DAP-01

User manual
Ver.02.02



DIGITAL AUDIO PLAYER

Kod: 094244 - HDL: v.1.1 FW: v.1.0

Thank you for purchasing our device.

We make every effort to ensure the best quality of our products designed to meet your expectations. If you have any remarks or comments, please share them with us. We will be grateful for any suggestions that will help us make products that are even better and devices that satisfy your needs.

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1. General description

MODUS Digital Audio Player can be used to play music, voice communicates, sound effects, etc. in MP3 and WAV formats. It can play up to 255 files stored in 99 catalogues.

The device is equipped with a stereophonic D-class 2x15 W amplifier that can power lower-ohm speakers or sets with combined resistance no lower than 4 ohms.

Trigger connector allows to connect an external triggering device, e.g. a button, motion detector, reed switch, etc. and activate the device functions with it.

A built-in relay enhances the controller, allowing to activate \ deactivate external devices with maximal load of 5 A and voltage of 24 V, synchronically with the played audio file or independently, using DMX signal.

The device works in three modes:
- **DMX** mode, where with the use of DMX signal, it is possible to choose a catalogue, track, control volume, start and stop playback, control the galvanically isolated relay and trigger an additional output (EXT. OUT).

- **STANDALONE** mode, where audio files are automatically played once the power is switched on. It is possible to set the desired volume and relay state.

- **MANUAL** mode, where audio files are played once TRIGGER output is activated/shorted, e.g. with an external button or motion detector. It is possible to set the desired volume, relay state and playback style.

The device comes in three casing versions: low-profile casing that can be mounted on a DIN 35 mm rail, a hermetic casing for outdoor use, and as a separate PCB for individual installation (e.g. in an interactive scenery, info kiosk, etc.) The device features reverse polarity protection in input voltage, as well as surge protector.

The device is perfect for using as an interactive exposition guide, communicator, audio player in an interactive scenery, a piece of Digital Signage system, audio effect player in an Escape Room, theme park, part of exhibition pieces, info kiosk, etc. In all situations, where compact dimensions, reliability and quick sound playback triggered with the use of external signal or button are needed.

The device can also be used as:

- time switch triggered with a button or DMX512 signal
- relay output controlled with DMX512 signal
- player for signals with specified frequency, saved from an audio file generator.

1. Basic safety conditions

MODUS Digital Audio Player has to be powered with safe 12-24 VDC voltage from dedicated power supplies, however, during installation and usage, it is essential to observe the following rules:

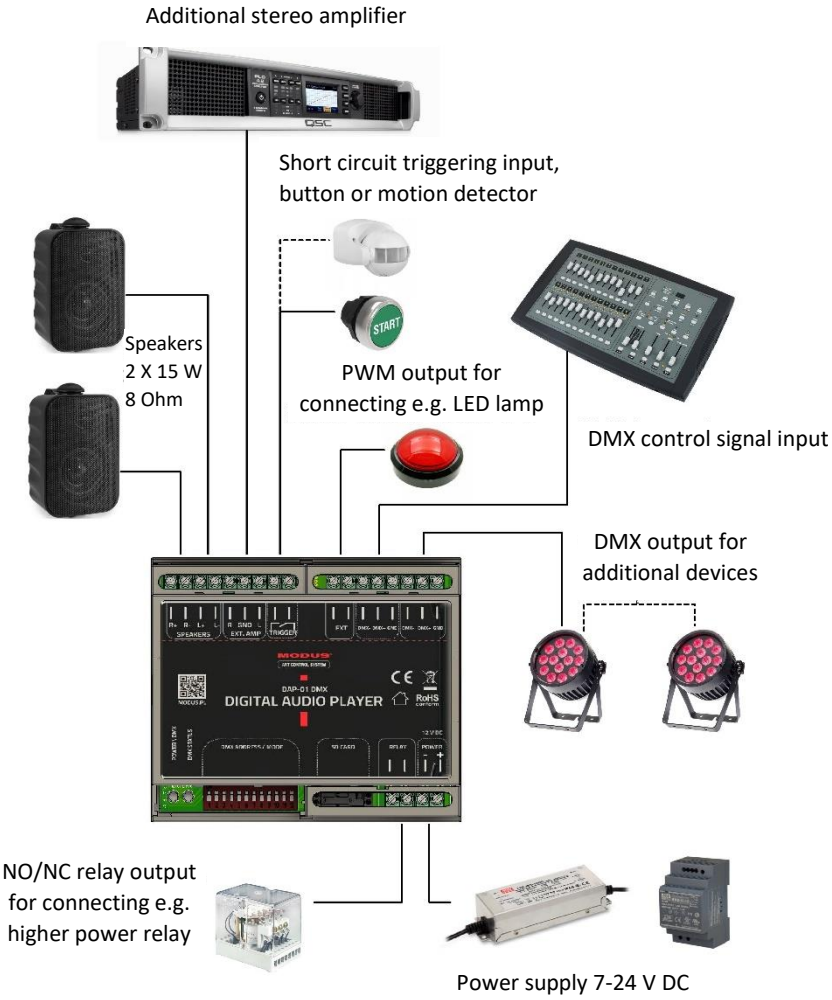
- The controller should be installed by a person having relevant qualifications, according to the information in the manual.
- The device can be connected only to stabilized voltage with load ability matching the technical parameters.
- It is essential to observe and not to exceed the maximum current and voltage values for peripheral devices and receivers connected to the player. Maximum current 1A, maximum voltage 125V.
- The controller is intended for indoor use. In case of outdoor use, it should be protected against weather conditions.
- All wires should be protected against mechanical and thermal damage.
- All maintenance works can be performed only after depowering the device.
- A device with visible damages should not be connected to a power supply.
- It is crucial to protect the device against any contact with water and other fluids.
- Protect the device against shakes and falling.
- The device is susceptible to electrostatic discharge. Avoid touching internal parts of the device without need.
- Do not turn the device on in places where humidity exceeds 90%.
- Do not operate the device in places where the temperature is lower than +2°C or higher than +40°C.

The module should be powered only with the dedicated power supply offered by the manufacturer.

If this is the last device in a DMX line, 120 Ohm terminator should be used.

The manufacturer reserves the right to introduce modifications to the functioning and using of the device for the purpose of improving the product.

2. Connecting external devices

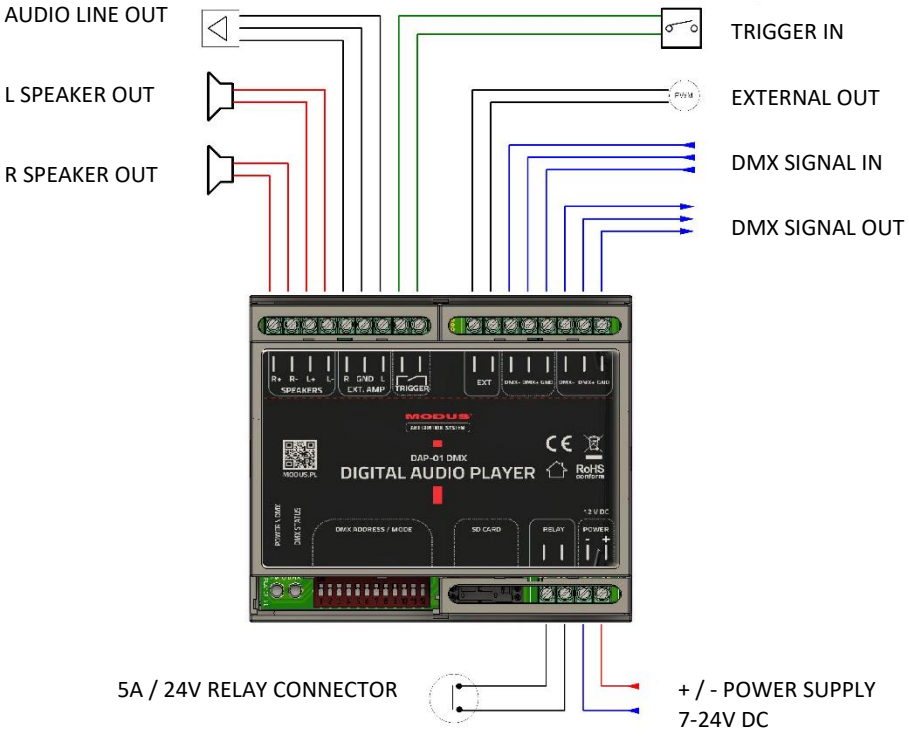


3. Output description



1. Power connector (GND, +12-24*VDC)
2. Relay connector
3. Mini SD card slot
4. Configuration switches
5. Boot/Error indicator
6. Power/DMX indicator
7. DMX signal input/output
8. EXTERNAL OUT
9. TRIGGER input
10. External amplifier output
11. Speaker output

4. Output layout



5. Catalogue and audio file structure

The SD card needs to be formatted as FAT16 or FAT32. There need to be created catalogues, in which MP3 or wav audio files will be stored.

Maximum number of catalogues: 99

Maximum number of files in a catalogue: 255

Catalogue names need to be in a two-digit format: e.g.: 01, 02, 03 … 99

File names need to start with a number and may consist of numbers only, e.g.: 001.mp3, 002.mp3, 003.wav … 255.mp3

It is also possible to maintain the original file name, then the extension should be added in the following manner: 001File name.mp3, 002File name.mp3 … 255File name.mp3

Example of catalogue and audio file structure:

Catalogue name: 01
Files stored in the catalogue: 001.mp3; 002.mp3; 003.mp3

Catalogue name: 02
Files stored in the catalogue: 001_track.mp3; 002_effect.mp3

Catalogue name: 03
Files stored in the catalogue: 001song.wav; 002_effect.wav

6. Relay mode selection

The relay may work independently or be switched on automatically for the time of audio file playback. To set the relay working mode, use 11 and 12 DIPSWITCHES

DIP SWITCH 11 – Audio / DMX setting
Position 0: The relay is automatically switched on for the time of audio file playback.

Position 1: The relay is switched on with DMX channel 5

DIP SWITCH 12 – NO or NC relay setting
Position 0: NO Switching the relay on causes shorting the contacts
Position 1: NC Switching the relay on causes opening the contacts

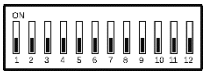
7. Device mode selection

Digital Audio Player can work in three modes: DMX, MANUAL and AUTO. Mode selection is done with DIP SWITCH 10.

DMX mode – switch 10 – ON

MANUAL/AUTO mode – switch 10 – OFF

7.1. DMX Mode



In this mode, the device is controlled with DMX512 commands sent from an external controller.

DMX channels table:

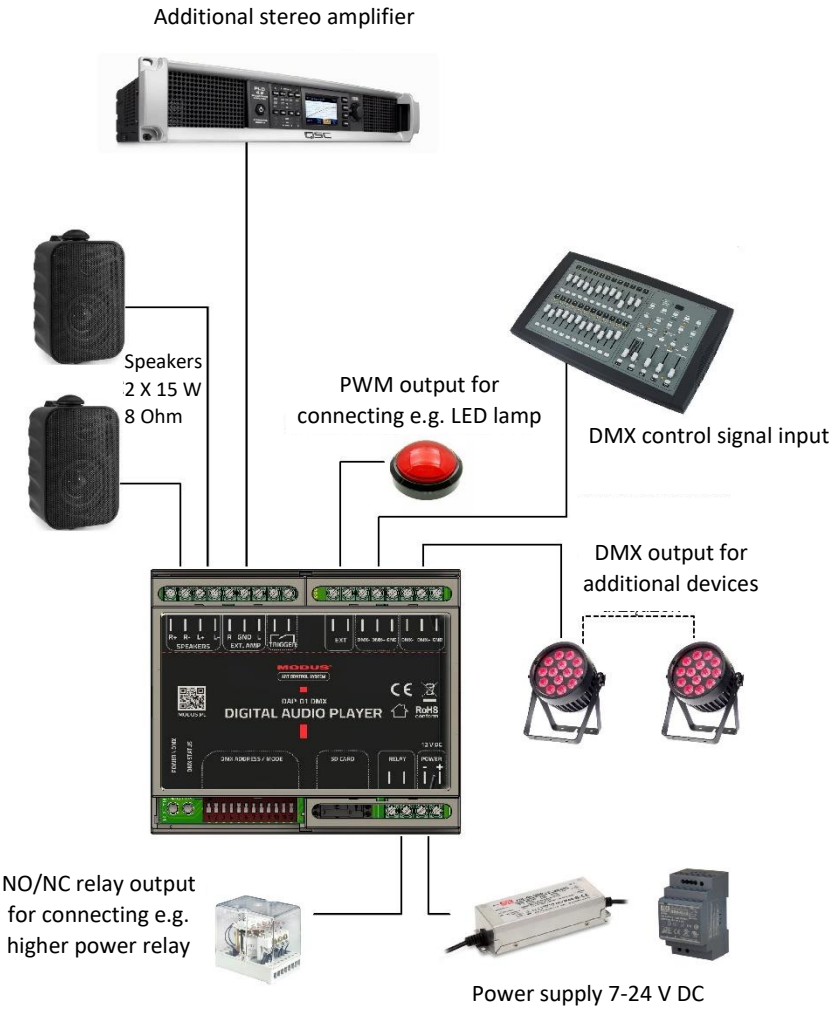
DMX Channel	Function	Value
1	Catalogue selection	00: inactive
		001:099
2	Track selection	00: inactive
		001:255
3	Volume	000 MUTE
		001:255
4		000: inactive

	Stop	001:127
	Pause	128:191
	Play	192:255
5 DMX Relay mode selection	Relay switched off	000:127
	Relay switched on	128:255
6	External output switched off	000:127
	External output switched on	128:255

DIPSWITCH function table in DMX mode

DIP SWITCH	FUNCTION
1	DMX address: 1
2	DMX address: 2
3	DMX address: 4
4	DMX address: 8
5	DMX address: 16
6	DMX address: 32
7	DMX address: 64
8	DMX address: 128
9	DMX address: 256
10	0: DMX mode
11	0: Relay Play mode
	1: Relay DMX mode
12	0: Relay NO
	1: Relay NC

7.1.1. Connection layout in DMX mode



7.2. MANUAL mode

In this mode, the device works as a standalone audio player. Playback is triggered with TRIGGER button in this mode. There are two playback modes to choose.

Track playback without a possibility to stop



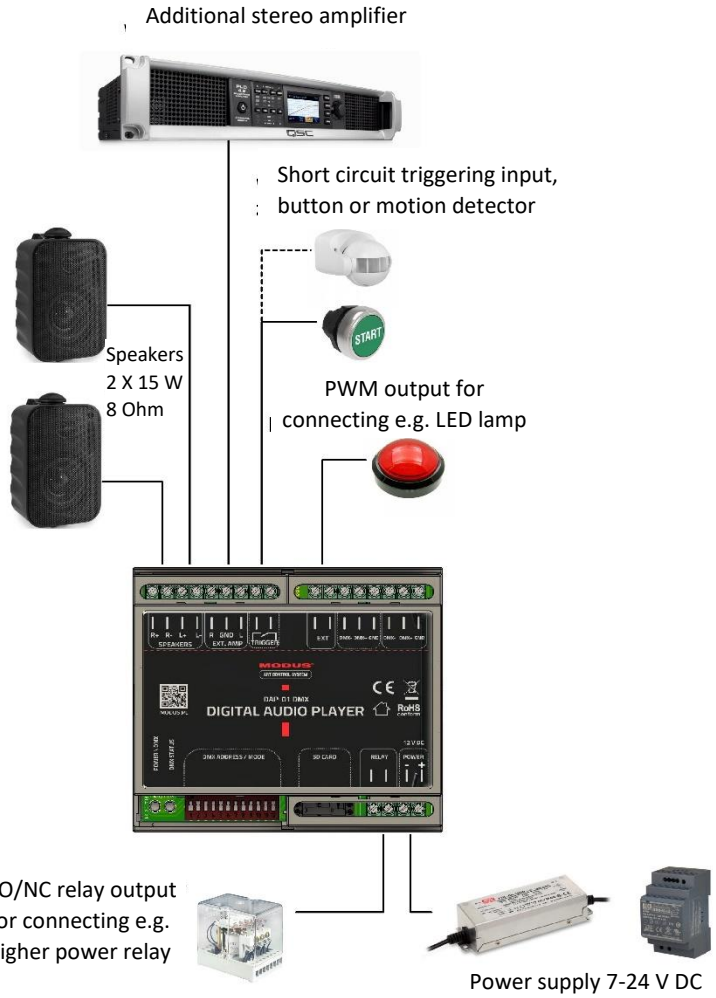
Shorting the TRIGGER input will start track playback. Another impulse won't cause switching to the next track. It will be possible only once the playback ends.

Track playback with a possibility to switch to the next track



Shorting the TRIGGER input will start track playback. Another impulse will cause switching to the next track during playback or once it ends.

7.2.1. Connection layout in MANUAL mode



7.3. AUTO Mode

Loop playback when turned on

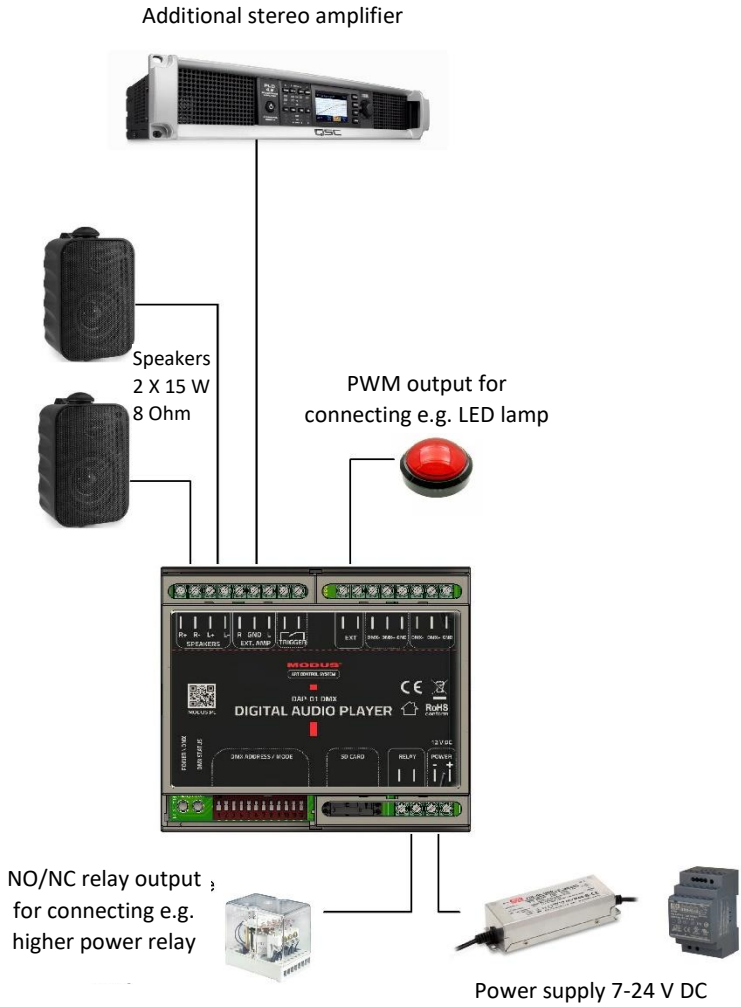


Put the TRIGGER jumper (or hold the button) and turn the device on. All files on SD card will be played in a loop, starting from catalogue 01. The state of the button will not be checked again.

DIP SWITCH setting table for AUTO and MANUAL modes

DIP SWITCH	FUNCTION
1	Volume: 1
2	Volume: 2
3	Volume: 4
4	Volume: 8
5	Volume: 16
6	Volume: 32
7	Volume: 64
8	Volume: 128
9	
10	**1: STANDALONE/MANUAL mode**
11	0: TRIGGER button starts a track once the previous has stopped
	1: TRIGGER switches to the text track
12	0: Relay NO mode
	1: Relay NC mode

7.3.1. Connection layout in AUTO mode



7.4. Other uses

- time switch triggered with a button or DMX512 signal
- relay output controlled with DMX512 signal

- player for signals with specified frequency, saved from an audio file generator.

8. Technical parameters

Power supply: - 12-24VDC / minimum 2A

Supported audio file formats: MP3 11172-3 and ISO13813-3 layer3, WAV

Sampling frequency: 8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48 kHz

SD card: max. 32GB, FAT16, FAT32

Line in: for additional amplifier:
asymmetric, adjustable output for right and left channel

Speaker outputs: right and left channel outputs with max. power approx. 15W, 4 or 8 ohms

EXT connection: output allowing highlighting of the triggering button, or in DMX mode, it can be used as an additional control output

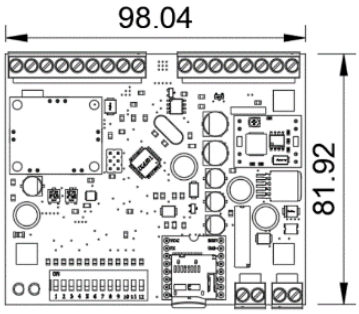
TRIGGER connection: input starting track playback in STANDALONE mode (for connecting a button for example)

DMX512: DMX512 signal input/output

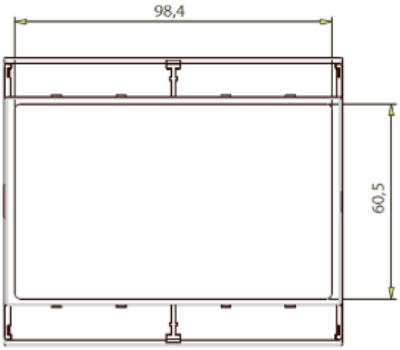
Relay output: NC / NO **max. load 5A / 24V**

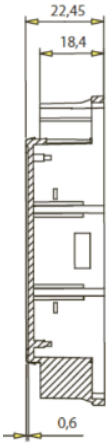
9. Dimensions:

PCB:

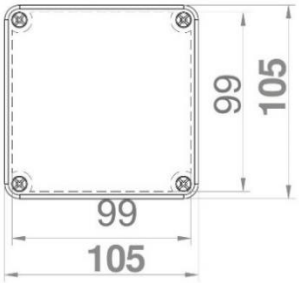


DIN/TH/TS 35 casing





IP65 Casing:





10.Maintenance and repairs

The device does not contain any user serviceable parts. In case of malfunction, you should contact the dealer or manufacturer.

Note!!

Any attempt to repair the device yourself can cause irreversible damage to the device or pose other threats.

11.Contact, additional information:

Mediam Sp. z o.o.

www.mediam.com biuro@mediam.com

www.modus.pl, biuro@modus.pl

Date: April 6nd 20

EC Declaration of Conformity

With the CE marking on a product the manufacturer ensures that the product is in conformity with the
essential requirements of the applicable EC directives. The letters "CE" stand for "Conformité Européenne" ("European Conformity").

Essential characteristics the product complies:

• **DAP-01**: Digital Audio Player with relay - class D stereo audio amplifier with relay and trigger or DMX control.

We have verified that the product complies with all relevant “essential requirements” (e.g. safety, health, environmental protection requirements) of the applicable directive(s) bellow:

• Low voltage (2006/95/CE)
• Electromagnetic compatibility (2004/108/CE)

We declare that our products (lighting control equipments) comply with the following specification
and bears CE mark in accordance with the provision of the Electromagnetic Compatibility (EMC) Directive
89/336/EEC.
EN55014-1: 1993, EN61000-3-2: 1995, EN61000-3-3: 1995, EN55014-2: 1997
CATEGORY II
EN61000-4-2: 1995, EN61000-4-3: 1995, EN61000-4-4: 1995, EN61000-4-5: 1995, EN61000-4-6: 1995, EN61000-4-11: 1994, EN55015: 1993, EN50082-1: 1997,
EN61000-3-2: 1995
EN61000-3-3: 1995

Harmonized Standard
EN60598-1: 1993
Safety of household and similar electrical appliances
Part 1: General requirements
Following the provisions of the Low Voltage Directive 73/23/EEC and 93/68/EEC.

Mr. Włodzimierz Duval (President)
Behalf of the Company