*,
- if you click outside the list, a new empty item will be added to the end of the list,
- the empty item does not contain a song and will not play.

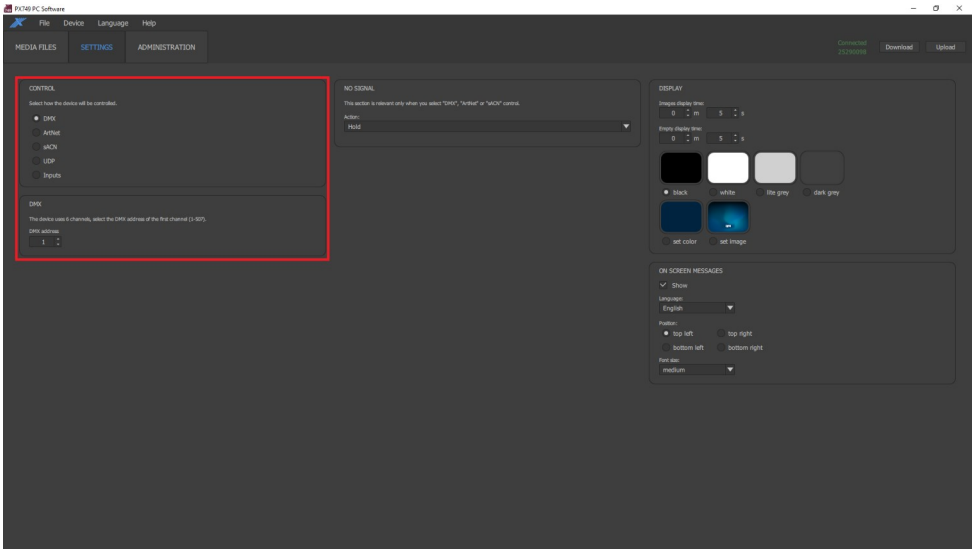


11.2 Settings

11.2.1 Control

Here the user can choose from which source the device should be controlled:

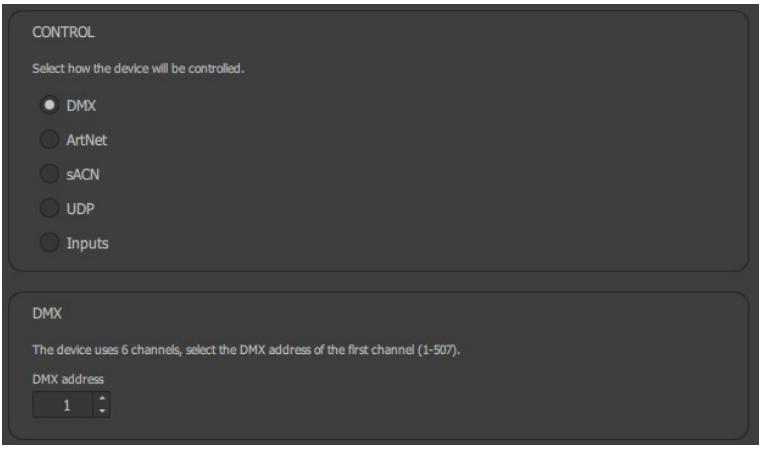
- *DMX*,
- *Art-Net*,
- *sACN*,
- *UDP*,
- *Inputs*.



11.2.1.1 DMX

When selecting DMX control, the user selects the starting address of the device in the range of 1 – 507. The device uses 6 channels.

For example, if you set the DMX start address to 100, the first channel of the fixture will be DMX channel 100 and the last channel will be DMX channel 105.

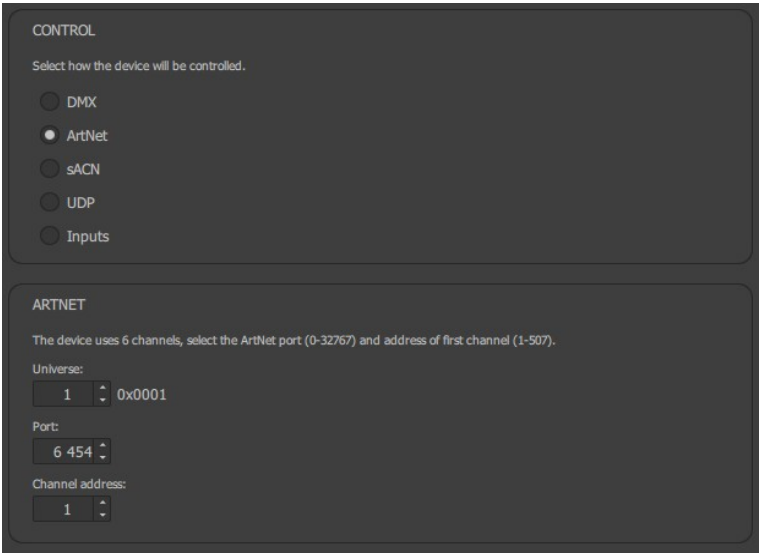


11.2.1.2 Art-Net

With Art-Net control, the user defines:

- Universe,
- UDP port (default 6454),
- channel address in the range 1 – 507.

For example, if you set the start address to 100, the first channel of the device will be 100 and the last channel will be 105.



11.2.1.3 sACN

When controlling sACN, the user defines:

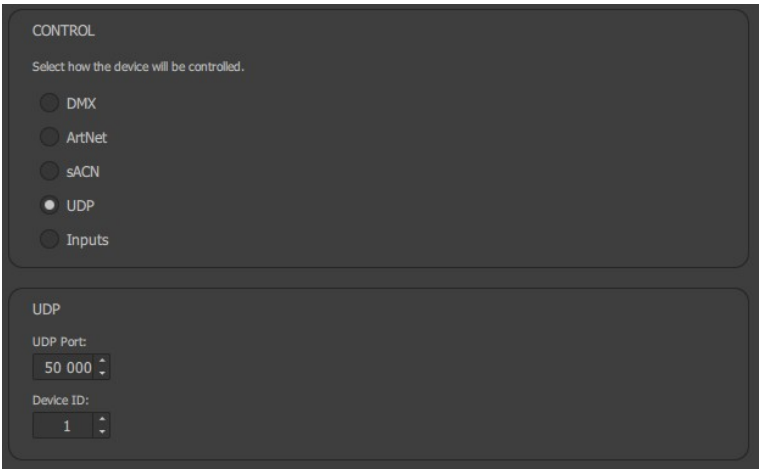
- Universe,
- channel address in the range 1 – 507.

11.2.1.4 UDP

With UDP control, the user defines:

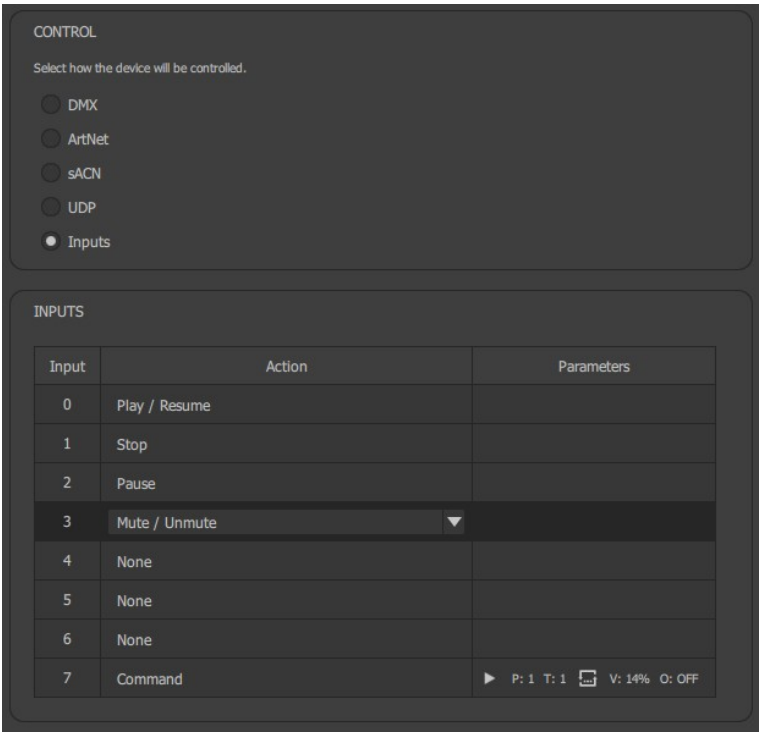
- UDP port (default 50000),
- Device ID.

NOTE! When selecting *UDP* control mode, the user cannot select an action in 11.2.2. No signal.



11.2.1.5 Inputs

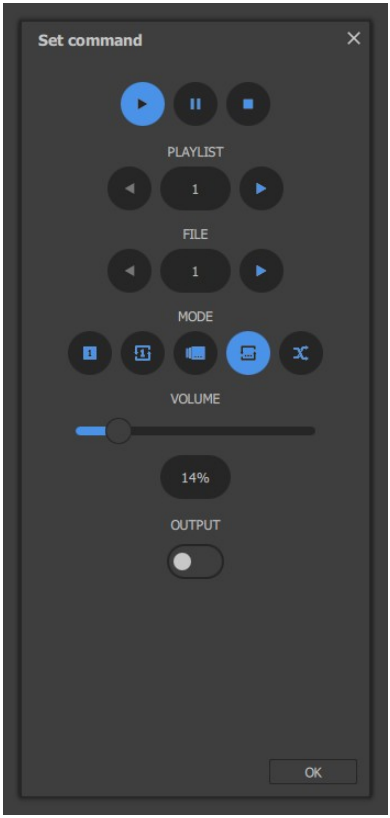
The device has 8 digital inputs.



Each input can cause a different action:

- *None* – inputs disabled by default,
- *Play / Resume*,
- *Pause*,
- *Stop*,
- *Next playlist*,
- *Previous playlist*,
- *Next track*,
- *Previous track*,

- *Volume up*,
- *Volume down*,
- *Mute / Unmute*,
- *Command*
    - selecting the input as *Command*, its description will appear in the *Parameters* column, double-clicking on the parameter will open a new window in which the user defines the command.



Command:

- behavior:
  - *play*  ,
  - *pause*  ,
  - *stop*  ,
- playlist number (1 – 16),
- file number (1 – 255),
- mode of operation:
  - *single*  – play the selected song once,
  - *loop single*  – looping the song playback,
  - *playlist*  – play the entire playlist once, starting from the specified file number,
  - *loop playlist*  – looping the entire playlist, starting from the specified file number,
  - *shuffle*  – random playback of files from the specified playlist, starting from the specified file number,
- volume (0 – 100%),
- OC output behavior – external open collector output.

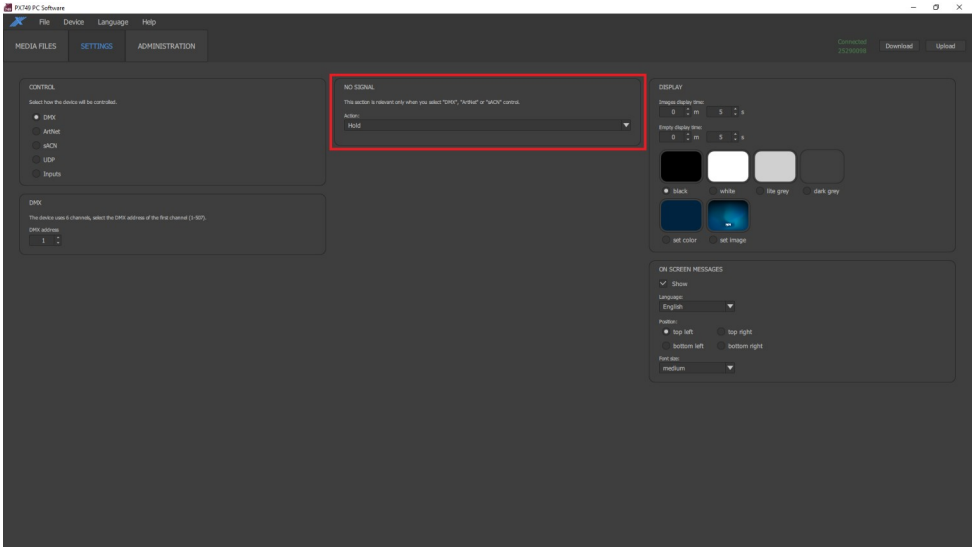
NOTE! When selecting the *Input* control mode, the user cannot select an action in 11.2.2. No signal.

11.2.2 No signal

This function only works when DMX, Art-Net or sACN control is selected.

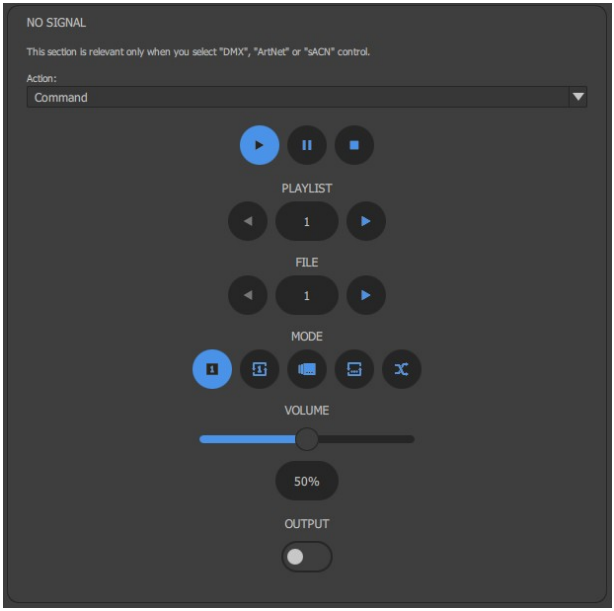
The user defines the behavior of the device when the control signal disappears.

Reconnecting the signal will automatically interrupt the action selected when the signal is lost.

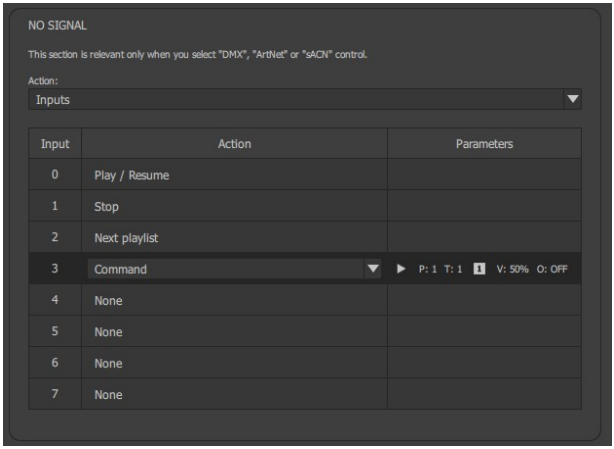


The following actions are available to choose from:

- *Hold* – maintaining the last value of the control signal,
- *Command* – defining the command that will be executed,



- *Inputs* – the device "changes" the control mode to Inputs as described in section 11.2.1.5. Inputs,

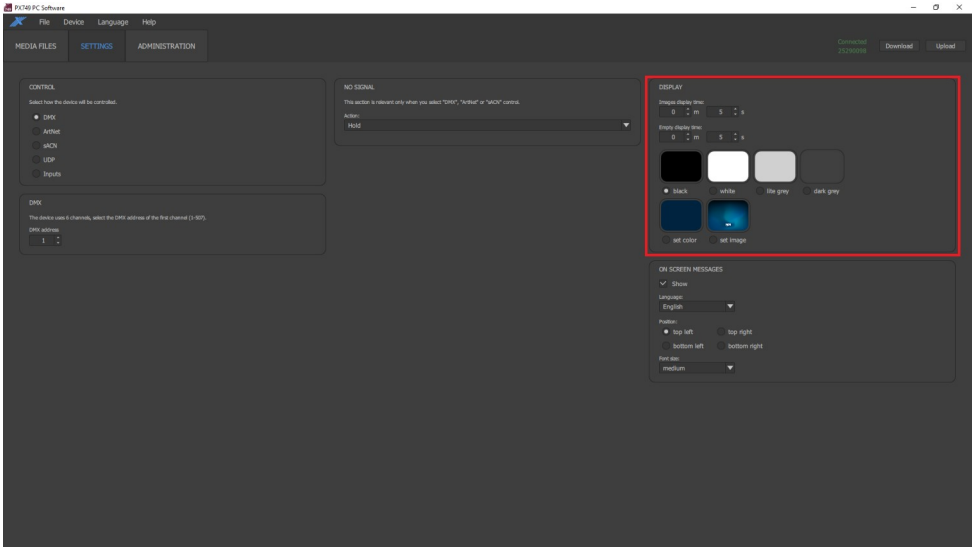


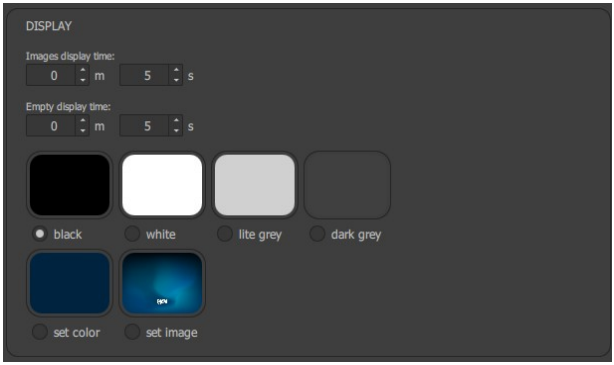
- *Finish current track* – Ends the currently playing track – the device is muted.

Command:

- behavior:
  - *play*  ,
  - *pause*  ,
  - *stop*  ,
- playlist number (1 – 16),
- file number (1 – 255),
- mode of operation:
  - *single*  – play the selected song once,
  - *loop single*  – looping the song playback,
  - *playlist*  – play the entire playlist once, starting from the specified file number,
  - *loop playlist*  – looping the entire playlist, starting from the specified file number,
  - *shuffle*  – random playback of files from the specified playlist, starting from the specified file number,
- volume (0 – 100%),
- OC output behavior – external open collector output.

11.2.3 Display

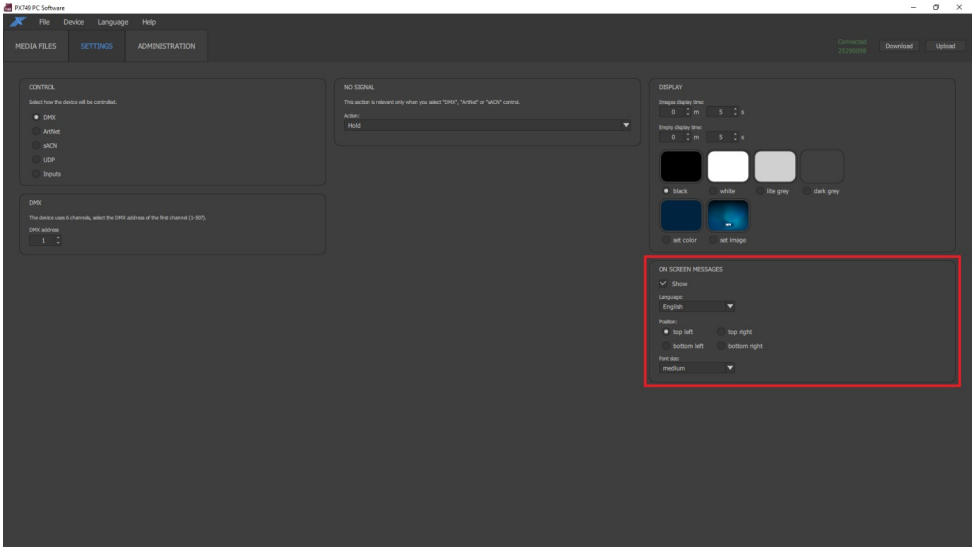




The user can define the default display time (1s – 90min 59s) for static images and empty lines added to the playlist.

Additionally, you can choose one of four predefined colors, choose your own color (HEX) or upload a static image that will be displayed when no media file is playing.

11.2.4 On screen messages



The screen displays messages about:

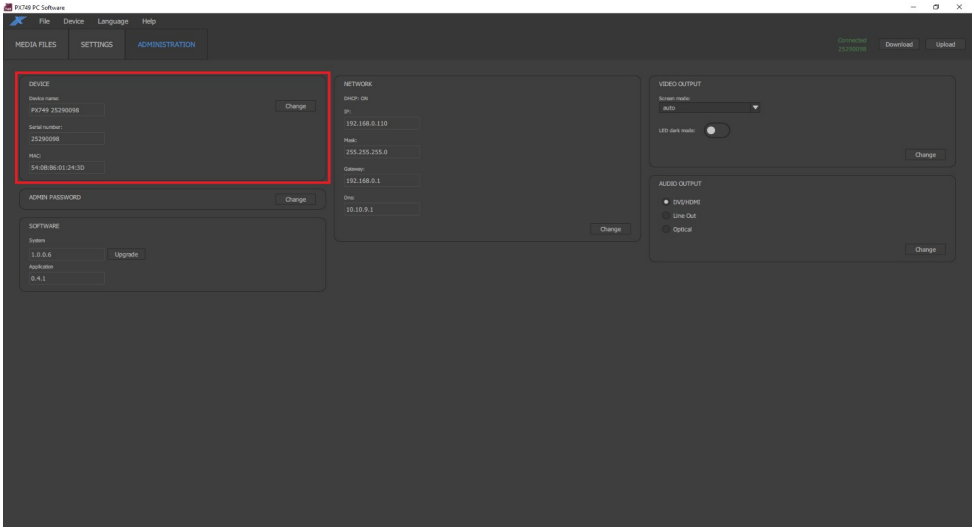
- the song being played,
- playing list,
- behavior,
- mode of operation,
- volume,
- additional information about configuration, multimedia files, errors.

By default, messages are displayed in the upper left corner in English with a medium font size. By unchecking *Show*, you can completely disable on-screen messages.

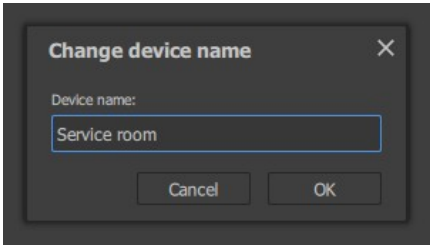
The user can define the language of the displayed messages (*Polish / English*), choose in which corner they will be displayed and choose the font size (*small*, *medium*, *large*).

11.3 Administration

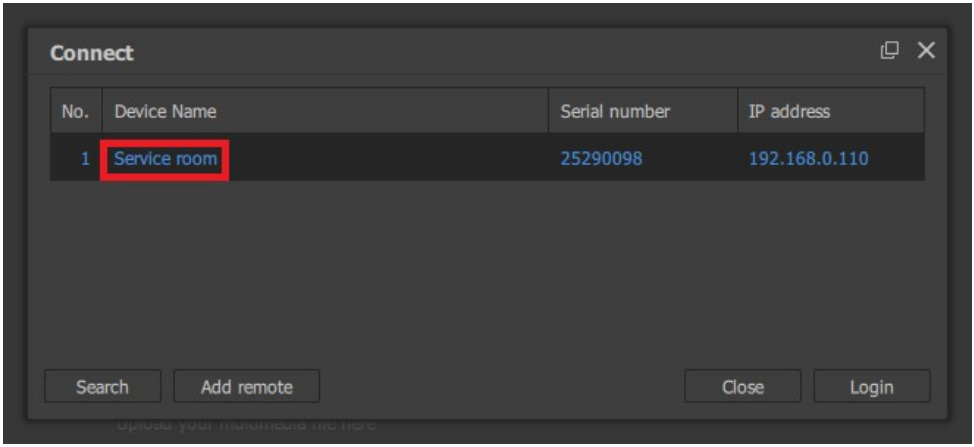
11.3.1 Device



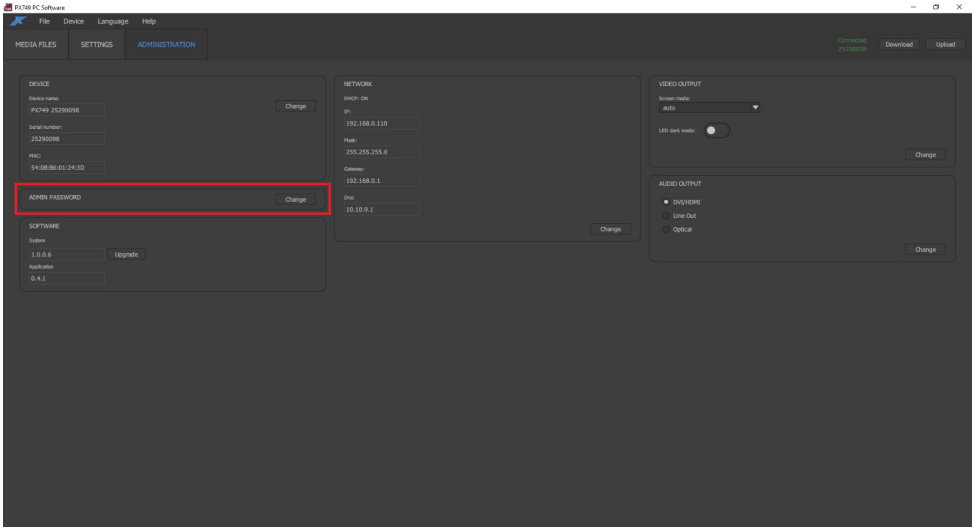
In the *Administration* tab, the first option is *Device*. Here, users can view the serial number and physical MAC address. Additionally, the device name can be changed here for easier identification, such as its location.



In the device list, the device name is displayed when connecting.

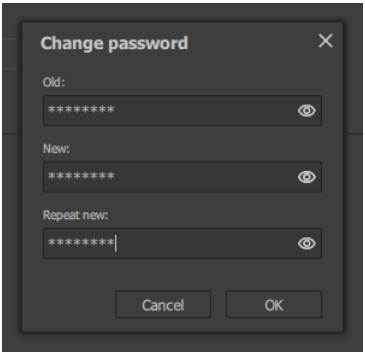


11.3.2 Admin password



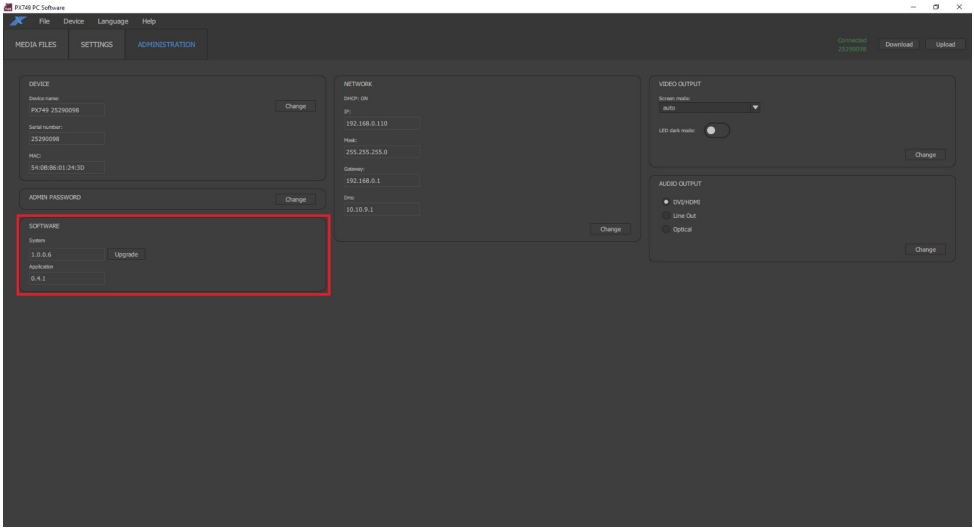
The default password when connecting to the PX749 is the serial number, however, the user can change this password to their own.

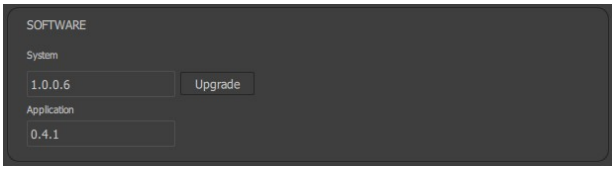
To change your password, enter your current password and a new one. The password must be at least 8 characters long.



NOTE! Restoring the password to the default is possible in the Recovery mode, described in section 17.1. Recovery button.

11.3.3 Software (upgrade)

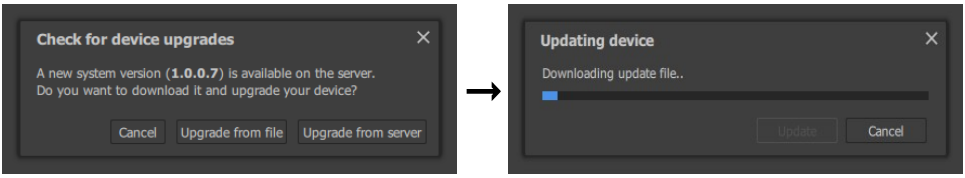




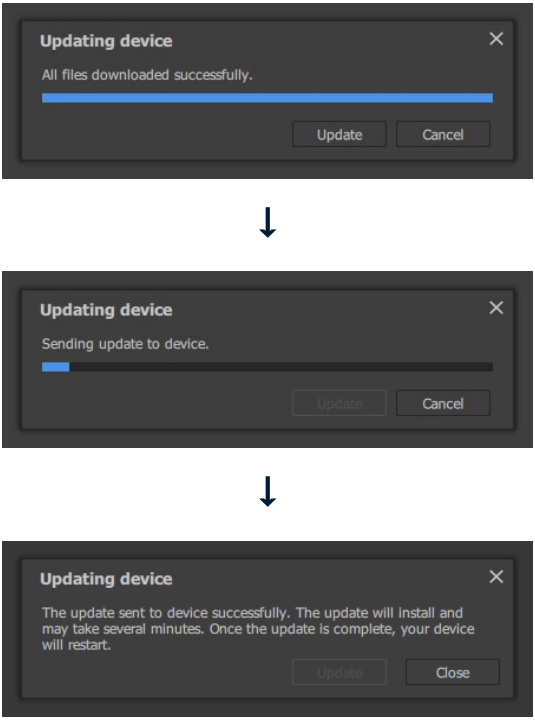
The next section is *Software*, where you can read the system version installed on the player and the application version.

The system in the PX749 can be updated by clicking the *Upgrade* button, provided that the system version in the device is not the latest one.

To update to the latest version, click *Update from server* in the new window.

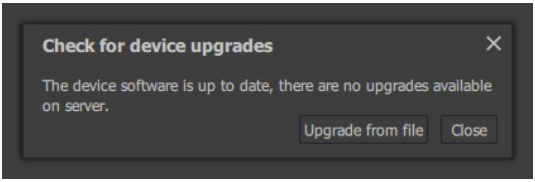


Then click *Update*, the update file will be transferred to your device and once the transfer is complete, the update will start automatically.

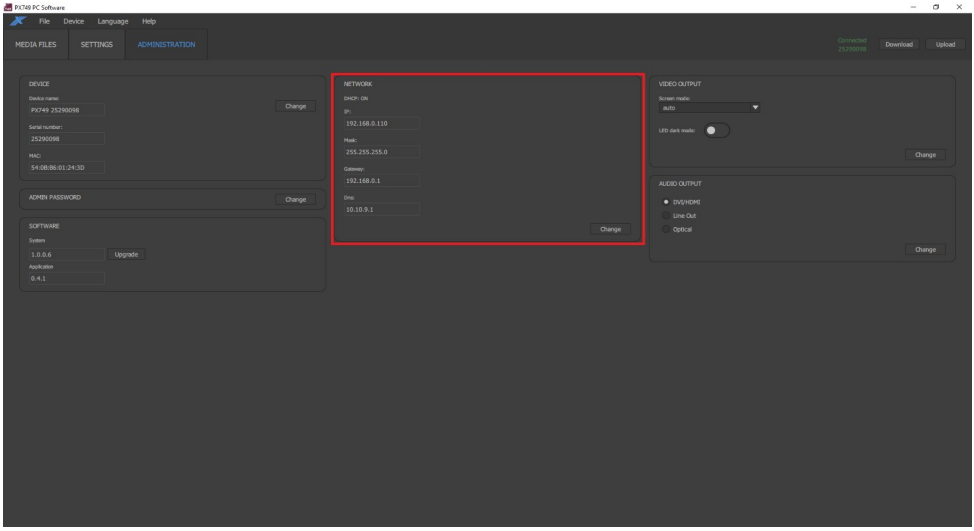


After restarting the device, click *Close* and use the PX749 normally.

NOTE! If the system version is up to date, a message will appear with the option to manually update from a file (previously downloaded file).



11.3.4 Network



<u>In the *Network* section you can read information about:</u>

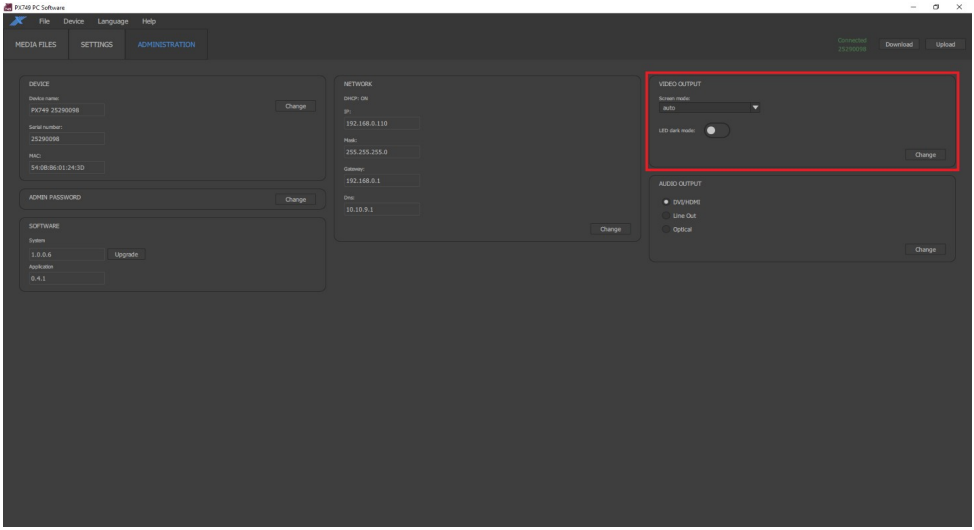
- DHCP (enabled / disabled),
- IP address,
- mask,
- default gateway,
- DNS address.

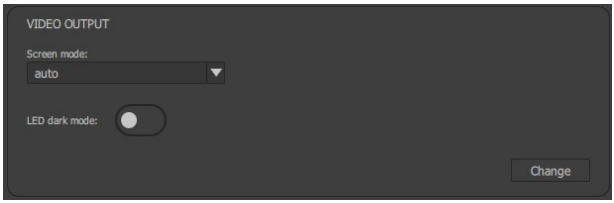
The user can of course change the network settings to suit his/her needs by clicking the *Change* button.

If the DHCP option is enabled and there is no DHCP server on the network, the device will operate with a static network configuration (or according to APIPA).

NOTE! If the device operates on a network without a DHCP server, remember that each device should have a unique IP address to avoid conflicts.

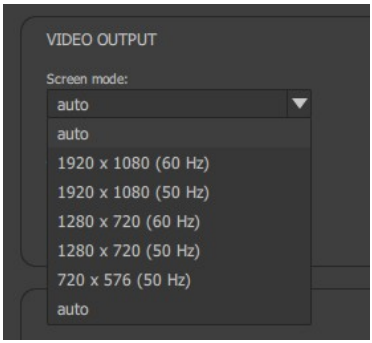
11.3.5 Video output





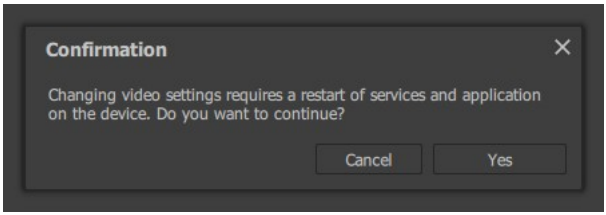
In this section, the user can set a static resolution by selecting from the available options for a given screen/projector model, e.g.:

- *3840 x 2160 (60Hz)*,
- *1920 x 1080 (60Hz)*,
- *1920 x 1080 (50Hz)*,
- *1280 x 720 (60Hz)*,
- *1280 x 720 (50Hz)*,
- *auto* – recommended mode.



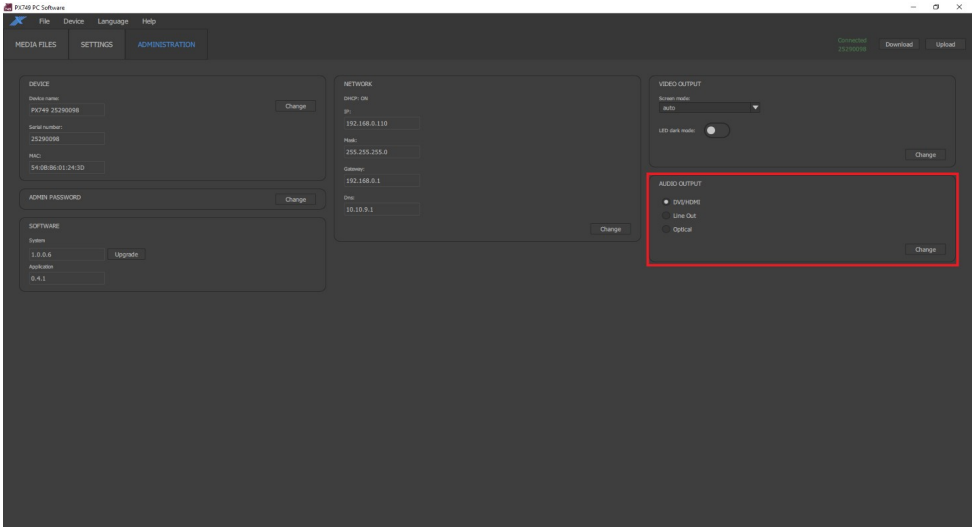
By switching the *LED Dark Mode* slider, the user can turn off the indicator LEDs visible on the device housing.

To save changes, click the *Change* button. A message will then appear informing you that the device needs to be restarted – click *Yes*.



NOTE! Player supports only CTA (formerly CEA) compliant resolutions. The player does not support 16:10 screen resolution.

11.3.6 Audio output



The user can choose which connector will be used to transmit sound. You can choose from:

- *DVI/HDMI*,
- *Line Out* – audio screw connector,
- *Optical* – S/PDIF digital output.

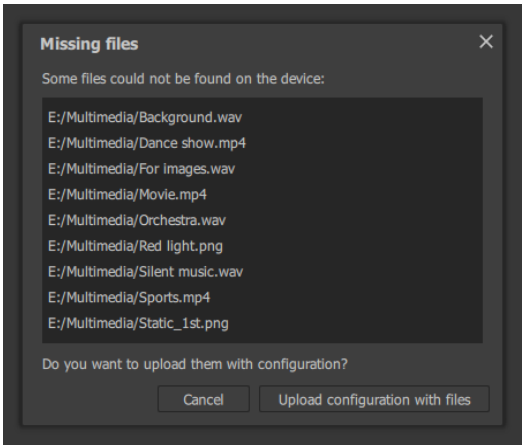
To save changes made to the audio output, select the *Change* button.

12 Configuration

12.1 Sending configuration

The user can send the configuration from the application to the device in three different ways:

- *Main menu → Device → Upload configuration* – by selecting this method only the configuration will be sent to the device,
- *Main menu → Device → Upload configuration with media* – selecting this method will send the configuration to the device along with all multimedia files,
- The *Upload* button in the upper right corner of the screen will send the configuration. If there are no multimedia files in the device's memory, a message will be displayed along with the files listed. In this case, select the *Upload configuration with files* button in the dialog box.

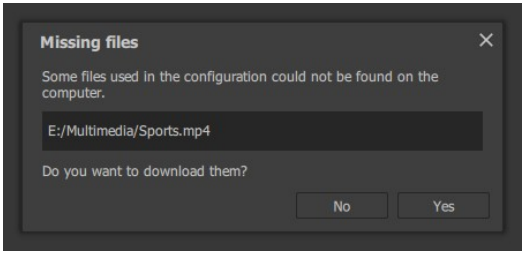


NOTE! It is recommended to upload the configuration (and any missing media files) using the *Upload* button in the upper right corner of the application.

12.2 Downloading configuration

The user can download the configuration from the device to the application in three different ways:

- *Main menu → Device → Download configuration* – by selecting this method, only the configuration will be downloaded to the application,
- *Main Menu → Device → Download configuration with media* – selecting this method will download the configuration and all multimedia files to the application. Specify the location on your local drive where you want to save the downloaded multimedia files.
- *Download* button in the upper right corner of the screen – the configuration will be downloaded. If there are any missing media files on your local drive, a message will be displayed along with the files listed. In this case, select *Yes* in the dialog box and then specify the location on your local drive where the missing media files should be saved.



NOTE! Downloading missing media files will update their paths in the configuration file. This does not affect the player's operation. Redownloading the same configuration will not require downloading files that are already on your disk.

13 Operation of the device

13.1 Control

13.1.1 DMX / Art-Net / sACN

The PX749 can be controlled via DMX, Art-Net, or sACN. In each case, the device is controlled via 6 channels. These are the 6 consecutive channels that the device receives.

Channel 1 (function selection):

Channel value	Function
0 – 63	stop
64 – 127	pause
128 – 255	play

Channel 2 (track selection):

Channel value	Track number
0 – 1	1
2	2
3	3
…	…
254	254
255	255

NOTE! The value on the channel corresponds to the track number – the exception is track number 1, which is selected with values 0 and 1.

Channel 3 (operation mode):

Channel value	Mode
0 – 63	single
64 – 127	loop single
128 – 191	playlist
192 – 249	loop playlist
250 – 255	shuffle

Modes of operation:

- *single*  – play the selected track once,
- *loop single*  – looping the track playback,
- *playlist*  – play the entire playlist once, starting from the specified file number,
- *loop playlist*  – looping the entire playlist, starting from the specified file number,
- *shuffle*  – random playback of files from the specified playlist, starting from the specified file number,

Channel 4 (volume 0 – 100%):

Channel value	Volume [%]
0	0%
1	0.39%
2	0.78%
3	1.18%
…	…
127	49.8%
128	50.2%
…	…
254	99.61%
255	100%

Channel 5 (playlists):

Channel value	Playlist number
0 – 15	1
16 – 31	2
32 – 47	3
48 – 63	4
64 – 79	5
80 – 95	6
96 – 111	7
112 – 127	8
128 – 143	9
144 – 159	10
160 – 175	11
176 – 191	12
192 – 207	13
208 – 223	14
224 – 239	15
240 – 255	16

Channel 6 (OC output):

Channel value	State
0 – 127	OFF
128 – 255	ON

13.1.2 UDP

Sending commands directly from the PX749 application described in section 10.1. UDP control or from an external source.

A UDP packet consists of the following parameters:

- *deviceId* – device ID (0 – 65535),
- *mediaCommand* – function:
  - 0 – play,
  - 1 – pause,
  - 2 – stop,
- *playlistIndex* – playlist number (0 – 15),
- *playlistItemIndex* – track number (0 – 254),
- *playlistMode* – operation mode:
  - 0 – single,
  - 1 – loop single,
  - 2 – playlist,
  - 3 – loop playlist,
  - 4 – shuffle,
- *volumeValue* – volume (0 – 100),
- *outputState* – OC output status (0 – 1).

Example command:

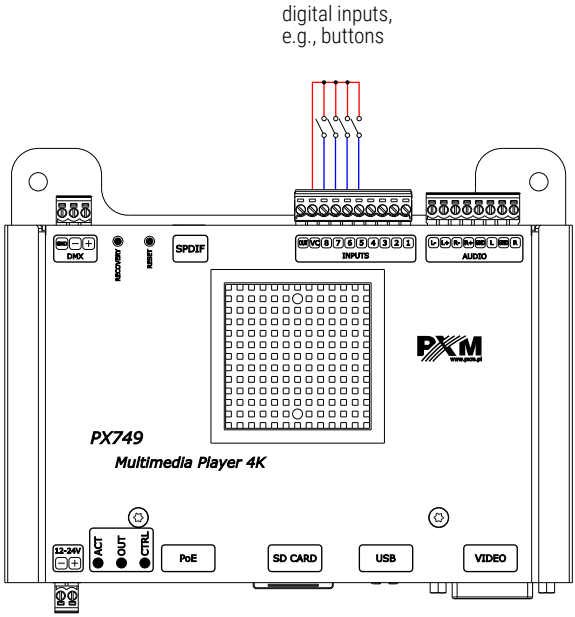
- *deviceId* = 1,
- *mediaCommand* = 0 (PLAY),
- *playlistIndex* = 0 (playlist number 1),
- *playlistItemIndex* = 0 (track number 1),
- *playlistMode* = 1 (loop single),
- *volumeValue* = 80 (80%),
- *outputState* = 1 (ON).

HEX: 01 00 00 00 01 50 01

DEC: 1 0 0 0 1 80 1

13.1.3 Buttons (Inputs)

A detailed description can be found in the section 11.2.1.5. Inputs.

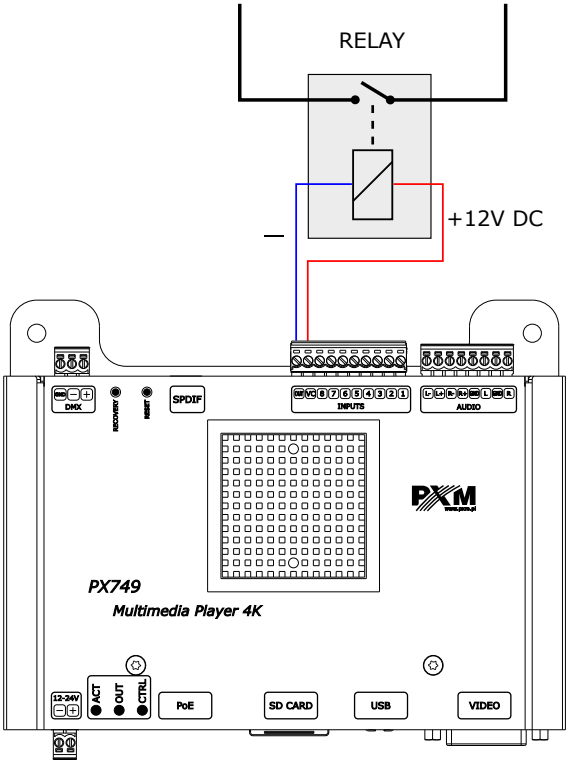


14 OC output

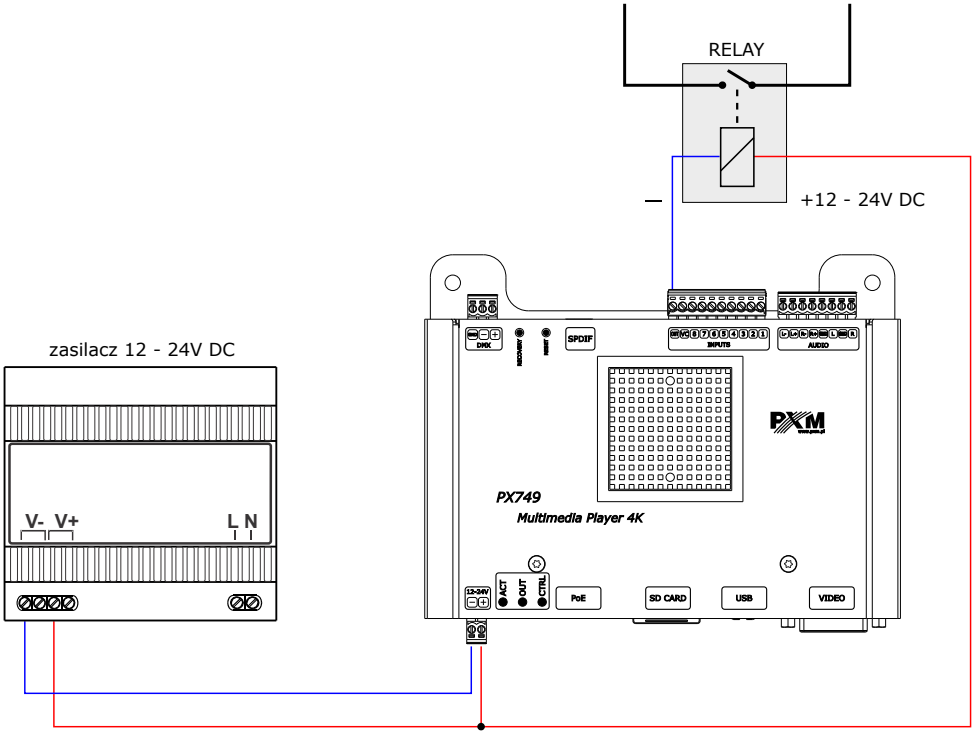
The OC (open collector) output is a 0/1 digital output. The output can be used to control, for example, a Relay device.

NOTE! The functionality only works if the player is fully launched.

Connection for PoE power supply:



Connection for 12/24V DC power supply:



Power supply	OC output
PoE	12V AC / max. 0.1A
12V DC	12V AC / *[A] depending on the power of the power supply*
24V DC	24V AC / *[A] depending on the power of the power supply*

15 RDM – available parameters

The PX749 supports the DMX–RDM protocol. While DMX is designed to allow unidirectional data flow, its extension, the RDM protocol, can transmit information bidirectionally. This allows for simultaneous data reception and transmission, enabling the monitoring of RDM-compliant devices and the potential reconfiguration of their operating parameters.

Through RDM in PX749 you can:

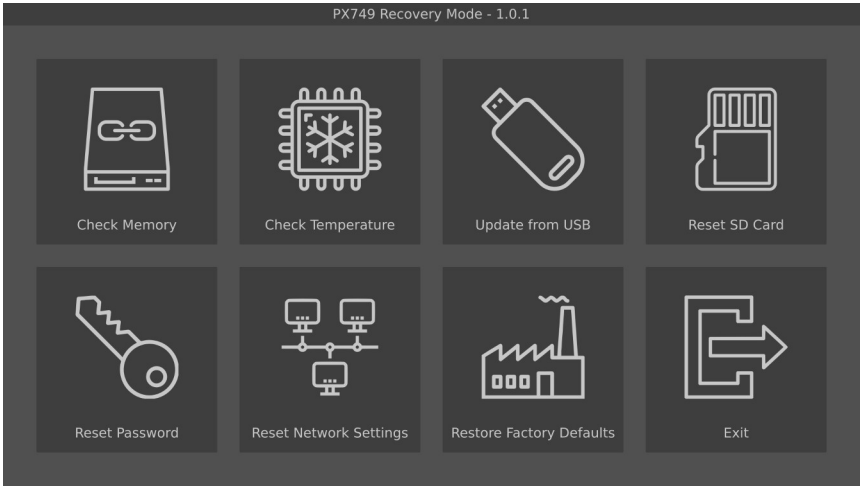
- change device name (*Device Label*),
- set the *DMX address* in the range 1 – 507,
- read device information:
  - device name,
  - manufacturer,
  - software version,
  - serial number,
- select the identification option – all LEDs on the device flash.

16 *Recovery* function

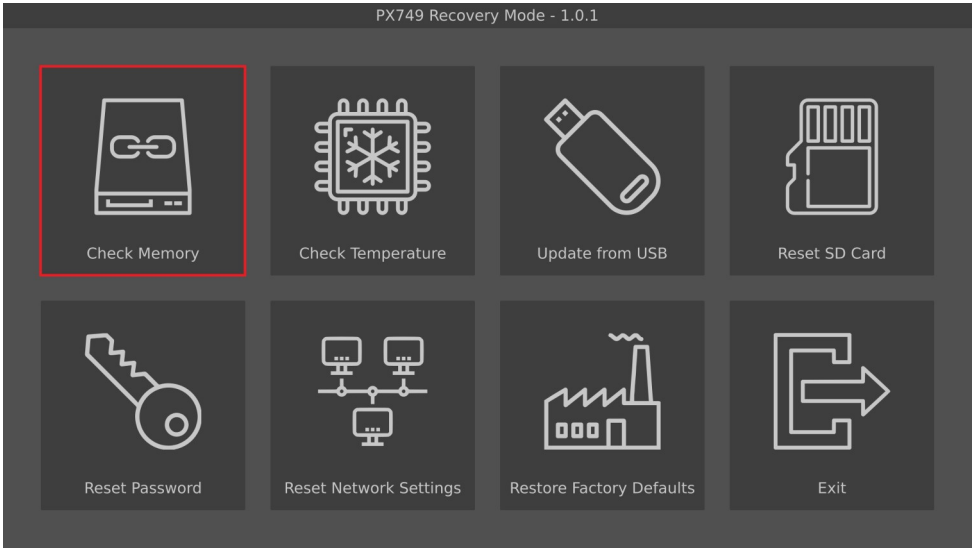
To enter *Recovery* mode, press and hold the button while starting the device until the Recovery mode screen opens. (17.1. Recovery button). In *Recovery* mode, operation is performed using a mouse connected to the USB port.

In recovery mode, the user can:

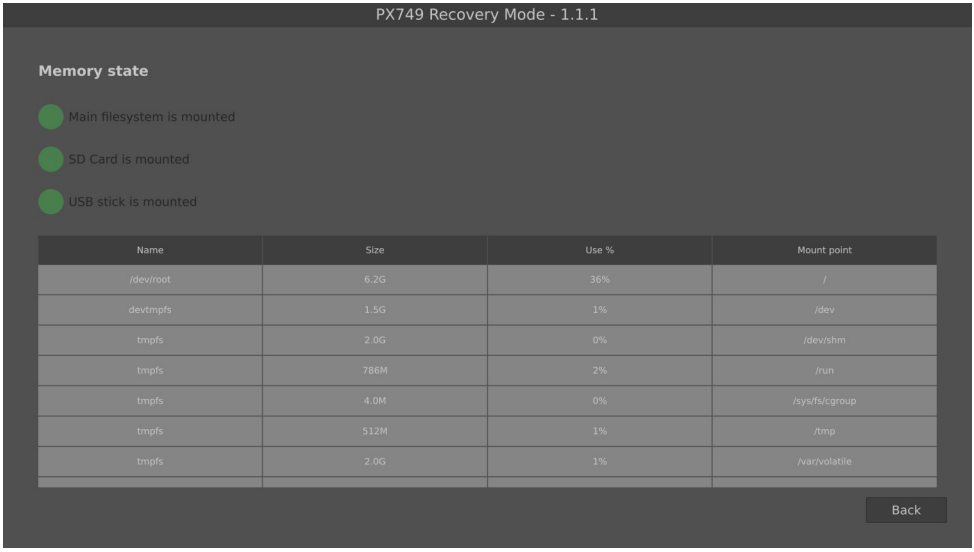
- check device memory (internal / SD / USB),
- check the processor temperature,
- update your device from a USB memory stick,
- format SD card,
- restore the default password (serial number),
- restore network settings (DHCP enabled),
- reset the entire device to factory settings,
- return to the main player application.



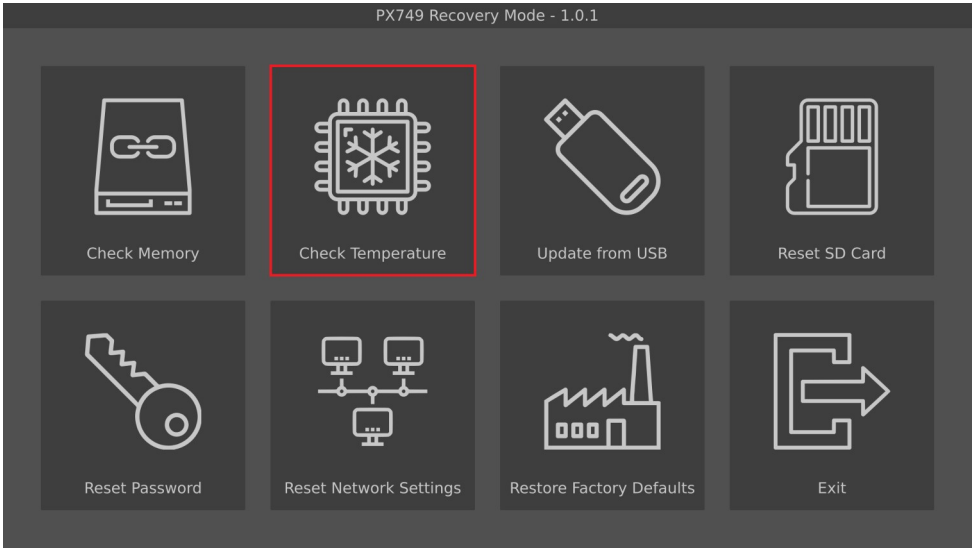
16.1 *Check Memory*



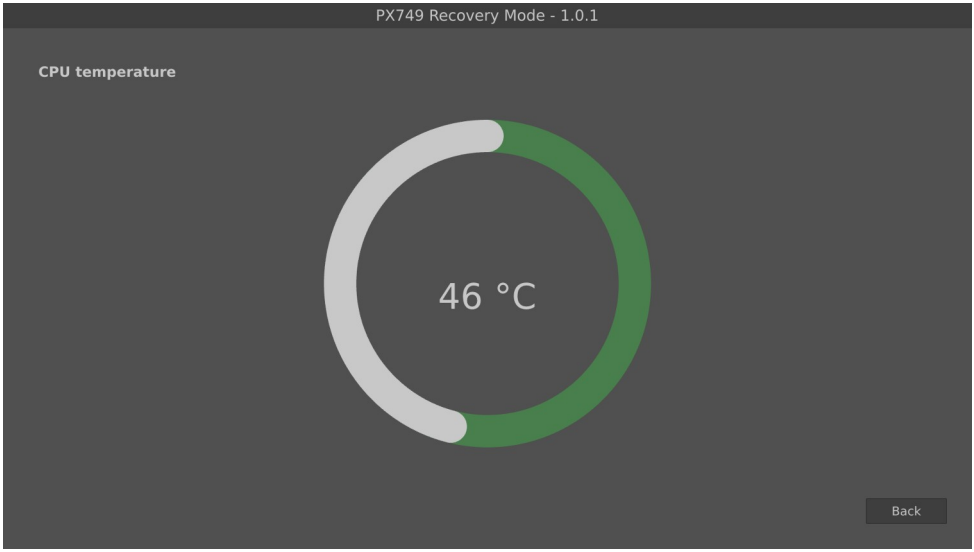
Selecting this option will verify the correct operation of the built-in memory, SD card and USB.



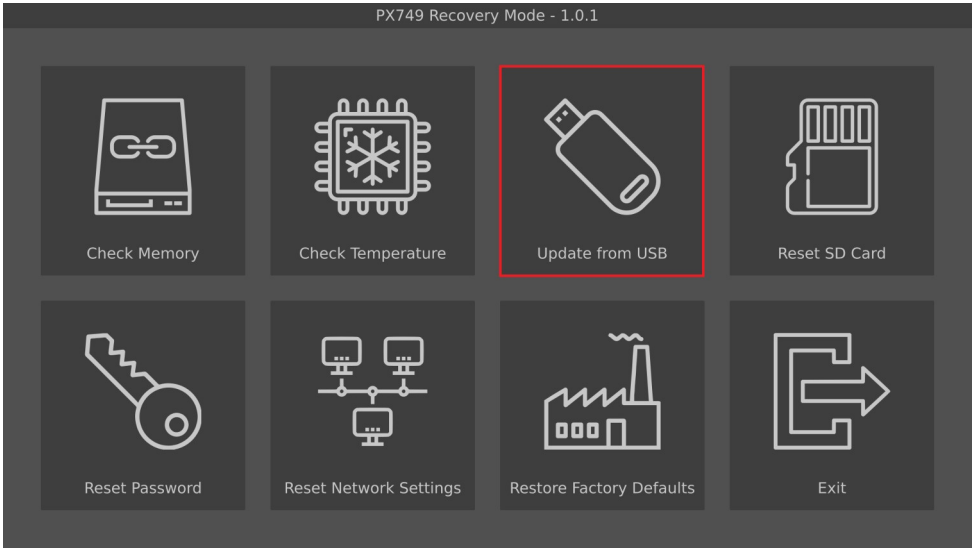
16.2 *Check Temperature*



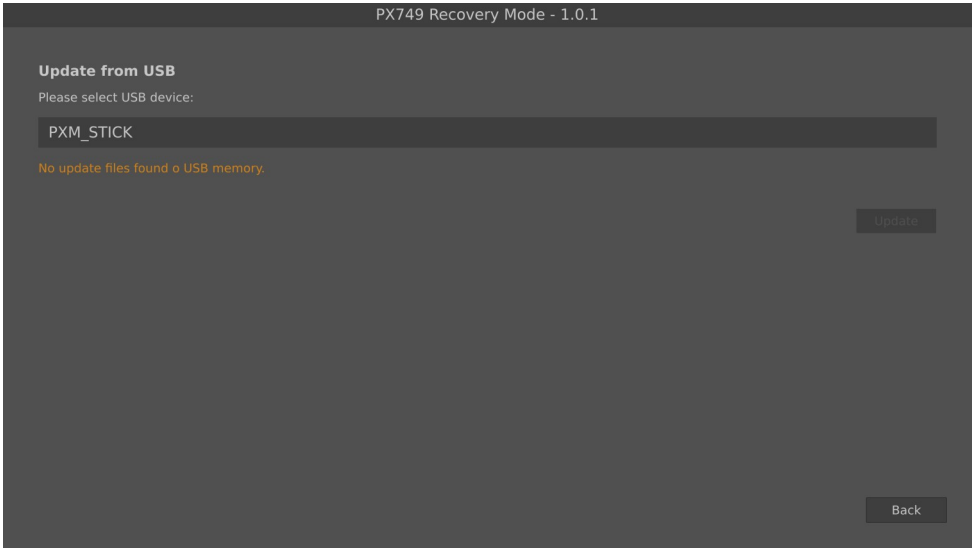
Checking the processor temperature.



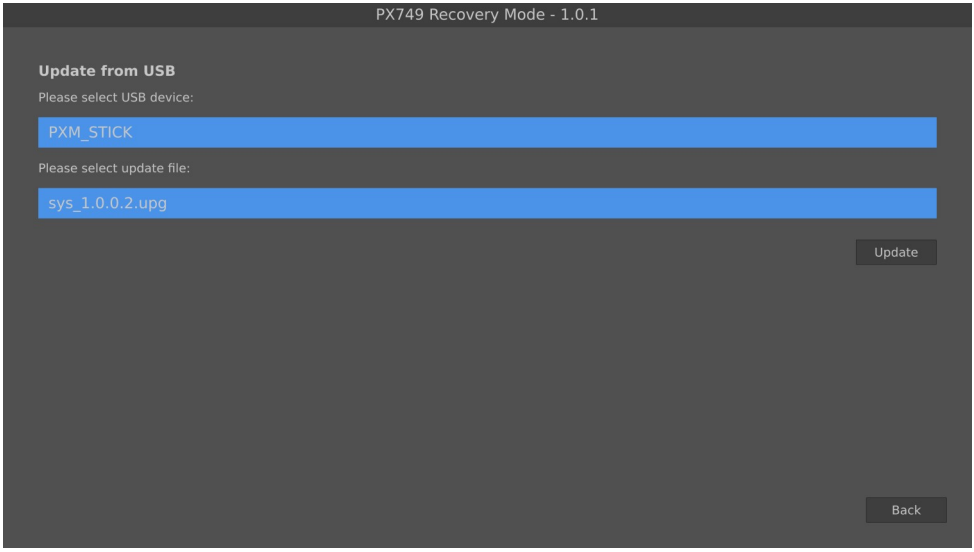
16.3 *Update from USB*



The user can update the device via USB, to do this, download the latest version of the system from the manufacturer's website (pxm.pl) and upload it to a portable memory.

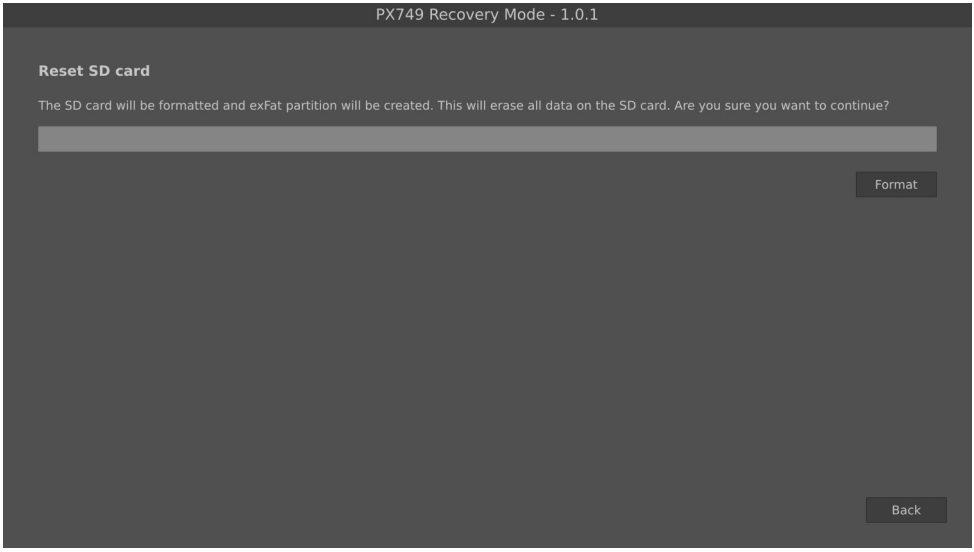


When selecting this option, you must select the portable memory and then the system update file.

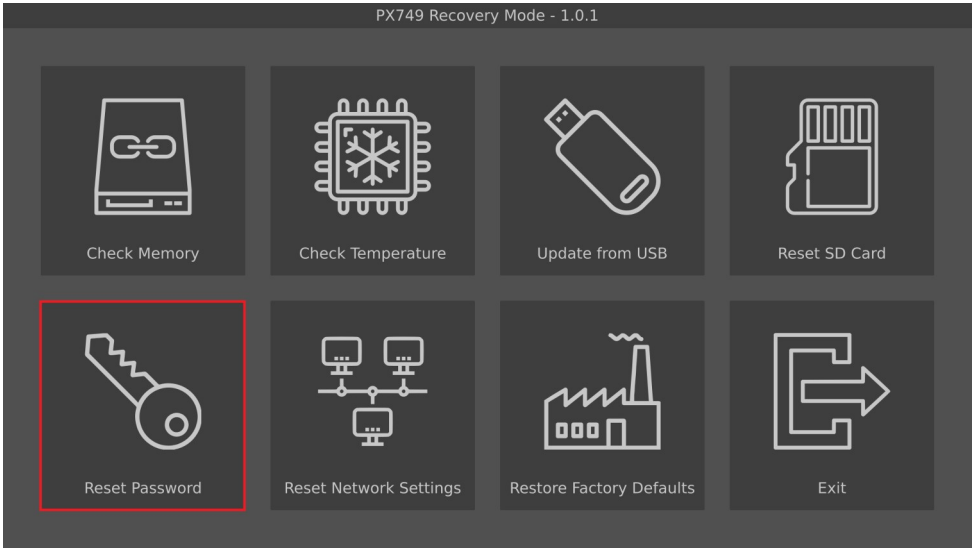


16.4 *Reset SD Card*

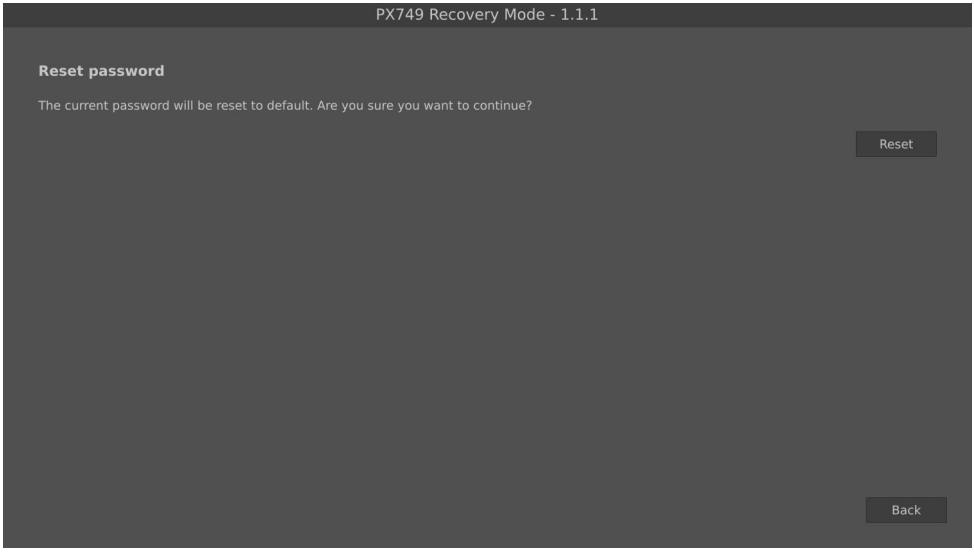
The *Reset SD Card* option will delete all configurations and media from the SD card – format the memory card.



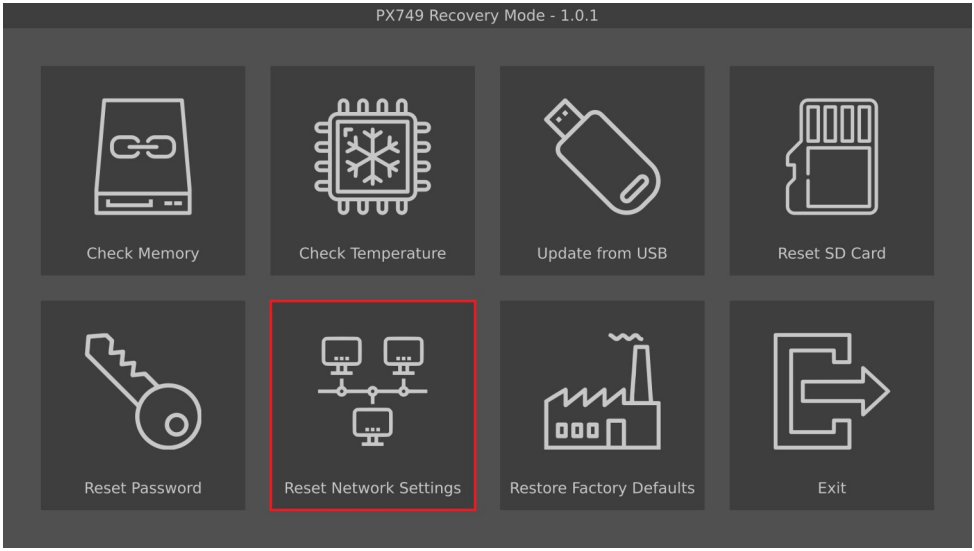
16.5 *Reset Password*



Resetting the password and restoring to the default – device serial number.

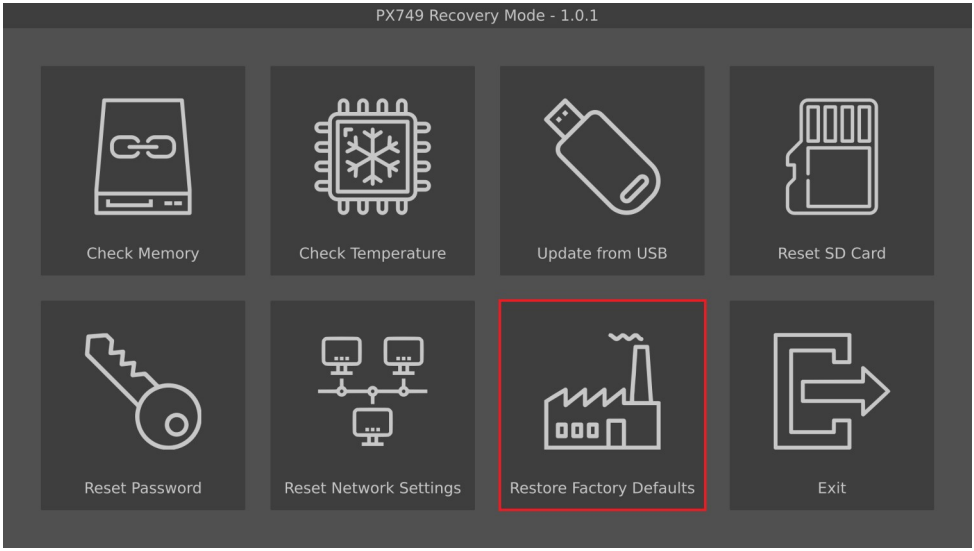


16.6 *Reset Network Settings*



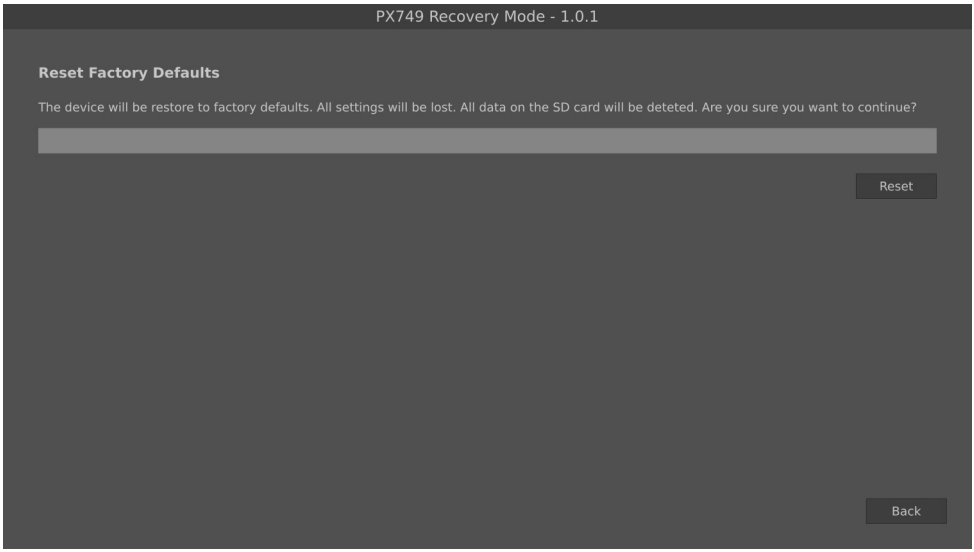
Restoring network settings will enable DHCP.

16.7 *Restore Factory Defaults*



Restore all factory settings:

- password – serial number,
- deleting all configurations and media from the SD card,
- reset network settings,
    - DHCP: *on*



16.8 Exit

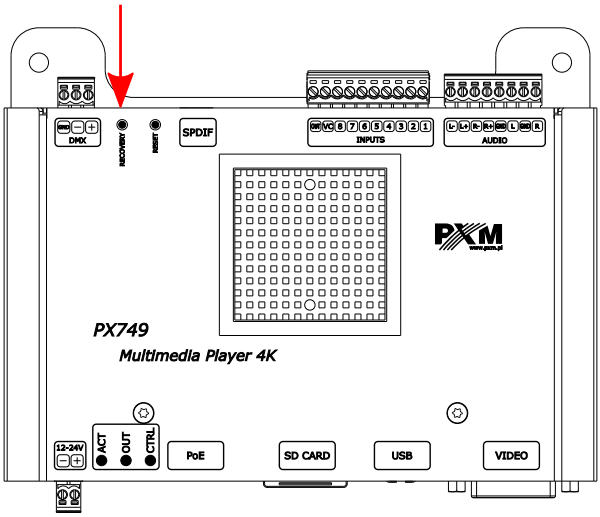
Exit *Recovery* mode and restart the device.

17 Function buttons

17.1 *Recovery* button

The *Recovery* button is located on the back of the case and must be pressed with a pin, toothpick or other thin object.

To enter *Recovery* mode, press and hold the button while starting the device until the Recovery Mode screen appears. In *Recovery* mode, you can use a mouse connected to the USB port.

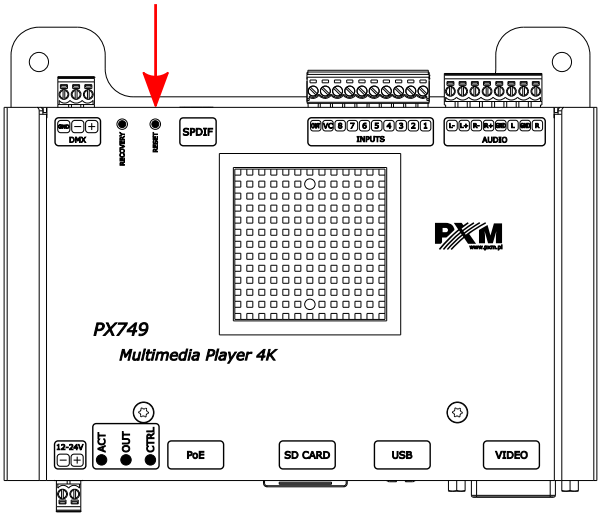


NOTE! The description of the *Recovery* mode is given in section 16. Recovery function.

17.2 *Reset* button

The *Reset* button is located on the back of the device. Press it with a pin, toothpick, or other thin object.

Pressing it only restarts the device, without restoring factory settings or losing user data.



18 Diode signaling

The PX749 has 3 indicator LEDs:

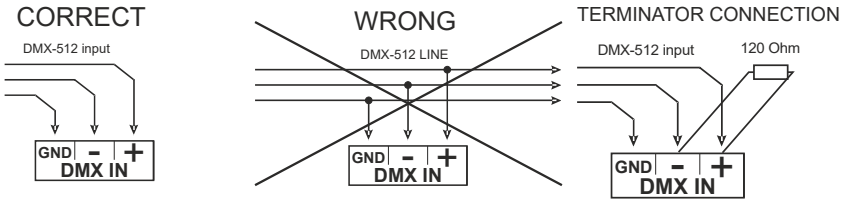
Indicator light	Action	Function
green ACT	doesn't light up	normal status – the main application has started correctly, the SD card is available, the configuration has been loaded correctly
	shines	device is starting up
	blinking (0.5s / 0.5s)	warning status – no SD card or no configuration
yellow OUT	doesn't light up	digital output (OC) OFF
	shines	digital output (OC) ON
blue CTR	doesn't light up	no control signal
	blinking (0.5s / 0.5s)	DMX / Art-Net or sACN signal is received
	Single blink (0.5s)	receiving a UDP command or via digital inputs

NOTE! All LEDs light up during startup. If the player boots correctly, the LEDs will turn off.

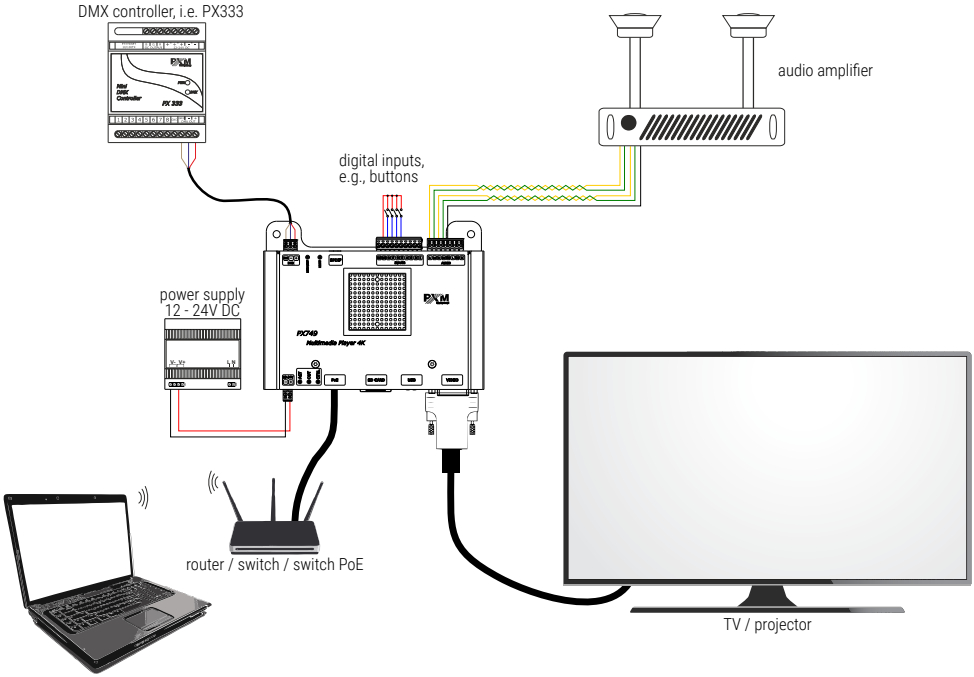
19 Connecting the DMX signal

The PX749 must be connected to the DMX line in series, without any branches on the control cable. This means that the control cable must be connected to the ***DMX*** pins on the PX749.

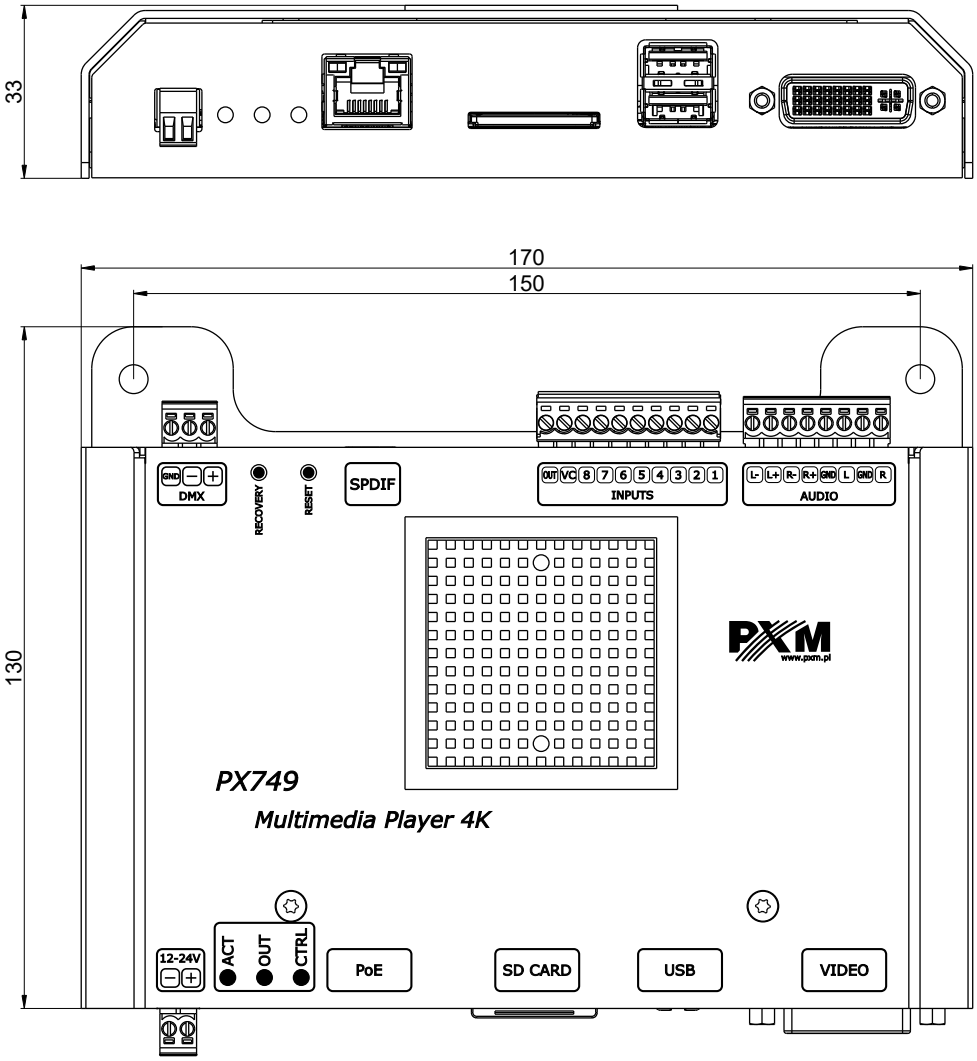
If the PX749 is the last device in the DMX line, a terminator – a 120 Ohm resistor – should be connected to the "**+**" and "**–**" terminals of the ***DMX*** block.



20 Connection scheme



21 Dimensions



22 Technical data

type	PX749
power supply	12 – 24V DC / PoE 802.3af
control	DMX / Art-Net / sACN / UDP / 8 x external buttons
DMX channels	6 (function / song / mode / volume / playlist / output)
RDM protocol support	yes
optical isolation of DMX lines	yes
supported video formats	mkv, avi, mpeg, mp4, wmv, mpg, ts
supported audio formats	ogg, mp3, wav, flac
supported image formats	jpg, jpeg, png
supported resolutions	CTA (formerly CEA) compliant
number of supported files	up to 4080 (in 16 playlists)
video quality	Full HD up to 60 fps 4K up to 60 fps
sampling rate	up to 192kHz
output connectors	1 x DVI-D* 1 x S/PDIF 1 x balanced audio connector 1 x unbalanced audio connector 1 x programmable open collector (OC) output
digital inputs	8
SD card reader	yes
Ethernet connector	yes (10/100/1000Base-T)

USB 3.0 ports	2
housing	aluminum
power consumption	max. 10W
weight	0.45kg
dimensions	width: 170mm height: 130mm depth: 33mm

* – the set includes a DVI-D → HDMI cable

NOTE! Using the included DVI-D to HDMI cable is recommended. Using adapters is not recommended.

Podłęże, 18.08.2025

DECLARATION OF CONFORMITY

PXM Marek Żupnik spółka komandytowa
Podłęże 654, 32-003 Podłęże

we declare that our product:

Product name:	Multimedia Player 4K
Product code:	PX749

meets the requirements of the following standards, as well as harmonised standards:

PN-EN IEC 63000:2019-01	EN IEC 63000:2018
PN-EN IEC 62368-1:2020-11	EN IEC 62368-1:2020
PN-EN 55035:2017-09	EN 55035:2017
PN-EN 55032:2015-09	EN 55032:2015
PN-EN IEC 61000-6-2:2019-04	EN IEC 61000-6-2:2019
PN-EN IEC 61000-6-4:2019-12	EN IEC 61000-6-4:2019

and meets the essential requirements of the following directives:

2011/65/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
Text with EEA relevance.

2014/30/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility (recast)
Text with EEA relevance.

2014/35/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

PXM
Marek Żupnik spółka komandytowa
32-003 Podłęże, Podłęże 654
NIP 677-002-54-53

mgr inż. Marek Żupnik.