PX376

HD Multimedia Player

User manual

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

1   Description

PX376 is a multimedia player controlled by DMX protocol. The player allows to play the video files in Full HD, audio files and images. In case of the loss of DMX signal, it can operate independently according to the pre-programmed settings. The device is equipped with DMX input and output, 4 USB ports, HDMI and micro USB interface.

The device comes with a PC application which allows to create configuration and prepare USB memory on which media files are stored.

It is possible to upload and download configurations and multimedia files via a network. The connection is protected with a password. It is also possible to reset the device in a remote mode.

A micro USB interface is used to supply power to the device (through the power supply unit included with the device).
Connect a properly formatted USB memory, containing a configuration file and files to be played, to one of the USB ports.
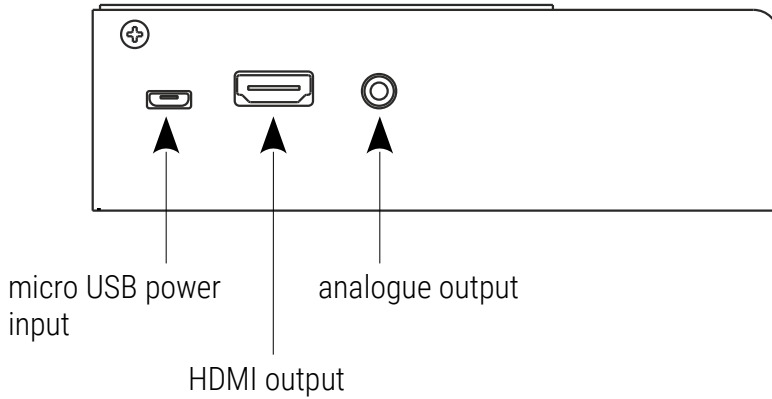
2   Safety conditions

PX376 media player is a powered by low voltage of 5V DC, however, please observe the following safety rules during its installation and use:
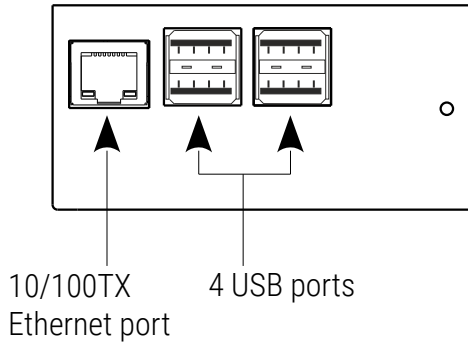
1. The device can be connected only to the power supply of 5V DC with a load capacity compatible with technical data. It is recommended to use the power supply unit included with the device.
2. Protect all cables against mechanical and thermal damage.
3. In case of failure of any the cables, it must be replaced with a cable of the same technical parameters.
4. Only a shielded cable can be used to connect the DMX signal.
5. All repairs and connections of DMX signal can only be carried out with power disconnected.
6. PX376 must be strictly protected against contact with water or other liquids.
7. Avoid sudden shocks, particularly dropping.
8. Do not operate the device in rooms with humidity above 90%.
9. The device must not be used in rooms with a temperature below +2°C or above +40°C.
10. Clean with a damp cloth only.
11. Static electricity can damage the electronic components of the workstation. Before beginning these procedures, be sure you are discharged of static electricity by briefly touching a grounded metal object.

3 Connectors and control elements

Back of the device:

micro USB power input

analogue output

HDMI output

Front of the device:

10/100TX Ethernet port

4 USB ports

Side of the device:

DMX IN   DMX OUT
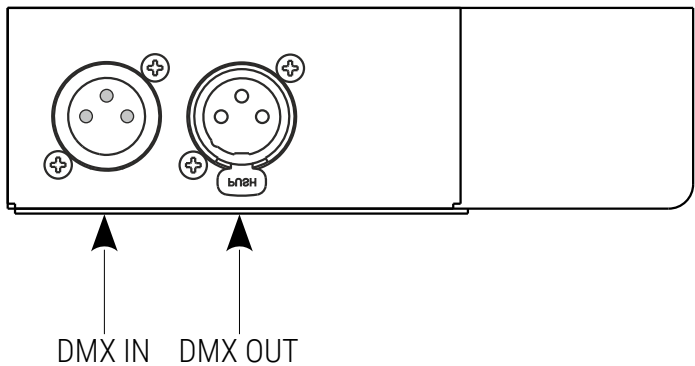
4   Supported file formats

The player supports the following file formats:

Video	Audio	Imagines
*.mpg	*.mp3	*.jpg
*.mp4	*.wmv	*.jpeg
*.mpeg	*.ogg	*.png
*.avi	*.wav	
*.mkv		

5   Software installation

PX376 software can be installed on Windows® XP and newer or Linux (recommended distribution: Debian). The software installation procedure may vary depending on the computer's operating system. Windows® 7 is presented as an example here.

The installation is as follows:

1. Open an installation file, click **[Next]**, to go to the PX376 setup wizard. The installation file is attached to the driver on a CD, or it is available for download from the manufacturer website (pxm.pl).
2. Select the folder in which you want to install the software. Confirm your election by clicking **[Next]**.
3. Select the components you want to install, then click **[Next]**.
4. Carefully read the license agreement; if you agree to the terms of this agreement, click **[I agree]**, to continue installation click **[Next]**.
5. Select the start menu in which you want to create a shortcut to the program. You can also rename the folder, then click **[Next]**.
6. The software is ready to be installed, so click **[Install]**, to start the process.
7. When "*installation complete*" window pops up, press **[Finish]** to exit the installation wizard.

6   Structure of the application window

The application window is divided into three panels:

- created configuration list

- configuration editing panel

- list of devices detected in the network
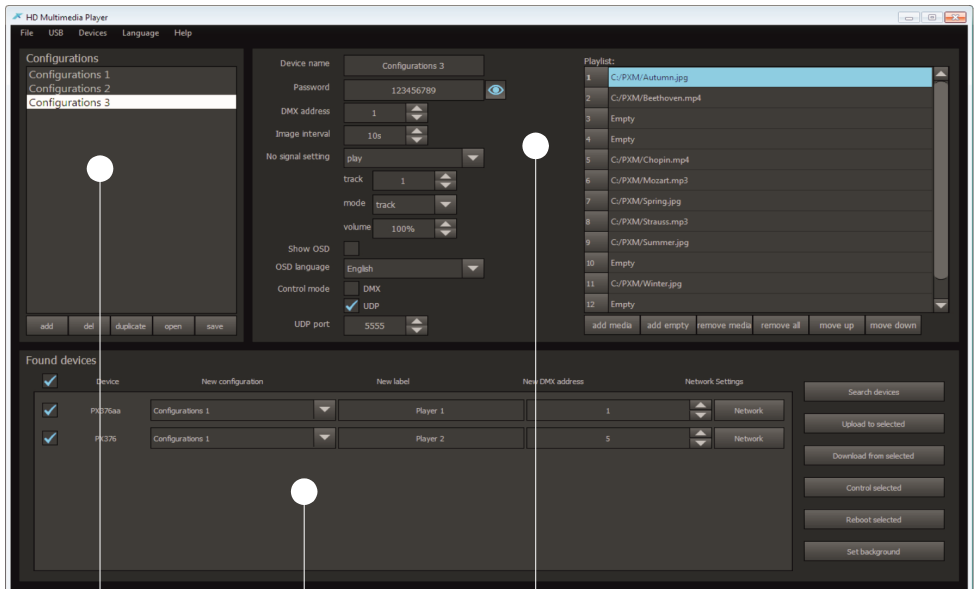
created configuration
list

list of devices
detected in the
network

configuration
editing panel

6.1　Configuration list

The list contains all configurations that were created and downloaded from the device. Below the list there are buttons for:

- adding **[add]**
- deleting **[del]**
- duplicating the configuration **[duplicate]**
- opening **[open]**
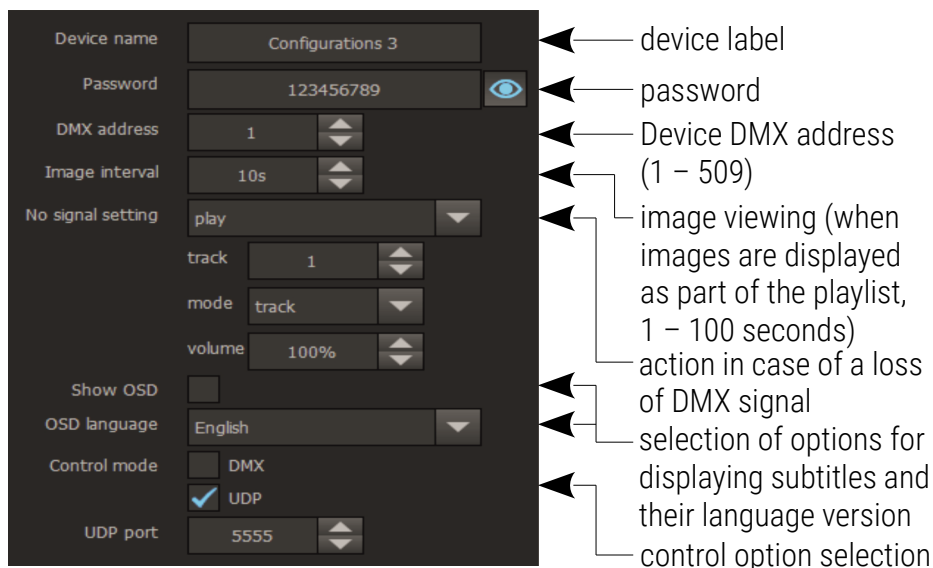- saving to a file **[save]**

Clicking on the configuration on the list opens it for editing in the configuration editing panel.

6.2　Configuration editing panel

Configuration comprises device parameters and a list of multimedia files uploaded into the device.

The device will be visible on the network under the name assigned to it in the **[Device name]**. The PX376 is controlled by 4 consecutive DMX channels. The first of the channel is identified in the **[DMX address]** field. When uploading the same configuration into several devices, it is possible to assign to them individual names and addresses.

The player can be controlled by means of the DMX protocol or via a LAN network, using the UDP protocol. You can select control type in the configuration file. If choosing UDP control, you need to specify the port number.

Device name	Configurations 3	◄—— device label
Password	123456789 👁	◄—— password
DMX address	1 ▲▼	◄—— Device DMX address
Image interval	10s ▲▼	(1 – 509)
No signal setting	play ▼	◄—— image viewing (when images are displayed as part of the playlist, 1 – 100 seconds)
track	1 ▲▼	action in case of a loss
mode	track ▼	of DMX signal
volume	100% ▲▼	selection of options for
Show OSD	☐	◄—— displaying subtitles and their language version
OSD language	English ▼	◄——
Control mode	☐ DMX	
	✔ UDP	◄—— control option selection
UDP port	5555 ▲▼	

A playlist can contain up to 85 tracks (videos, images or music), whose names are the same as in the case of uploaded files. Further DMX commands correspond to the next items on the list. If the selected DMX command is to be unassigned to any track, at this point you should add an empty item to the list.

When your configuration is ready, you can upload it into the device via a LAN network (ensure a properly prepared USB stick is plugged into the device), or to a USB memory plugged into a computer.

NOTE! On the device, by default, the IP address is obtained from the DHCP server.
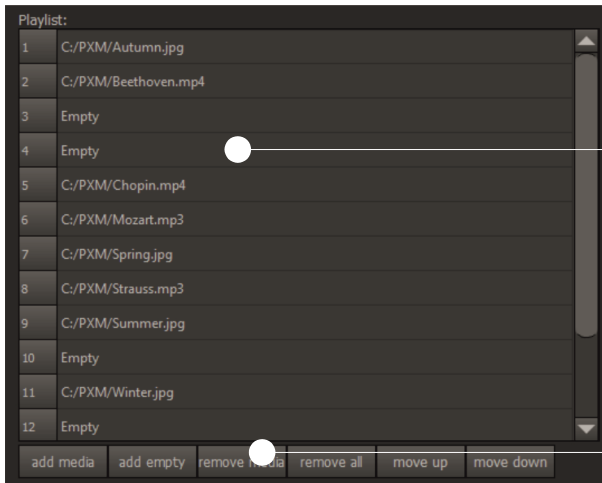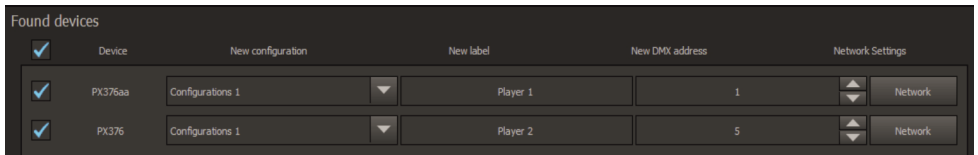
[Playlist] – in which, you must load all the files to be played by the player and set them in the right order

buttons to modify the content of the playlist

6.3 List of devices

The list displays all devices that have been browsed through in the network.

current name of device

configuration selection list you want to upload to the player

device rename field

DMX address change field
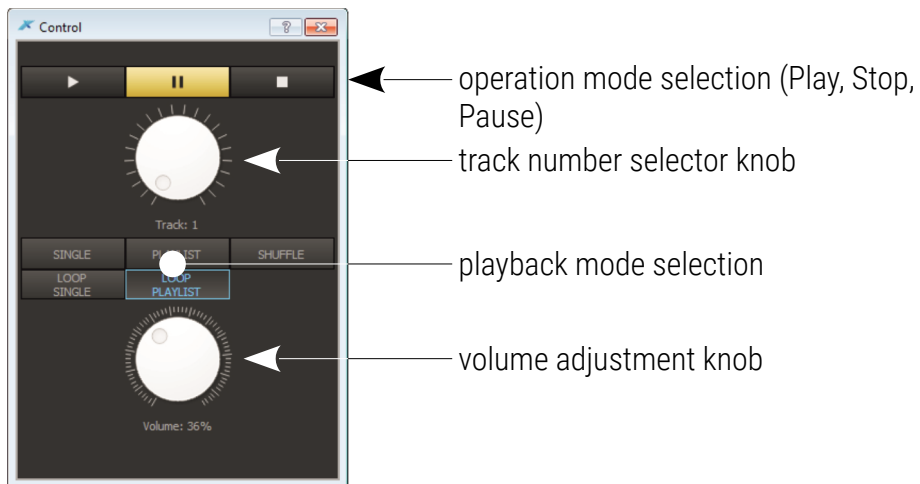
button to change network settings

To search for devices in a local network in the **[Devices]** menu select the **[Search]** command. All devices found are displayed in the device list.
[Set background] – an image that is displayed when no file is uploaded. The default background color is black, but any different image in the *.jpg* format can be uploaded.
[Control selected] – if you have chosen UDP control, this option allows you to send a UDP packet to a selected device.
[Reboot selected] – the application asks the user if they are sure they want to reset the selected device.

operation mode selection (Play, Stop, Pause)

track number selector knob

playback mode selection

volume adjustment knob

Network configuration:
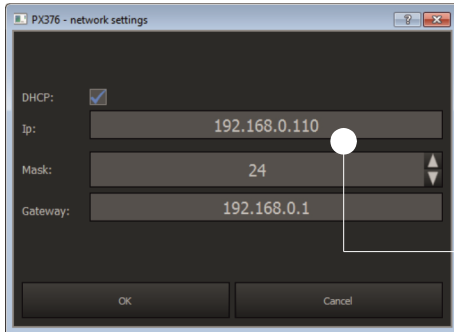
— if the function is selected, address will be automatically assigned from a DHCP server, if not – a static address will be used

— IP address, network mask and gateway address – static network parameters of the player

To download configuration from the device:

1. Check the checkbox ☑ for an appropriate device on the list.

2. Click the button [Download from selected] located under the list.

The downloaded configuration appears on the configuration list. Changes to the configuration are made locally, if they are to be applied in the player, the configuration must be uploaded back.

The configuration can be downloaded from and uploaded to multiple devices simultaneously.

To upload the configuration to the device:

1. Check the checkbox ☑ for an appropriate device on the list.

2. Select the configuration that you want to upload to the device from the configuration selection list [New configuration].

If the same configuration is uploaded to several devices, it is possible to change the name and DMX address for each device individually. They will

be different from those in the uploaded configuration while other parameters will remain the same in all devices.
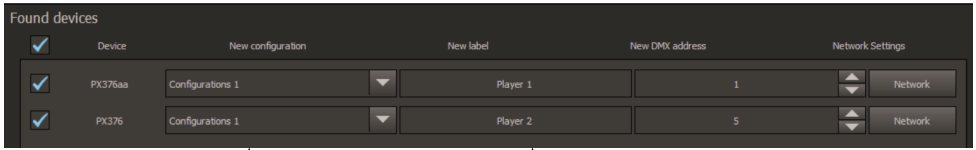
uploading the same configuration to two selected devices

individual name of the device

3. Click the **[Upload to selected]** button.

After uploading the configuration the device is automatically rebooted – this may take a while.

7　Operation of the player

Reset the device after uploading memory with a new configuration. The device will work only when one of USB ports has properly formatted USB memory with an uploaded configuration file and tracks to be played. Files can be uploaded to the USB memory that is directly plugged into a computer or memory plugged into the PX376 device via the Ethernet network.

7.1   Control

You can control your player with the DMX protocol or via a network, using UDP packets. In both cases, the control of the device is performed using four channels. In case of DMX control, four consecutive DMX channels that the device receives are used. In case of UDP control, these are four values transmitted using UDP packets.

A UDP packed comprises a "*px376*" header and 4 bytes containing values for the respective control channels.

The device is controlled by 4 DMX channels:
- channel 1: command

Value on the channel	Command
0 – 63	stop
64 – 127	pause
128 – 255	play

- channel 2: track selection

Value on the channel	Track
0 – 3	1
4 – 6	2
...	...
253 – 255	85

- channel 3: playback mode

Value on the channel	Mode
0 – 63	single
64 – 127	loop single
128 – 191	playlist
192 – 249	loop playlist
250 – 255	shuffle

Description of playback modes:

[Single] – playing the track once

[Loop single] – playing the track in the loop

[Playlist] – playing all track once (starting with the selected one)

[Loop playlist] – playing all tracks in the loop

[Shuffle] – shuffle playback

- channel 4: volume

Linear volume control 0 – 100%.

7.2   No DMX signal

In the absence of DMX signal, the device operates in accordance with the parameters set in the configuration file. That applies to DMX control only.

Available commands in the absence of DMX signal:

[Play] – playing the highlighted track (from 1 to 85) in a selected mode (track, loop track, playlist, loop playlist, shuffle) with a set volume (0 – 100%)

[Stop] – playback stop

[Monitor off] – signal disabling on the HDMI output

7.3   Access via FTP

It is possible to connect to the player via the FTP protocol and upload or download multimedia files.

Connection parameters:

Server: current device IP address (assigned from DHCP)

User: px376

Password: px376

8 Device configuration

8.1 Format a USB drive

Format a USB drive and give it the label "*PX376*".

Formatting a USB memory device – Windows®:

The formatting procedure may vary depending on the computer's operating system. Windows® 7 is presented as an example here.

1. Right-click on the selected device with a removable memory device
2. From the context menu, select **[Format…]**.
3. Format as FAT32 file system and give it the label "*PX376*".

8.2 Application operation

The configuration can be uploaded in two possible ways:

a) to the USB flash drive plugged into a computer – in this situation it is possible to upload the configuration to one USB stick only

b) directly to PX376 plugged into a computer using LAN network – in this situation it is possible to upload to a number of players at the same time

1. Run the application.
2. Click the **[add]** button located below the **[Configurations]** field.
3. Enter the settings in the configuration editing field.

4. Create a playlist using:

[Add media] – adding a file to playlist

[Add empty] – adding an empty item to the list

If the selected DMX command is to be unassigned to any track, at this point you should add an empty item on the list.

[Remove media] – deleting the selected file

[Remove all] – deleting all selected files from playlist

[Move up] – moving the highlighted file on the list one position up

[Move down] – moving the file down

Uploading configuration directly from the computer to the USB flash drive:

NOTE! In case of Linux family of systems, a properly formatted USB drive must be installed with active write permission of the user who runs the application.

5. From the menu select: **[USB] → [Write configuration]**.

 The application searches for the memory with the appropriate label (PX376) and uploads the configuration file to it, as well as selected tracks. If the USB drive contains tracks not included on the playlist, the application will ask if you want to remove them.

6. Insert the USB drive into the USB port of the player.

7. Start / reboot the device.

NOTE! USB drive should be properly uninstalled before being removed from the computer.
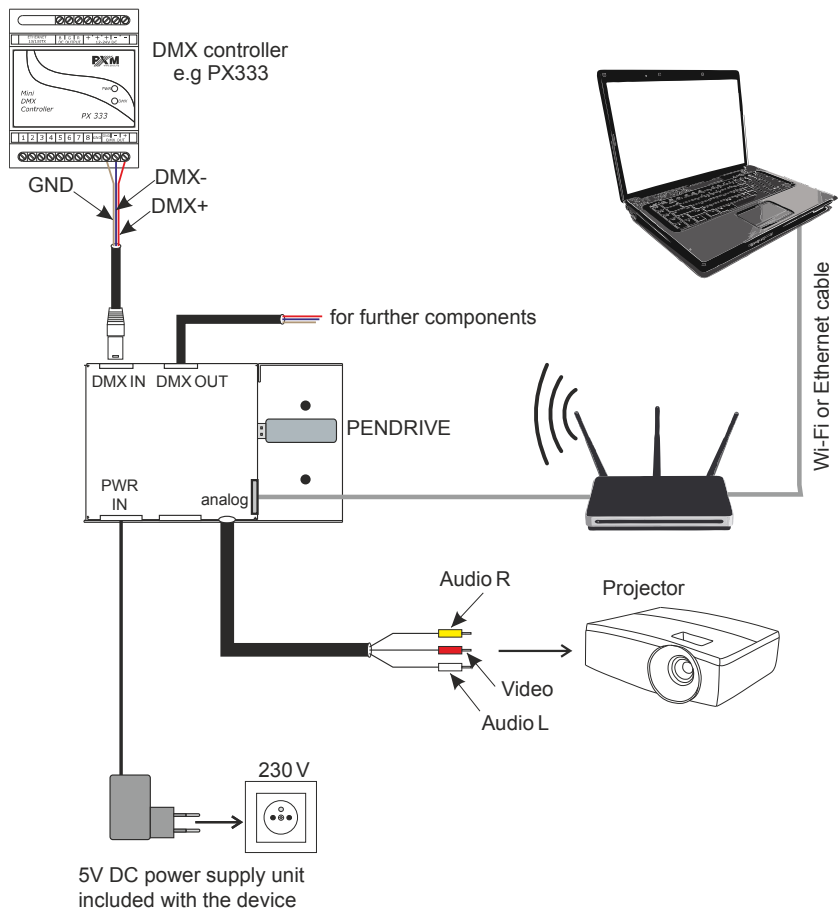
Uploading configuration using LAN network:

6. From the menu select: **[Devices]** → **[Search]**.

7. Select the devices to which the configuration will be uploaded by selecting the checkbox ☑.

8. Save the configuration on the USB by clicking **[Upload to selected]**.

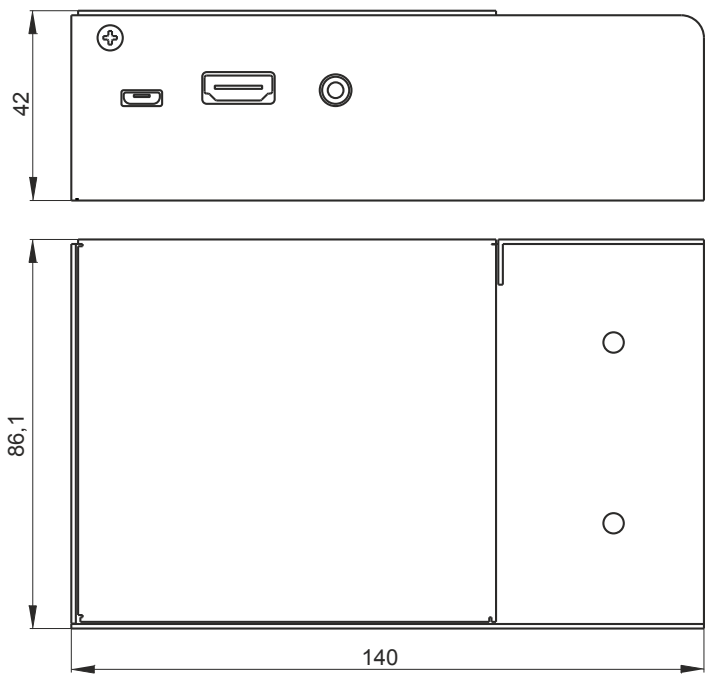9. Start / reboot the device.

9 Connection scheme

a) diagram of connecting the device to a projector with using an HDMI cable
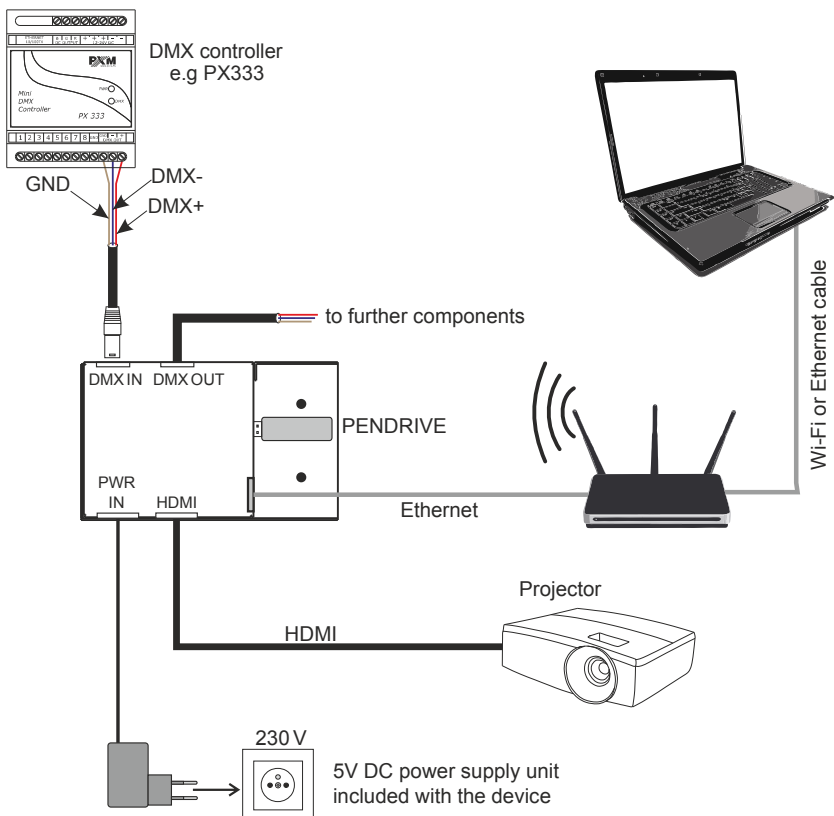
b) diagram of connecting devices to the projector with using the included cable, analog audio-video

DMX controller
e.g PX333

Mini DMX Controller
PX 333

GND

DMX-

DMX+

for further components

DMX IN   DMX OUT

PENDRIVE

PWR IN   analog

Wi-Fi or Ethernet cable

Audio R

Projector

Video

Audio L

230 V

5V DC power supply unit
included with the device

10 Dimensions

11 Technical data

type	PX376
control	DMX-512 protocol, UDP
optical isolation of DMX line	yes
supported file formats	mkv, avi, mpeg, mp4, ogg, wmv, mpg, mp3, wav, jpg, jpeg, png
number of supported files	max. 85
image quality	Full HD (1920 x 1080p)
power supply	5V DC (power supply unit included)
power consumption	10W
max. current consumption	2A
HDMI output	yes
Ethernet connector type	yes, 10/100Base TX
USB ports	4
DMX input / output	2 slots 3-pin XLR
housing	metal
weight	0,45kg
dimensions	width: 140mm height: 86,1mm depth: 42mm

DECLARATION OF CONFORMITY

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

we declare that our product:

Product name: HD Multimedia Player

Product code: PX376

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

PN-EN IEC 63000:2019-01   EN IEC 63000:2018
PN-EN 61000-4-2:2011   EN 61000-4-2:2009
PN-EN IEC 61000-6-1:2019-03   EN IEC 61000-6-1:2019
PN-EN 61000-6-3:2008   EN 61000-6-3:2007

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 harmonisation 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 harmonisation 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.