

# **NP2 / NP5 QUICK GUIDE V. 1.6**

## Warranty

**NP2/NP5** has a 24 month warranty on the electronic parts, running from the date of purchase. The warranty will not be valid in case of tampering with the device or in case personnel not authorised by the manufacturer or by the authorised dealer should carry out work on it.

**N.B.** responsibility of the purchaser: in case of operation under warranty, the device must be packaged so as to prevent damage during transport and shipped to the manufacturer together with all the accessories.

### Warranty rules

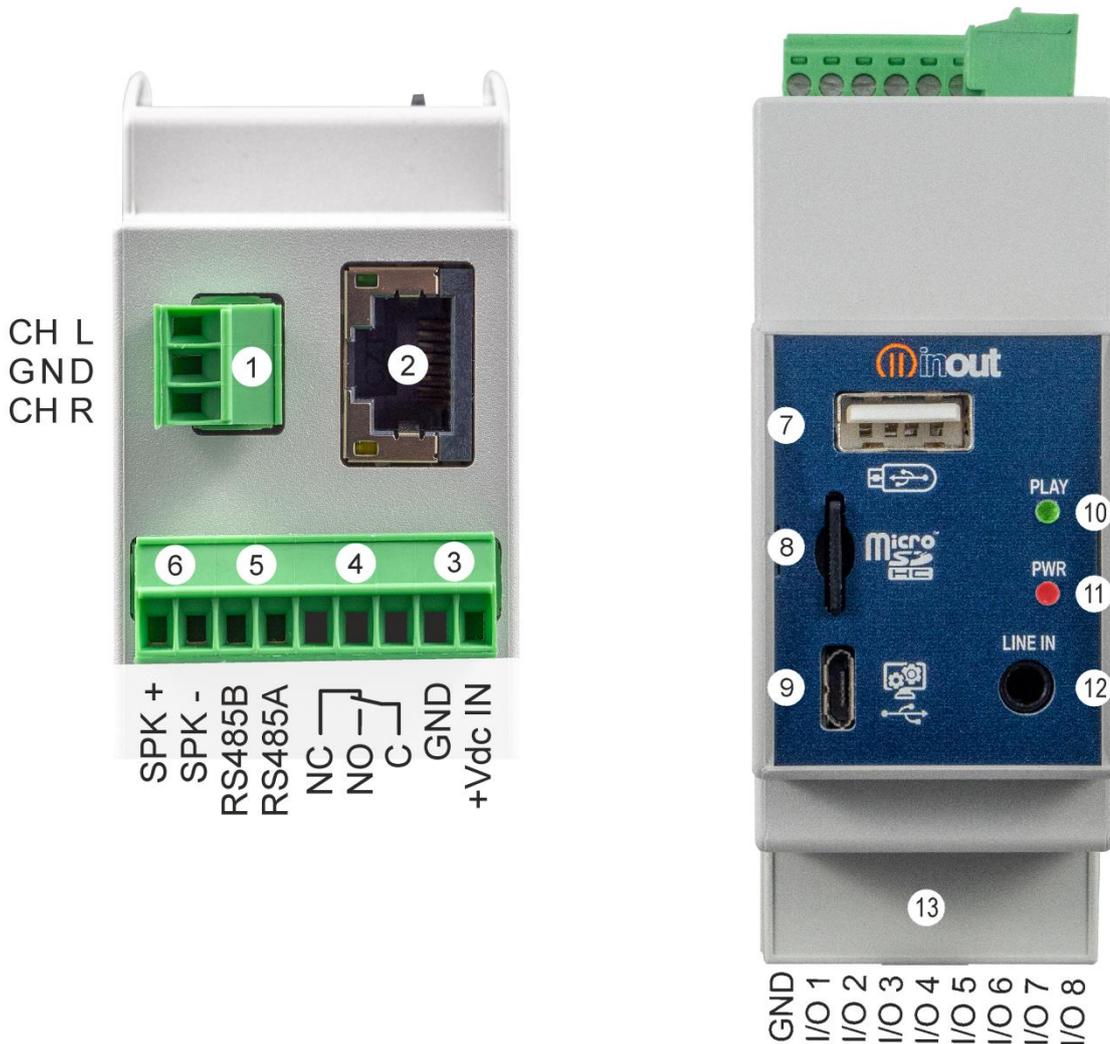
1. In order to exercise his warranty rights, the purchaser must enclose with the device a copy of evidence of purchase duly stamped by the dealer (bill/invoice).
2. The warranty lasts for 24 months for the electronic parts. The warranty is granted at the point of sale or else directly requested from the manufacturer.
3. The warranty only covers damage to the product which makes it work badly.
4. Work under warranty will only mean repairing or replacing, free of charge, any parts acknowledged to be defective during manufacture or in their material, including labour costs.
5. The warranty does not apply to damage caused by negligence or failure to comply with the instructions, or damage caused by unauthorised people, with a special reference to the outside parts.
6. Also, the warranty does not apply to damage caused to the device by connection to unsuitable power sources.
7. The warranty does not cover parts subject to wear after use, or the container if the material is not defective.
8. The warranty does not include transport costs, which will be paid for by the purchaser in relation to the manner and time of transport.
9. The warranty will run out after 24 months have elapsed. In this case, service will be provided charging for the parts replaced, labour costs and transport according to the current rates.
10. Any dispute will be settled exclusively before the Court of Law of Venice.

### Obsolete devices disposal :



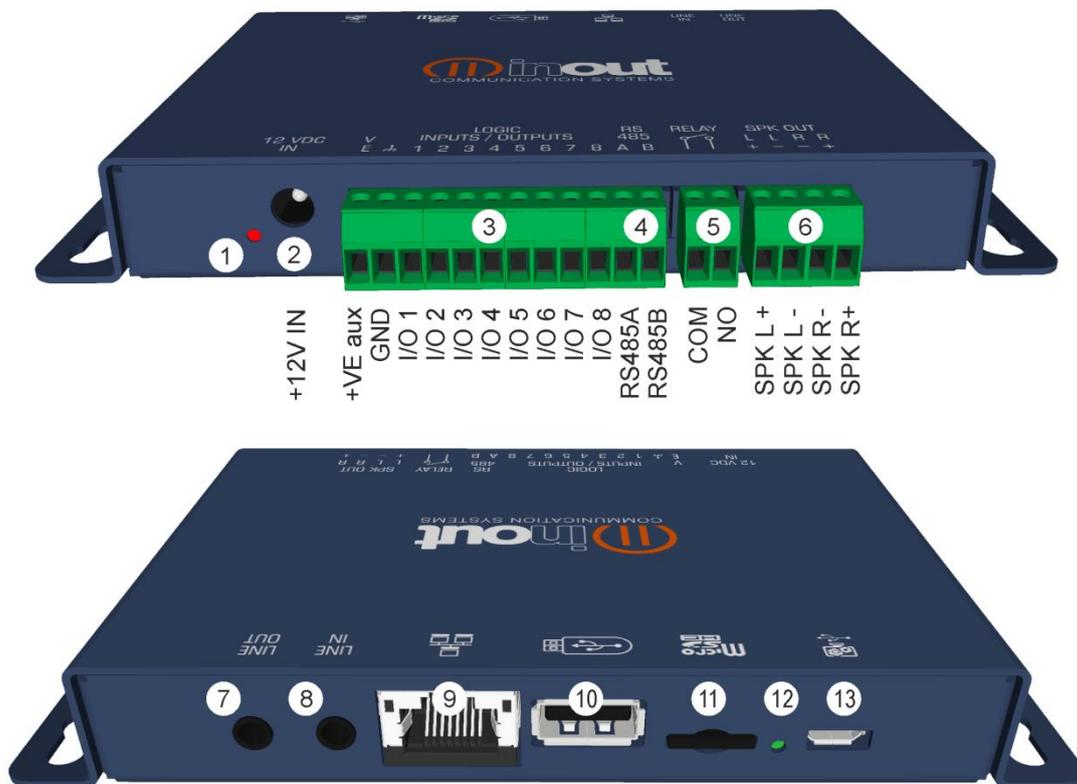
- When you find this picture on a device, it means that the device is compliant with European Directive 2012/19/EU.
- All electronic and electric devices should be disposed separately from normal garbage.
  - The proper disposal of old devices, accessories, and of the batteries in particular, it contributes to prevent possible negative consequences for human health and for the environment.
  - For more detailed information on the disposal of obsolete devices, contact the municipality, the garbage disposal service or the shop in which the product has been acquired.

## NP2 installation and connection description



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>❶ Pre-amplified audio output</li> <li>❷ LAN 10/100 Ethernet port</li> <li>❸ Input feed 12Vdc / GND</li> <li>❹ Relay contact output</li> <li>❺ RS485 serial communication port</li> <li>❻ Amplified 15W for speaker</li> </ul> | <ul style="list-style-type: none"> <li>❷ USB port for pen drive</li> <li>❸ MicroSD card slot</li> <li>❹ Device USB port</li> <li>❺ Status LED lit= audio file playing<br/>blinking= pause/system check/error</li> <li>❻ Power LED lit= device is live</li> <li>❼ Stereo audio input for outside music source with mixer function</li> <li>❸ 8 logic on/off ports individually configurable as input or output<br/>GND auxiliary for input activation</li> </ul> |
|--|---|

## NP5 installation and connection description



- |   |  |
|---|--|
| ❶ Power LED lit= device is live   | ❷ Stereo audio output  |
| ❷ Input feed 12Vdc / GND  | ❸ Stereo audio input for outside music source with mixer function          |
| ❸ VE auxiliary +12Vdc, available for output activation<br>GND auxiliary for input activation<br>8 logic on/off ports individually configurable as input or output | ❹ LAN 10/100 Ethernet port   |
| ❹ RS485 serial communication port   | ❺ USB port for pen drive   |
| ❺ Relay contact output  | ❻ MicroSD card slot  |
| ❻ Amplified 15+15W for speaker  | ❼ Status LED lit= audio file playing<br>blinking= pause/system check/error |
|   | ❽ Device USB port  |

### IMPORTANT NOTICES.

- NP2/NP5 has been designed and made to work only with the following mains power supply: 12VDC.
- The device must be serviced only by qualified staff.
- Do not put objects inside the device through the openings, in order to prevent the risk of fire or shock.
- Disconnect the device from the power socket before cleaning. Clean the device using a soft, dry cloth. Do not use liquids or spray which can contain flammable substances.

## Content of the kit NP2

- n. 1 NP2 device;
- n. 1 quick guide;
- n. 1 DIN rail adaptor AC/DC 15W/12Vdc out
- n. 1 uSD flash memory.

## Content of the kit NP5

- n. 1 NP5 device;
- n. 1 quick guide;
- n. 1 mains adaptor AC/DC 30W/12Vdc out
- n. 1 uSD flash memory.

## How to start?

- Try out demo examples contained in the supplied microSD.
- At power-up, NP2/NP5 performs a system check signaling by flashing the green led, wait for the LED to turn off.
- To create folders into microSD, insert blank flash card into the player and power up NP2/NP5.

Folders	What they need
■ <b>config</b>	Folder for memory configurations
■ <b>music</b>	Folder for music files
■ <b>playlist</b>	Folder for playlists files
■ <b>scheduler</b>	Folder to save time schedule
■ <b>spot</b>	Folder for spot files
■ <b>system</b>	System Folder and Help Messages

### **IMPORTANT:**

If the microSD is not inserted, NP2/NP5 does not work and the green LED remains blinking

### **IMPORTANT:**

NP2/NP5 is compatible with the following browsers.

- Chrome 7+
- MozillaFirefox 4+
- Internet Explorer 10+ / Windows 10 Edge
- Safari 6+ for MAC

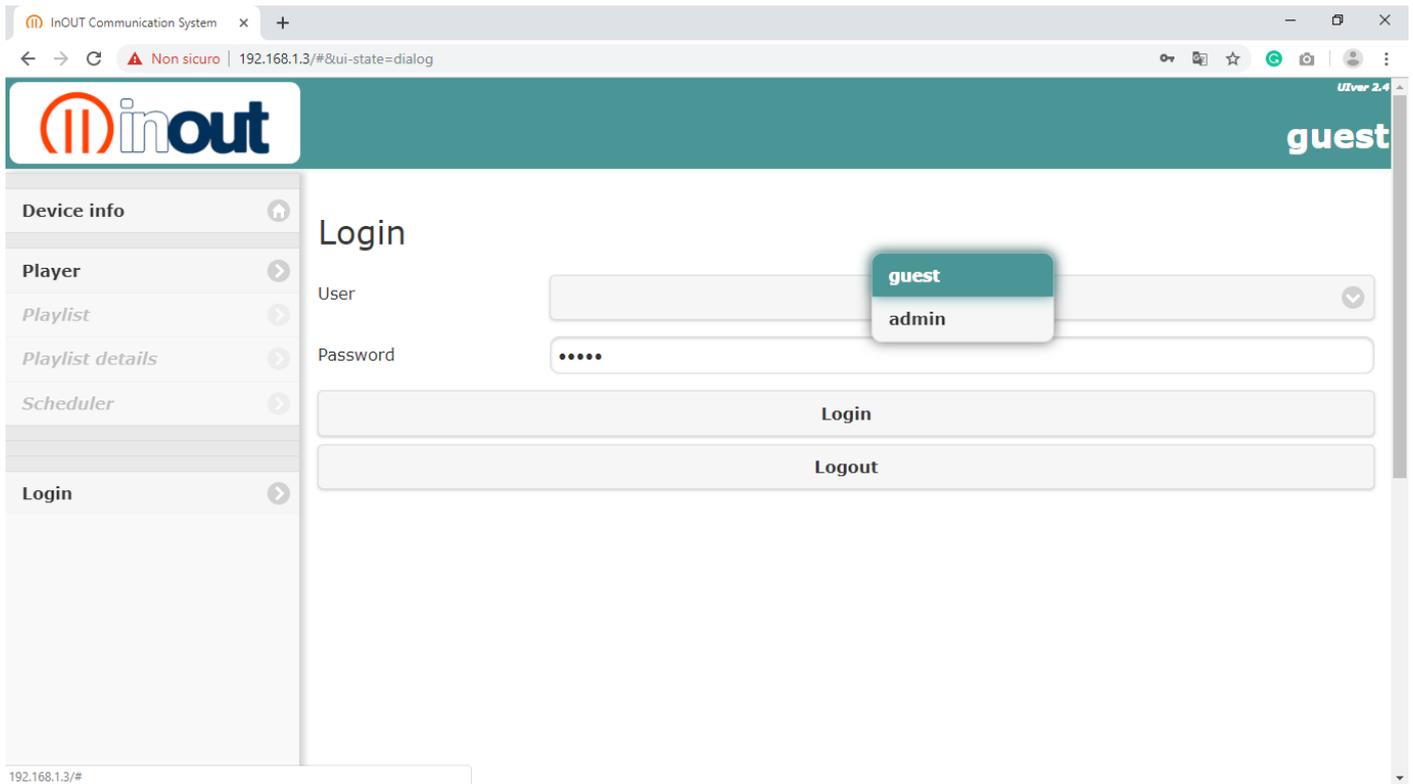
Please connect the NP2/NP5 to your router before executing the following steps.

- open your Web browser on your PC (such as CHROME)
- on the Address field, type the following address `http://192.168.1.1` or IP address of the router.
- you will get a window asking for the username and password of the router.
- enter the username and the password to log on to the router administrative page.
- Check the router's DHCP clients table by checking the attached device list.

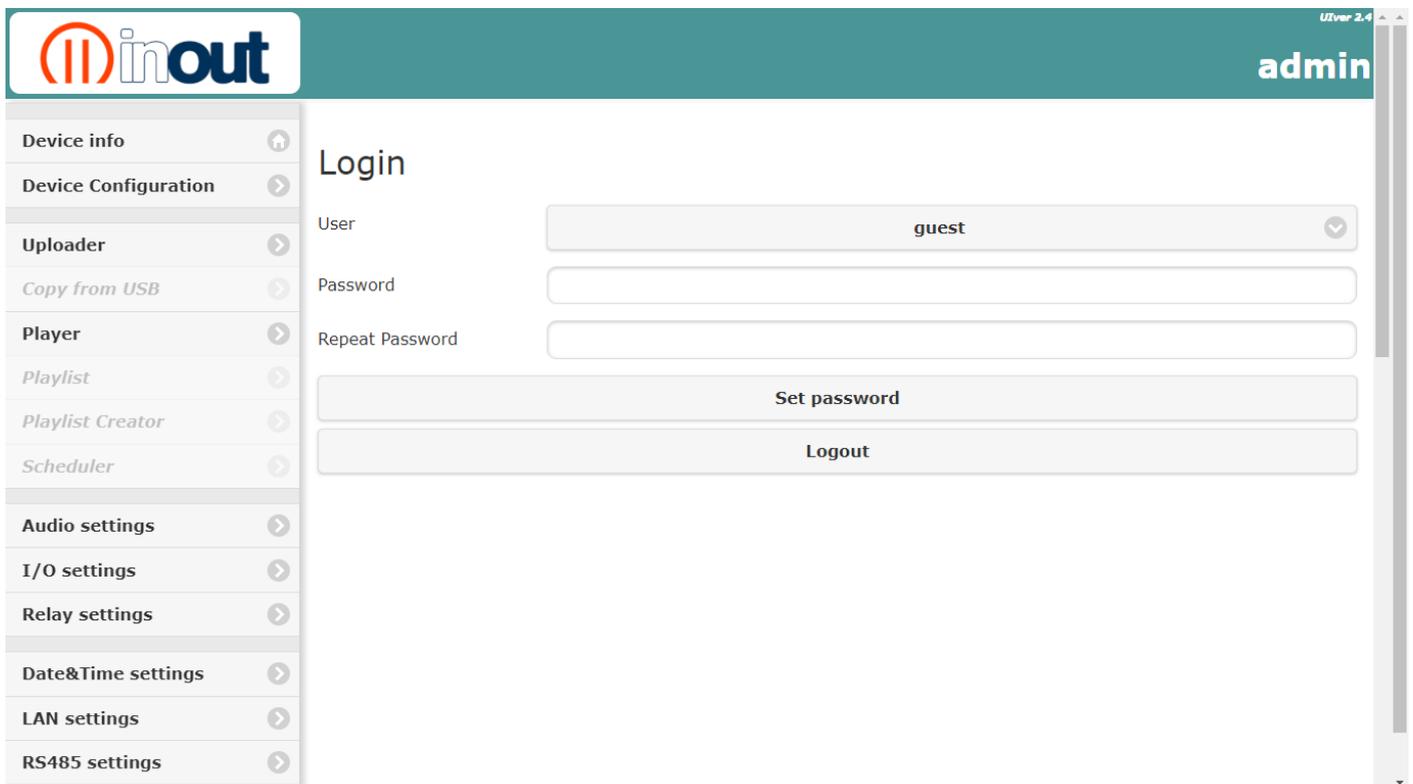
Press Login menù, select User Admin.

Default value:	User	Password
Guest	guest	guest
Administrator	admin	admin

 **IMPORTANT:** timeout login 10min.



If you change login, insert password and confirm with Set password button.



## Device Info

Web page displaying all the parameters set in the NP2/NP5 device.

To change settings, select the menu on the left side of the web page

The screenshot shows the 'inout' admin interface. The main content area is titled 'Device info' and contains the following sections:

- General Info**

Serial number	00000000
Brand ID	NP2
Software version	3.3.06
Hardware version	1.0
Bootloader version	B.4
DHCP enabled	<input checked="" type="checkbox"/>
IP address	192.168.1.3
Netmask	255.255.255.0
Gateway	192.168.1.1
Hostname	NP2
MAC address	00:00:00:e1:80:00
DNS1	192.168.1.1
DNS2	0.0.0.0
- Audio**

Audio Line In MIX	<input type="checkbox"/>
Volume (db)	-0.5
- Device Configuration**

Standard Player
- Device I/O**

I/O Mode: Free

I/O Config: 1 2 3 4 5 6 7 8 (all channels active)

Relay Mode: Play status

Scheduler suspension:
- Play modes**

Power On Auto Play:
- SD**

Present	<input checked="" type="checkbox"/>
SD size	15549
Free memory	15512
- USB**

Present	<input type="checkbox"/>
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### IMPORTANT:

always save the settings with the save/apply button

## LAN settings

### DHCP Automatic IP assignment

Set DHCP ON, enter your prefer Hostname and save with Apply.

The screenshot shows the 'LAN settings' page in the inout web interface. The 'Automatic IP assignment (DHCP)' toggle is set to 'On'. The 'Hostname' field contains the text 'NP2'. An 'Apply' button is visible at the bottom of the form. The left sidebar contains a navigation menu with options like 'Device info', 'Device Configuration', 'Uploader', 'Player', 'Audio settings', etc. The top header shows the 'inout' logo and the user 'admin'.

### Static IP assignment

Set DHCP OFF, enter the IP address, Subnet Mask, Default Gateway and DNS server. Enter your prefer Hostname and save with Apply.

The screenshot shows the 'LAN settings' page in the inout web interface. The 'Automatic IP assignment (DHCP)' toggle is set to 'Off'. The 'Static IP assignment' field contains '192.168.1.3', 'Netmask' is '255.255.255.0', 'Gateway' is '192.168.1.1', 'DNS1' is '192.168.1.1', and 'DNS2' is '0.0.0.0'. The 'Hostname' field contains 'NP2'. An 'Apply' button is visible at the bottom of the form. The left sidebar and top header are identical to the previous screenshot.

## Audio settings

The screenshot displays the 'Audio settings' page in the Minout admin interface. On the left is a navigation menu with categories like Device info, Uploader, Player, Scheduler, Audio settings, I/O settings, Relay settings, Date&Time settings, LAN settings, RS485 settings, Login, Firmware update, and Service. The main content area is titled 'Audio settings' and contains the following controls:

- Volume OUT (dB):** Slider set to -11.5.
- Fade In (msec):** Slider set to 641.
- Fade Out (msec):** Slider set to 541.
- Cross Fade In (msec):** Slider set to 901.
- Cross Fade Out (msec):** Slider set to 461.
- Amp. Mute:** Dropdown menu set to 'Auto'.
- Audio Line In MIX:** Toggle switch set to 'On'.
- Line IN Level (dB):** Slider set to -13.
- Line IN Level MIX (dB):** Slider set to -19.
- L/R Line In Mode:** Dropdown menu set to 'LineIN Stereo (L/R)'.
- Line Out Mode:** Dropdown menu set to 'Stereo'.
- Out Mode:** Dropdown menu set to 'Normal'.
- Bass Level (dB):** Slider set to 5.
- Bass Freq (Hz):** Slider set to 100.
- Treble Level (dB):** Slider set to 3.
- Treble Freq (Hz):** Slider set to 8000.

**Volume out:** level preamplified and amplified audio output

**Fade In:** setting the initial fading time of playing the audio file

**Fade Out:** setting the finally fading time of playing the audio file

**Cross Fade In:** setting the fading time of the Line In before playing the audio file.

**Cross Fade Out:** setting the fading time of the Line In after playing audio file

**Amp. Mute:** - Auto: power amplifier is active only during the audio files playing.  
When NP2/NP5 is in STOP mode the power amplifier is in Standby.

- Disable: power Amplifier always active, also when NP2/NP5 is in STOP mode.

**Audio line in mix:** switch on/off audio Line In

**Line In Level:** setting level Line In when player in stand by

**Line In Level Mix:** setting level Line In of the background during the playing of the audio file.

**L/R Line In Mode:** setting Line In mode Stereo / Mono / Left / Right

**Line Out Mode:** setting Line Out mode Stereo / Mono

**Bass Level:** setting Low tone level control

**Bass Freq:** setting Lower limit frequency

**Treble Level:** setting High tone level control

**Treble Freq:** setting High limit frequency

## I/O settings

The screenshot shows the 'I/O settings' page in the Minout web interface. The sidebar on the left contains a navigation menu with the following items: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings (highlighted), Relay settings, Date&Time settings, LAN settings, RS485 settings, Login, and Firmware update. The main content area is titled 'I/O settings' and contains a table with the following columns: Input, Value, Inversion, Time(1/10 sec), Pulse Mode, OUT Mode, and I/O Config. The table lists 8 I/O ports (IO1-IO8) with their respective settings. Below the table are 'Reload' and 'Save' buttons.

Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/>	3800	<input checked="" type="checkbox"/>	Free	<input checked="" type="checkbox"/> OUT
IO3	OFF	<input type="checkbox"/>		<input type="checkbox"/>	Play	<input checked="" type="checkbox"/> OUT
IO4	OFF	<input type="checkbox"/>		<input type="checkbox"/>	Play + Blink in Pause	<input checked="" type="checkbox"/> OUT
IO5	OFF	<input type="checkbox"/>		<input type="checkbox"/>	Blink in Play	<input checked="" type="checkbox"/> OUT
IO6	OFF	<input type="checkbox"/>		<input type="checkbox"/>	Blink in Stop	<input checked="" type="checkbox"/> OUT
IO7	OFF	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Play	<input checked="" type="checkbox"/> OUT
IO8	OFF	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Blink in Play	<input checked="" type="checkbox"/> OUT

**I/O Config:** Setting logic port input or output

**Out Mode:** Output logic port setting: free, play, blink when in pause / play / stop.

**Pulse Mode:** Setting the output logic port in pulse mode, set the pulse duration time in tenths of a second.

**Inversion:** Setting the mode of input/output active high or active low.

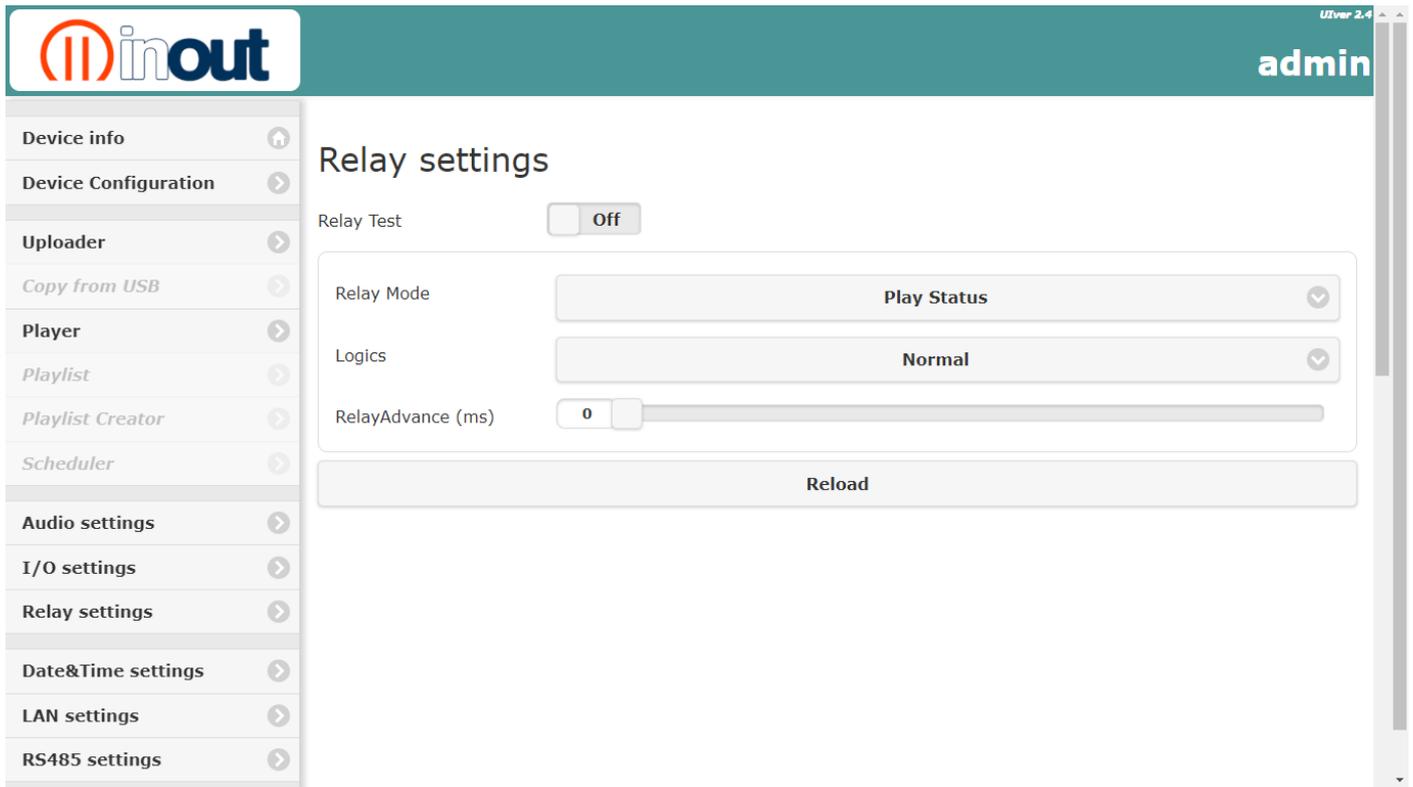
- OFF active-low input mode; the functioning of the input is connected to the ground/GND of the device.

- ON active-high input mode; the functioning of the input is applied with a positive voltage between 5 and 12Vdc.

**Value:** Test function Output logic port

 **IMPORTANT:** save the settings with the button apply/save

## Relay settings



The screenshot shows the 'inout' device administration interface. The top header is teal with the 'inout' logo on the left and 'admin' on the right. A sidebar on the left lists various settings categories: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings, Relay settings (highlighted), Date&Time settings, LAN settings, and RS485 settings. The main content area is titled 'Relay settings' and contains the following controls:

- Relay Test:** A toggle switch currently set to 'Off'.
- Relay Mode:** A dropdown menu set to 'Play Status'.
- Logics:** A dropdown menu set to 'Normal'.
- RelayAdvance (ms):** A slider control set to '0'.
- Reload:** A button at the bottom of the settings panel.

**Relay Test:** Only for Test function relay on/off.

**Relay Mode:** - Free to remote control or scheduler function  
- Play status, relay is active when device is playing

**Logics:** setting normal or inverted

## Date&Time settings

The screenshot shows the 'Date&Time settings' page in the Minout admin interface. The sidebar on the left lists various settings categories, with 'Date&Time settings' selected. The main content area is titled 'Date&Time settings' and contains the following sections:

- Board Date:** Tuesday 25/06/2019. The date is set to Tuesday, 25, 06, 2019.
- Board Time:** 18:27:21. The time is set to 18:26:37.
- Change Date and Time with above values:** A button to apply the selected date and time.
- Sync clock using your PC date and time:** A button to synchronize the device clock with the PC.
- Daylight Saving Time:**
  - Auto adjust:  On
  - Local Time Zone: (GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
  - Save DST Setup: A button to save the DST settings.
- NTP service:**
  - Synchronize Date&Time:  Off

Select date and time and press “Change Date and Time with above values” button.

### **Option set:**

Fast setting “ Sync clock using your PC date and time” button.

**Daylight Saving Time (DST)** is the practice of setting the clocks forward 1 hour from standard time during the summer months, and back again in the fall, in order to make better use of natural daylight.

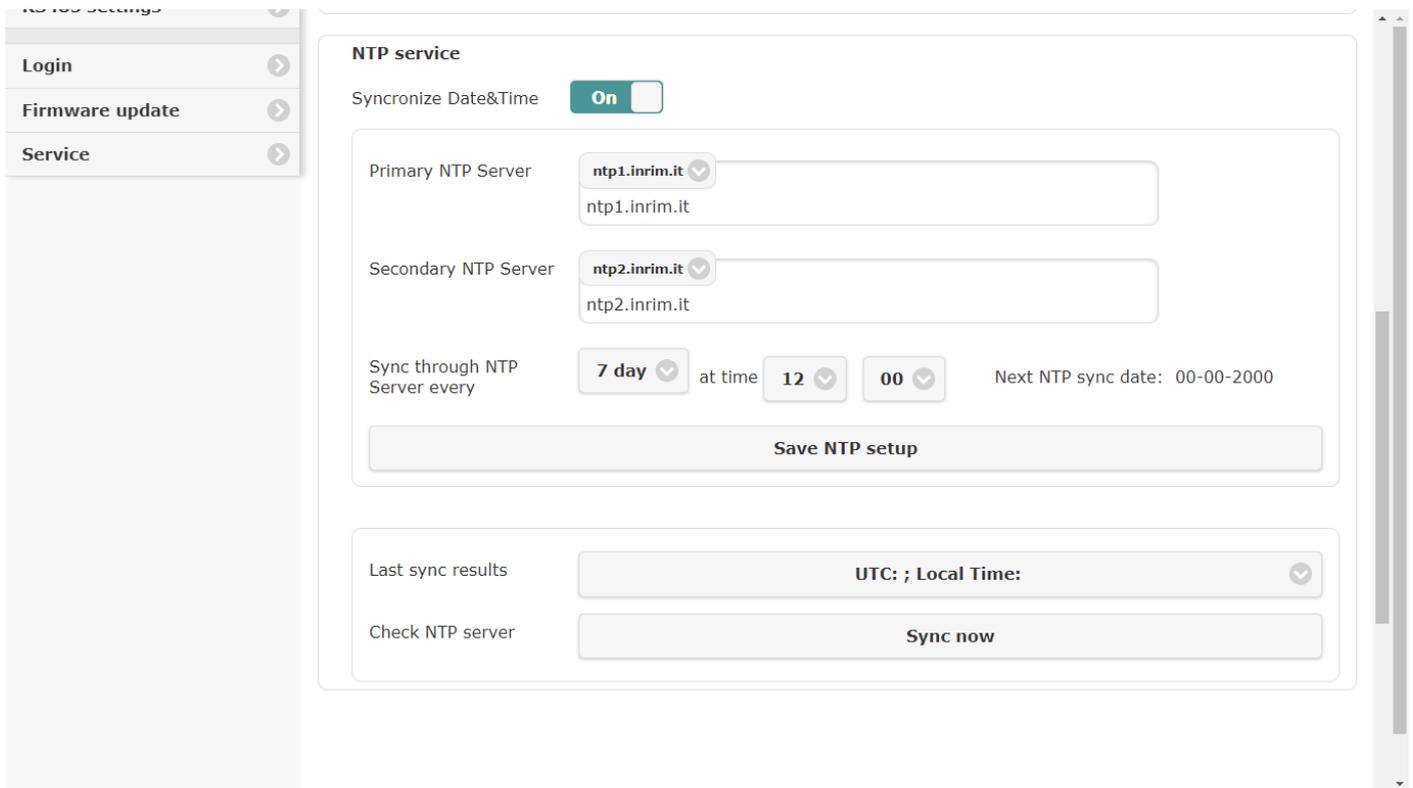
### **Local Time Zone**

The system clock must be on time. Select your country to get the correct time and date



**IMPORTANT:** save the settings with the button Save DST Setup.

## NTP service



**NTP service**

Synchronize Date&Time  On

Primary NTP Server

Secondary NTP Server

Sync through NTP Server every  at time   Next NTP sync date: 00-00-2000

**Save NTP setup**

Last sync results

Check NTP server

A NTP service (Network Time Protocol) can be used to synchronize the time on devices across a network. A NTP time server is used to obtain the correct time from a time source and adjust the local time in each connecting device.

INRIM provides a synchronization service for informatics system connected to the Internet, based on two primary NTP (Network Time Protocol) servers installed at the Time and Frequency Laboratory.

The INRIM NTP servers can be reached by means of the following addresses:  
 ntp1.inrim.it (193.204.114.232)  
 ntp2.inrim.it (193.204.114.233)



**IMPORTANT:** save the settings with the button Save NTP Setup.

## RS485 settings

The screenshot shows the 'minout' web interface. The top header has the 'minout' logo on the left and 'admin' on the right. A sidebar on the left contains a list of settings categories: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings, Relay settings, Date&Time settings, LAN settings, and RS485 settings. The 'RS485 settings' page is active, displaying the following configuration:

- Device ID: 1 (slider)
- Baud rate: 19200 (dropdown)
- Data bits: 8 (dropdown)
- Stop bits: 1 (dropdown)
- Parity bit: None (dropdown)
- Chksum: Enabled (dropdown)
- Response delay (ms): 2 (slider)

An 'Apply' button is located at the bottom of the settings area.

Device ID : Address NP2/NP5 in the 485 bus. This address **MUST** be univocal, two devices with the same address can not co-exist on the same bus.

Response delay: Minimum delay between end of reception of the pack and delivery of the reply.

NP2/NP5 can be connected to an RS485 communication bus through a serial port, which is controlled from a master system or by a computer.

Due to interference from outside the serial line, one may find anomalous behaviour from part of the master system which could cause possible damage to NP2/NP5. To avoid this mishap one must take the following precautions:

1. Do not let the serial cables transit in the same conduits as power cables or cables with elevated voltage. Maintain a safety distance of at least 10 cm. between these cables.
2. Connect serial cable screen to the ground the on one of the two sides (do not connect the screen from both sides); in addition, the ground connection of the screen must not be made in the same point in which piloted circuits of elevated tension are connected.
3. Cut the voltage of the entire system before beginning the wiring of the serial lines: even dispersed or parasite currents could damage the modules.

### IMPORTANT:

- The internal electronics of NP2/NP5 are not galvanically insulated from the RS485 line; in case of short circuit or discharge to ground, it is possible to damage not only the NP2/NP5, but even the master system to which it is connected!
- For the RS485 connection, one must remember to ignore the transmission echo from the master that is returning through the serial line.

## Uploader

To upload files into NP2/NP5, select the audio files on your computer/device, select dir/folder destination and press Upload all to copy into microSD storage.

Press Reset to abort Upload.

### IMPORTANT:

- Before you start Upload, close all other web pages. During the Upload function, do not navigate to other NP2/NP5 features and do not open other browser web pages.
- Do not start Upload while running a scheduler
- We recommend uploading when the NP2/NP5 is in standby mode.

## Copy from USB

To copy files into NP2/NP5, insert USB pen drive, select the audio files, select dir/folder destination and press Copy to transfer files into microSD storage.

If the Copy from USB menu does not appear, refresh the web page.

### IMPORTANT:

- The files to be transferred must be in the root directory of the USB pen drive
- Do not start Copy while running a scheduler
- We recommend Copy from USB when the NP2/NP5 is in standby mode

## How to update the Bootloader (BL) or Application (App) Firmware?

If you have an NP2/NP5 device with the BL firmware version equal or less to the version "A.3", and the App with version equal or less to the version "3.0.2", it is necessary to follow the below instructions.

To update the newest firmware versions is it possible to use this web page for both: Bootloader and Application.

The screenshot shows the 'inout' web interface. The top navigation bar includes the 'inout' logo and the user role 'admin'. The left sidebar lists various settings categories. The main content area is titled 'Firmware Update' and contains the following text:

This web page gives the possibility to upload the application firmware in the SD memory and execute their updating.

1. Select the update file, using the text box below.
2. Press the Upload button to upload it to the SD memory.
3. When the file will be uploaded, the application will execute the updating process.

Do not interrupt this process as it might cause corruption, which will make your NP10 device unstable.  
Your device reboots after the firmware is uploaded. It will take not more than 4 minutes.  
If the updating process will conclude successfully, the update file in the SD memory will be deleted.  
This process manages one file at a time.

Application Firmware:

The process uploads the file in the SD card memory, inside the directory "updates", check the file integrity using the CRC info and then decrypt the data and write them in the Flash area. Instead, in the App, after the integrity check will recall a sw reset, in order to execute the bootloader that will find the file in the "updates" directory. For both process, at the end, in case of success, the update file will be deleted.

### IMPORTANT:

To update firmware wait 4 minutes, after it is recommended to switch off and on NP2/NP5 device.

### USB Firmware Update ( optional )

1. Update the App firmware using the well know USB method, saving in the USB Flash root the file "dASys\_F4\_v3.x.xx.bin".
2. Plug the USB Flash memory to the NP2/NP5 device.
3. Power on the NP2/NP5 device and wait 4 minute.

## Service

The screenshot shows the 'Service' configuration page in the Minout web interface. The page features a teal header with the Minout logo and 'admin' text. A left sidebar contains a menu with items like Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings, Relay settings, Date&Time settings, LAN settings, and RS485 settings. The main content area is titled 'Service' and contains a 'Backup parameters file' section with a 'Backup Destination' dropdown set to 'SD' and a 'Backup' button. Below this are three buttons: 'System Reboot', 'System Reboot and Scan SD content', and 'Factory default'.

**Backup :** Save your player configuration into uSD or USB Key.

**System Reboot:** remotely reboot the player

**System Reboot:** restart the player remotely and scan the files contained in the SD memory and scan SD

**Factory default:** restore the factory parameters

## Standard Player configuration

NP2/NP5 works just like a standard player in this mode and does not require any specific programming or playlist file. The tracks will be played in the sequence in which they are memorised in the flash memory; if a block of data is transferred then the written sequence in the flash memory will depend on the operating system used.

### Digital I/O Mode > Player

The logical inputs can be used for player control (see example application at the end of guide).

- IO1  previous file
- IO2  Stop file reproduction.
- IO3  Play/Pause file
- IO4  next file
- IO5  reduce output volume
- IO6  increase output volume
- IO7 free - logic ports are freely configurable as I/O settings webpage.
- IO8 free - logic ports are freely configurable as I/O settings webpage.

**Time Persistence:** set the persistence time of the input command (time to wait before NP2/NP5 is able to interpret the input command)

**Power On Auto Play:** In this mode, NP2/NP5 will automatically start to play the audio file when the device is power on.



**IMPORTANT:** save the settings with the button apply/save

**inout** admin

UI ver 2.4

Device info  
Device Configuration  
Uploader  
Copy from USB  
Player  
Playlist  
Playlist Creator  
Scheduler  
Audio settings  
**I/O settings**  
Relay settings  
Date&Time settings  
LAN settings  
RS485 settings

### I/O settings

Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO3	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO4	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO5	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO6	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO7	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Play + Blink in Pause	<input checked="" type="checkbox"/> OUT
IO8	OFF	<input type="checkbox"/> OFF			Blink in Play	<input checked="" type="checkbox"/> OUT

Reload

Save

Digital I/O Mode > Free

Logic ports are freely configurable as I/O settings webpage.

**inout** admin

UI ver 2.4

Device info  
Device Configuration  
Uploader  
Copy from USB  
Player  
Playlist  
Playlist Creator  
Scheduler  
Audio settings  
**I/O settings**  
Relay settings  
Date&Time settings  
LAN settings  
RS485 settings

### I/O settings

Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO3	OFF	<input type="checkbox"/> OFF	4500	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO4	OFF	<input checked="" type="checkbox"/> ON		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO5	OFF	<input type="checkbox"/> OFF	2800	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO6	OFF	<input checked="" type="checkbox"/> ON			Blink in Play	<input checked="" type="checkbox"/> OUT
IO7	OFF	<input type="checkbox"/> OFF	5600	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO8	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Blink in Stop	<input checked="" type="checkbox"/> OUT

Reload

## Playlist Sequence Configuration

This sequentially performs all the playlists memorised, starting first playlist.

### Digital I/O Mode > Player

The logical inputs can be used for player control (see example application at the end of guide).

- IO1  previous file
- IO2  Stop file reproduction.
- IO3  Play/Pause file
- IO4  next file
- IO5  reduce output volume
- IO6  increase output volume
- IO7 free - logic ports are freely configurable as I/O settings webpage.
- IO8 free - logic ports are freely configurable as I/O settings webpage.

Time Persistence: set the persistence time of the input command (time to wait before NP2/NP5 is able to interpret the input command)

Power On Auto Play: In this mode, NP2/NP5 will automatically start to play the audio file when the device is power on.



- IMPORTANT:**
- save the settings with the button apply/save
  - set continuous play ON for playlist loop

The screenshot shows the 'I/O settings' page in the Minout admin interface. The page has a sidebar on the left with navigation options: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings (selected), Relay settings, Date&Time settings, LAN settings, and RS485 settings. The main content area displays a table of I/O configurations for ports IO1 through IO8. The table has columns for Input, Value, Inversion, Time(1/10 sec), Pulse Mode, OUT Mode, and I/O Config. IO8 is highlighted with a red box, indicating its configuration: Value is OFF, Inversion is OFF, Time is 5600, Pulse Mode is ON, OUT Mode is Play, and I/O Config is OUT. Below the table are 'Reload' and 'Save' buttons.

Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO3	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO4	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO5	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO6	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO7	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Play	<input type="checkbox"/> OUT
IO8	OFF	<input type="checkbox"/> OFF	5600	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT

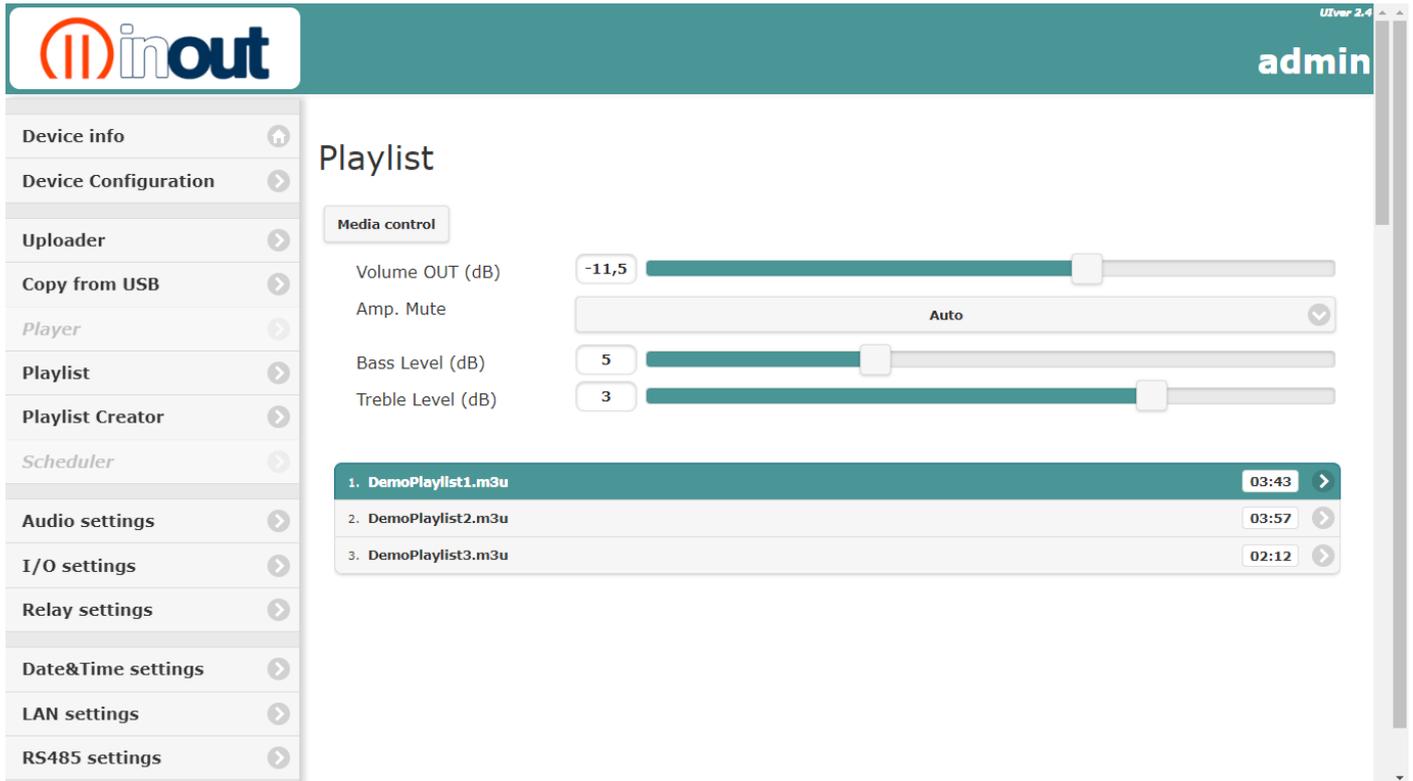
Digital I/O Mode > Free

Logic ports are freely configurable as I/O settings webpage.

The screenshot shows the 'I/O settings' page in the Minout admin interface. The page has a sidebar on the left with navigation options: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings (selected), Relay settings, Date&Time settings, LAN settings, and RS485 settings. The main content area displays a table of I/O configurations for ports IO1 through IO8. The table has columns for Input, Value, Inversion, Time(1/10 sec), Pulse Mode, OUT Mode, and I/O Config. IO5 is highlighted with a red box, indicating its configuration: Value is OFF, Inversion is OFF, Time is 2800, Pulse Mode is ON, OUT Mode is Play, and I/O Config is OUT. Below the table are 'Reload' and 'Save' buttons.

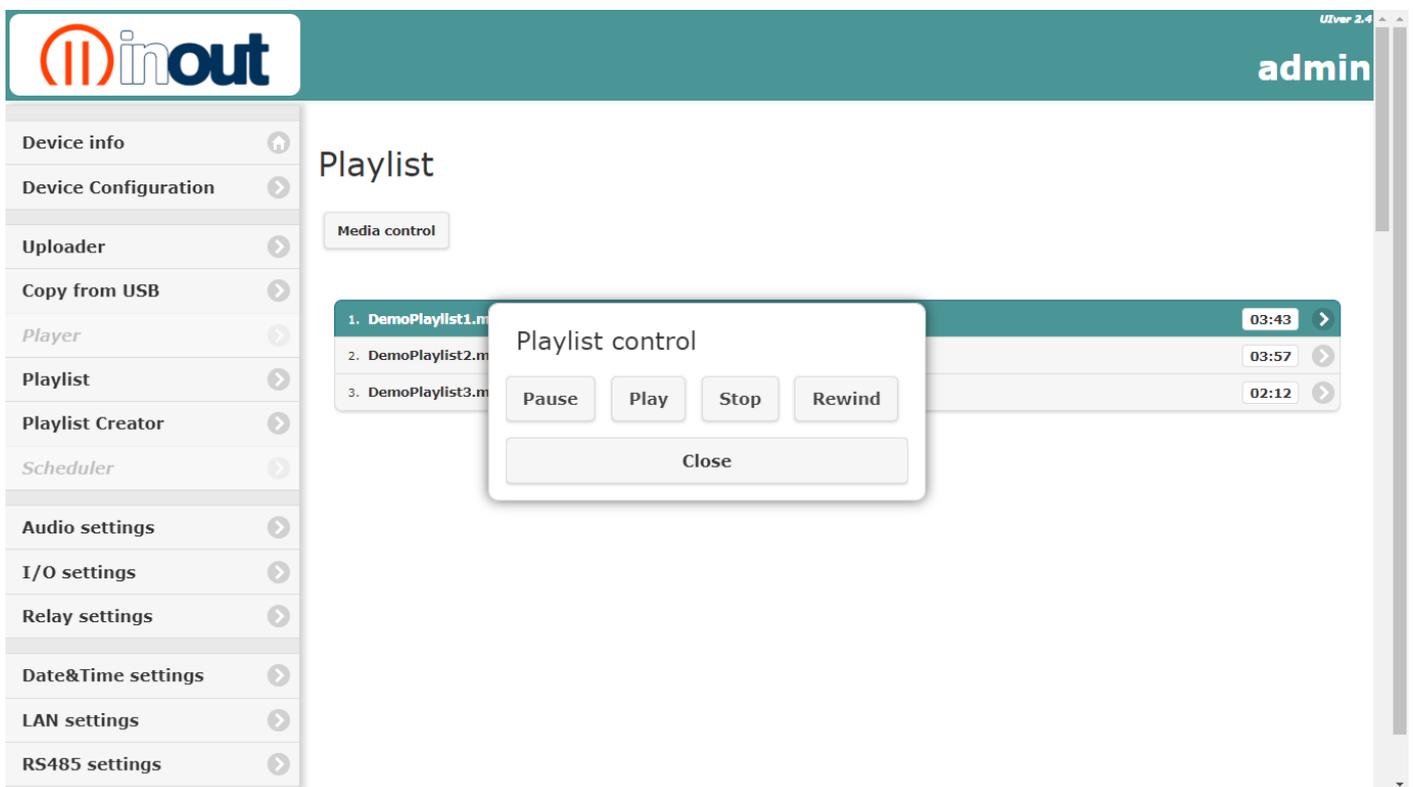
Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO3	OFF	<input type="checkbox"/> OFF	4500	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO4	OFF	<input checked="" type="checkbox"/> ON		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO5	OFF	<input type="checkbox"/> OFF	2800	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO6	OFF	<input checked="" type="checkbox"/> ON			Blink in Play	<input checked="" type="checkbox"/> OUT
IO7	OFF	<input type="checkbox"/> OFF	5600	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO8	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Blink in Stop	<input checked="" type="checkbox"/> OUT

Select a playlist from the "Playlist" web page.



The screenshot shows the 'inout' admin interface. The top header includes the logo and 'admin' text. A left sidebar contains navigation options: Device info, Device Configuration, Uploader, Copy from USB, Player, Playlist, Playlist Creator, Scheduler, Audio settings, I/O settings, Relay settings, Date&Time settings, LAN settings, and RS485 settings. The main content area is titled 'Playlist' and features a 'Media control' section with sliders for Volume OUT (dB) at -11,5, Amp. Mute set to Auto, Bass Level (dB) at 5, and Treble Level (dB) at 3. Below this is a playlist list with three items: 1. DemoPlaylist1.m3u (03:43), 2. DemoPlaylist2.m3u (03:57), and 3. DemoPlaylist3.m3u (02:12).

Click on the selected playlist to start the Playlist Control pop-up



This screenshot is identical to the previous one, but with a 'Playlist control' pop-up window overlaid on the playlist list. The pop-up window contains buttons for 'Pause', 'Play', 'Stop', and 'Rewind', along with a 'Close' button at the bottom.

## Advanced Player Configuration

### Digital I/O Mode > Binary Code

Activating the inputs in binary combination, one can launch the playing of a maximum of 255 file, naming the audio files es. 1.mp3, 2.mp3, 3.mp3.....255.mp3

### Digital I/O Mode > Keypad (12-key telephone keypad)

Dedicated operation for telephone keypad connection 12 keys. All I/O ports are dedicated to this function (see example application at the end of guide).

Naming the audio files es. 1.mp3, 2.mp3, 3.mp3.....999.mp3

### Digital I/O Mode > Museum Mode

Activating the inputs in binary combination, one can launch the playing of a maximum of 63 file, naming the audio files es. 1.mp3, 2.mp3, 3.mp3.....63.mp3.

#### I/O7 and I/O8 reserved:

I/O7  reduce output volume

I/O8  increase output volume



**IMPORTANT:** save the settings with the button apply/save

## Digital Inputs Set

Digital Inputs # bits for Dedicated inputs for Playlist Direct or Binary Code, the remaining ones can be configured as outputs

Time Persistence: Set the persistence time of the input command (time to wait before NP2/NP5 is able to interpret the input command).

Continuos Play: - OFF: Having terminated the playing of the codified file, requested from the input code, NP2/NP5 goes in standby.  
- ON: The requested codified file is continuously played until the relevant input code is inserted.

Interrupt: - OFF: Repeated activations or deactivations of the same input or of other inputs does not influence the playing of the file.  
- ON: The activation of a different code can block the playing underway and activate the playing of the new requested file

Restart Play: In the moment in which an input code is enabled the playing of the of the ( if Interrupt is ON ) relevant file from its beginning takes place, even if it is already in play.



**IMPORTANT:** save the settings with the button apply/save

## Advanced Playlist Configuration

### Digital I/O Mode > Playlist Direct

The 8 available playlists, activated by the logical inputs IN1-IN8, can be played with different modes, depending upon the varying needs.

### Digital I/O Mode > Binary Code

Activating the inputs in binary combination, one can launch the playing of a maximum of 255 playlists.

To combine playlists with their inputs, rename playlist names as follows (use clone button with playlist creator web page):

#### Playlist Direct

Input	Name playlist
<b>IN1</b>	1_nameplaylist.m3u
<b>IN2</b>	2_nameplaylist.m3u
<b>IN3</b>	3_nameplaylist.m3u
<b>IN4</b>	4_nameplaylist.m3u
<b>IN5</b>	5_nameplaylist.m3u
<b>IN6</b>	6_nameplaylist.m3u
<b>IN7</b>	7_nameplaylist.m3u
<b>IN8</b>	8_nameplaylist.m3u

#### Binary Code Playlist

Input	Name playlist
IN1+IN2	3_nameplaylist.m3u
IN1+IN4	9_nameplaylist.m3u
IN5	16_nameplaylist.m3u
IN2+IN4+IN5	26_nameplaylist.m3u
IN6	32_nameplaylist.m3u
IN2+IN5+IN6	50_nameplaylist.m3u
IN1+IN4+IN5+IN6	57_nameplaylist.m3u
IN3+IN4+IN5+IN6	60_nameplaylist.m3u

## Digital Inputs Set

- Digital Inputs # bits for:** Dedicated inputs for Playlist Direct or Binary Code, the remaining ones can be configured as outputs
- Time Persistence:** Set the persistence time of the input command (time to wait before NP2/NP5 is able to interpret the input command).
- Continuos Play:**  **Off**
- Activated the input, the relative item in the Playlist is played: at the end of it, NP2/NP5 goes in standby, awaiting a further activation.
  - The position of the last item played is stored in memory, in order to start out again always by the next one in case of restart.
- Continuos Play:**  **On**
- Activated the input, the relative item in the Playlist is played: at the end of it, NP2/NP5 goes in standby, awaiting a further activation. Activating the input once again or if the activation remains, the successive file is played.
  - The playlist is activated in loop, as long as the activation of the relative logical input remains activated.
  - The position of the last item played is stored in memory, in order to start out again always by the next one in case of restart.
- Interrupt:**  **Off**
- Repeated activations or deactivations of the same input or of other inputs does not influence the playing of the file.
- Interrupt:**  **On**
- Repeated activations or deactivations of the same logical input does not influence the playing of the file; only the activation of a different input blocks the playing underway and activates the relative playlist.
- Restart Play:**  **On**
- From the moment that the same logical input is reactivated, the restart of the file is commanded, even if it is playing. The activation of a different input blocks the playing underway and activates the relative playlist.



**IMPORTANT:** save the settings with the button apply/save

# Scheduler Configuration

The screenshot shows the 'Scheduler' configuration page in the inout admin interface. The left sidebar contains navigation options like 'Device info', 'Device Configuration', 'Uploader', 'Copy from USB', 'Player', 'Playlist', 'Playlist Creator', 'Scheduler', 'Audio settings', 'I/O settings', 'Relay settings', 'Date&Time settings', 'LAN settings', and 'RS485 settings'. The main content area is titled 'Device Configuration' and shows two dropdown menus: 'Device Configuration' set to 'Scheduler' and 'Digital I/O Mode' set to 'Free'. A 'Save' button is present, and a tooltip indicates that 'Free' is selected, with 'Priority message' as an alternative option.

Digital I/O Mode > Free

Logic ports are freely configurable as I/O settings webpage.

The screenshot shows the 'I/O settings' page in the inout admin interface. The left sidebar is the same as in the previous screenshot. The main content area is titled 'I/O settings' and contains a table with the following columns: Input, Value, Inversion, Time(1/10 sec), Pulse Mode, OUT Mode, and I/O Config. The table lists 8 inputs (IO1-IO8) with various settings for inversion, time, pulse mode, and output mode. A 'Reload' button is located at the bottom of the table.

Input	Value	Inversion	Time(1/10 sec)	Pulse Mode	OUT Mode	I/O Config
IO1	OFF	<input type="checkbox"/> OFF				<input type="checkbox"/> IN
IO2	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO3	OFF	<input type="checkbox"/> OFF	4500	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO4	OFF	<input checked="" type="checkbox"/> ON		<input type="checkbox"/> OFF	Play	<input checked="" type="checkbox"/> OUT
IO5	OFF	<input type="checkbox"/> OFF	2800	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO6	OFF	<input checked="" type="checkbox"/> ON			Blink in Play	<input checked="" type="checkbox"/> OUT
IO7	OFF	<input type="checkbox"/> OFF	5600	<input checked="" type="checkbox"/> ON	Play	<input checked="" type="checkbox"/> OUT
IO8	OFF	<input type="checkbox"/> OFF		<input type="checkbox"/> OFF	Blink in Stop	<input checked="" type="checkbox"/> OUT

## Digital I/O Mode > Priority message

Activating the inputs in binary combination, one can launch the playing of a maximum of 63 priority message, naming the audio files es. 1.mp3, 2.mp3, 3.mp3.....63.mp3

The remaining logic ports can be configured as outputs

### I/O7 and I/O8 reserved:

**IO7:** If active input, the line in is enabled and mixes in the background during the playback program's audio file.

When disabled, the audio line in is turned off.

**IO8:** If enable, suspends the program scheduler and playback of audio files.

When disabled, resumes the audio playback of the scheduler from the point established of the time line program

**Play Delay:** Setting the delay time of the playback audio file from the activation of the inputs



**IMPORTANT:** save the settings with the button apply/save

- Scheduler files:** Name of the every day scheduler program
- Enable:** If active, enable the scheduler.  
If switched off, the program is suspended.
- Create new:** to create a new scheduler an save name
- Delete:** to clear the scheduler program
- Add Playlist:** to insert playlists or generate with playlist creator. Press set to enter
- Add Spot:** to insert a single spot or an auto repeat for n times and a range between them.  
Press set to enter
- Add Event:** to insert a time event: Relay, logic output and audio line in. Press set to enter  
Enter title, choose output type, value output if ON / OFF, intervention time.  
Press set for insertion.  
ON = green ball  
OFF= red ball



**IMPORTANT:** to display output ID, configure logic ports as outputs in I/O settings page

Playlist Creator

Scheduler

Audio settings

I/O settings

Relay settings

Date&Time settings

LAN settings

RS485 settings

Login

Firmware update

Service

Save

+ Add Playlist + Add Spot + Add Event

Board Date/Time 19:10:27 , Tuesday 25/06/2019

**TimeLine**

12:00:00 Relay 12:00:00 ON Relay

12:00:01 DemoPlaylist1.m3u - 00h03m43s  
12:00:01 - 12:04:25

12:00:44 Spot 01-15sec.mp3 - 00h00m15s  
12:00:44 - 12:00:59

12:00:59 12:02:00

12:02:00 Spot 02-25sec.mp3 - 00h00m26s  
12:02:00 - 12:02:26

12:02:26 12:04:25

12:04:27 Relay 12:04:27 OFF Relay

12:04:30 Chime1.mp3 - 00h00m06s  
12:04:30 - 12:04:36

12:04:36 12:04:40

12:04:40 DemoPlaylist3.m3u - 00h02m12s  
12:04:40 - 12:07:57

12:05:30 Spot 03-30sec.mp3 - 00h00m33s  
12:05:30 - 12:06:03

12:06:03 12:07:00

12:07:00 Spot 04-30sec.mp3 - 00h00m32s  
12:07:00 - 12:07:32

12:07:32 12:07:57

## IMPORTANT.

### Pay attention to following advice:

We recommend you to create a new scheduler instead of editing and deleting a scheduler file in memory.

In case of incorrect webpage views, refresh the page by clicking on the InOut logo

Be careful about programming, overlapping schedules can generate errors.

## Player - listening to audio files

The screenshot shows the 'inout' web interface. The top navigation bar includes the 'inout' logo and the word 'admin'. A left sidebar contains a menu with items like 'Device info', 'Device Configuration', 'Uploader', 'Copy from USB', 'Player', 'Playlist', 'Playlist Creator', 'Scheduler', 'Audio settings', 'I/O settings', 'Relay settings', 'Date&Time settings', 'LAN settings', and 'RS485 settings'. The main content area is titled 'Player' and features a 'Media control' section with sliders for Volume OUT (dB) at -11,5, Amp. Mute set to Auto, Bass Level (dB) at 5, and Treble Level (dB) at 3. Below this is a music playlist with two tabs: 'Music' (selected) and 'Spot'. The 'Music' tab shows a search bar and a list of tracks with their durations. The tracks listed are:

Track ID	Track Name	Duration
3.	ANALIZE - Music - Music - Other	00:26
4.	ARKANOID - Music - Music - Other	00:48
5.	ATMOSPHERE - Music - Music - Other	00:42
6.	BASS&DRUM - Music - Music - Other	00:48
7.	BATMAN - Music - Music - Other	00:44
8.	BLUEX - Music - Music - Other	00:50
9.	CLAPTON - Music - Music - Other	00:44

To listen to the stored files in the uSD, select the Music and Spot folders, click on the file name to view pop up with the commands.

Press the media control button, further commands and level adjustments are available.

This screenshot shows the same 'inout' web interface as above, but with a pop-up menu open over the 'ARKANOID.MP3' track. The pop-up menu contains the following text and buttons:

ARKANOID.MP3  
TAGS: ARKANOID / Music / Music / Other

Buttons: Pause, Play, Stop

Close

The background shows the same music playlist as in the previous screenshot, with track 4, 'ARKANOID - Music - Music - Other', highlighted in green.

## View and search file/song

The screenshot shows the 'inout' admin interface. The sidebar on the left contains various settings and navigation options. The main content area is titled 'Player' and includes a 'Media control' section. A dropdown menu is open, showing options to view file names or tags by title, artist, album, or genre. A search box is available for finding tracks by title, author, or album. A list of tracks is shown, with the selected track being '5. ATMOSPHERE - Music - Music - Other' with a duration of 00:42.

Press Show files name button to see ID3 TAG of audio file:

- Show files name
- Show TAGS by Title
- Show TAGS by Artist
- Show TAGS by Album
- Show TAGS by Genre

You can view tracks for genre music by pressing the appropriate button

In the box, you can search song by title, author and album

## Listening playlist

The screenshot shows the 'inout' admin interface. The top header includes the logo and 'admin' text. The left sidebar lists various settings categories. The main content area is titled 'Playlist' and contains a 'Media control' section with sliders for Volume OUT (dB) at -11,5, Amp. Mute set to Auto, Bass Level (dB) at 5, and Treble Level (dB) at 3. Below the sliders is a playlist list with three items: 1. DemoPlaylist1.m3u (03:43), 2. DemoPlaylist2.m3u (03:57), and 3. DemoPlaylist3.m3u (02:12).

To listen to the stored playlists, click on the playlist name to display the pop-up with the commands.

Press the media control button, further commands and level adjustments are available.

**IMPORTANT:** set continuous play ON for playlist loop

The screenshot shows the 'inout' admin interface with a 'Playlist control' pop-up window. The pop-up contains buttons for Pause, Play, Stop, and Rewind, along with a 'Close' button. The background shows the same 'Media control' section and playlist list as the previous screenshot.

## Playlist Creator (to create a new playlist)

Right list is the files stored in the uSD in Music and Spot folders.

**New:** To create a new playlist, enter a name and press save

**<-Add Track:** To insert audio files into the playlist, press Add Track  
To change the order of the files, drag the file to the desired location.

**Del track:** To delete the audio file from the playlist, select and press del track

**Clear all:** To delete all files into playlist

**Del file:** To delete the playlist

**Clone:** To copy the same playlist and give it a different name

**Save:** When the playlist is complete, press the Save button

Press Show files name button to see ID3 TAG of audio file:

- Show files name
- Show TAGS by Title
- Show TAGS by Artist
- Show TAGS by Album
- Show TAGS by Genre

You can view tracks for genre music by pressing the appropriate button

In the box, you can search song by title, author and album

## To listen a new playlist:

**Run Playlist:** to listen a playlists in memory, select playlist name and press Run playlist button.

**Rewind:** to listen the playlist from the beginning, press Rewind button.

**Pause/Stop:** Pause / Stop playlist

### Media control

To scroll through the tracks quickly, additional commands are available by pressing the media control button

Prev previous file

Play Play file

Pause Pause file

Stop Stop file reproduction.

Next next file

## NP2 Technical features

Power supply..... : 12VDC / 15W  
Consumption in standby ..... : 0,5 W  
Protection ..... : inside fuse, 4A delayed.  
Capacity of extractable memory : microSD from 4GB to 32GB ( FAT/FAT32).  
Input absorption..... : 5 mA  
Relay contact Max.voltage..... : 1 A 30Vdc  
Formats accepted ..... : MPEG1 layer 3 (file MP3 from 64 to 360 Kbps)  
Response in frequency ..... : 20 ~ 20.000 Hz ( $\pm 3$ dB)  
Signal/noise ratio ..... : > 90dB.  
Harmonic distortion ..... : < 0,1%  
Output power..... : 15W (8  $\Omega$ ) THD+N= 5%  
Classification..... : IP 30 on the basis of liquid and dust penetration.  
Size/weight ..... : 90x62x36 mm. / 90gr. DIN Rail (EN 60715) mounting,  
2 modules according to DIN 43880.  
Packing (size and weight)..... : 230x180x80mm. / 415gr.  
Operating temperature..... : 0 to +60°C.  
Storage temperature..... : -20 to +60°C.

Manufactured by:  Noventa di Piave (VE) - ITALY

 Product compliant with the safeguard regulations CE about safety and electromagnetic compatibility.

## NP5 Technical features

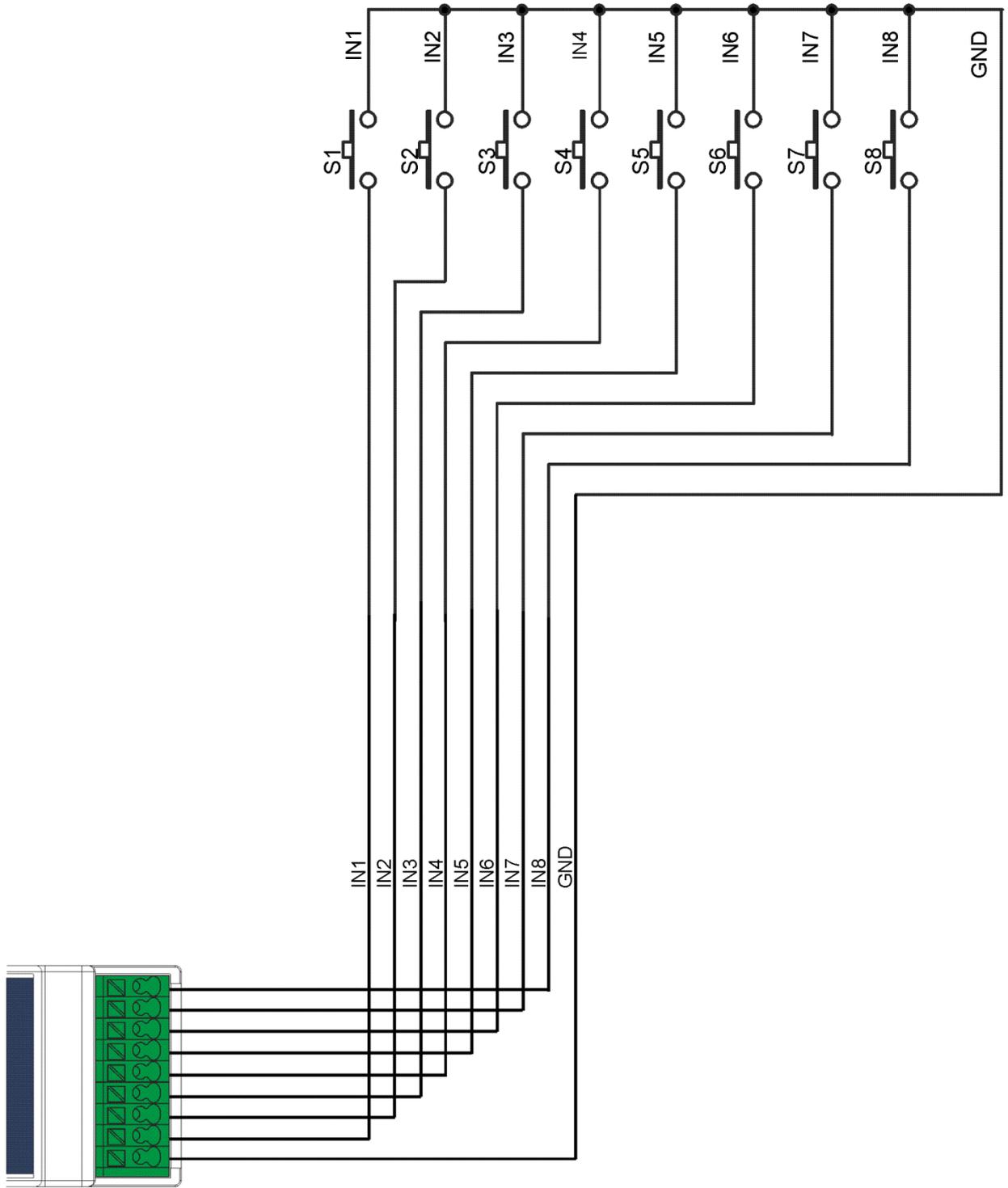
Power supply..... : 12VDC / 30W  
Consumption in standby ..... : 0,5 W  
Protection ..... : inside fuse, 4A delayed.  
Capacity of extractable memory : microSD from 4GB to 32GB ( FAT/FAT32).  
Input absorption..... : 5 mA  
Relay contact Max.voltage..... : 1 A 30Vdc  
Formats accepted ..... : MPEG1 layer 3 (file MP3 from 64 to 360 Kbps)  
Response in frequency ..... : 20 ~ 20.000 Hz ( $\pm 3$ dB)  
Signal/noise ratio ..... : > 90dB.  
Harmonic distortion ..... : < 0,1%  
Output power..... : 15+15W (8  $\Omega$ ) THD+N= 5%  
Classification..... : IP 30 on the basis of liquid and dust penetration.  
Size/weight..... : 147x84x19mm. / 280gr.  
Packing (size and weight)..... : 230x180x80mm. / 750gr.  
Operating temperature..... : 0 to +60°C.  
Storage temperature..... : -20 to +60°C.

Manufactured by:  Noventa di Piave (VE) - ITALY



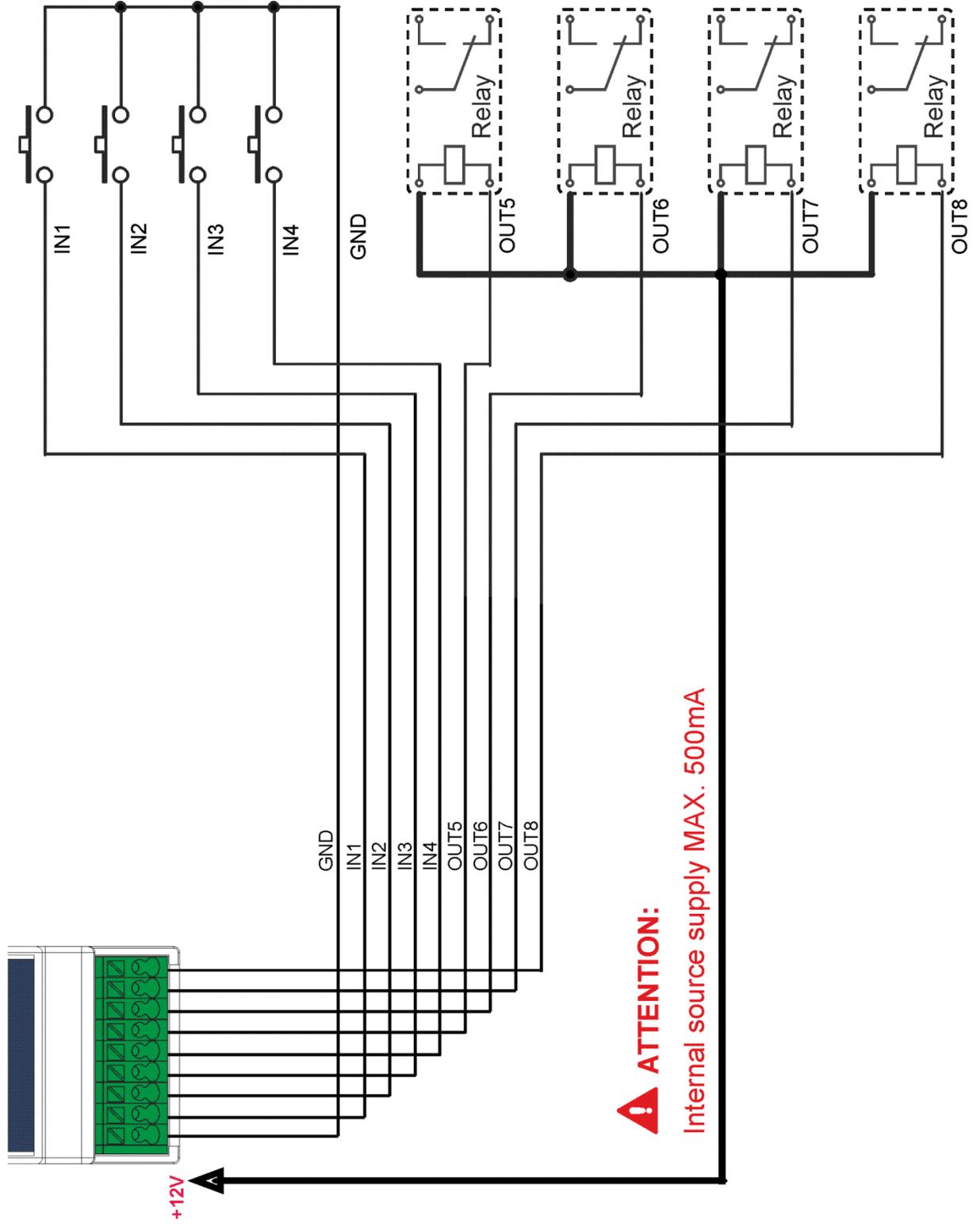
Product compliant with the safeguard regulations CE about safety and electromagnetic compatibility.

## NP2 application example: Advance Player with 8 input Binary code



## NP2 application example:

Advance Player with 4 input and 4 output external Relay 12Vdc

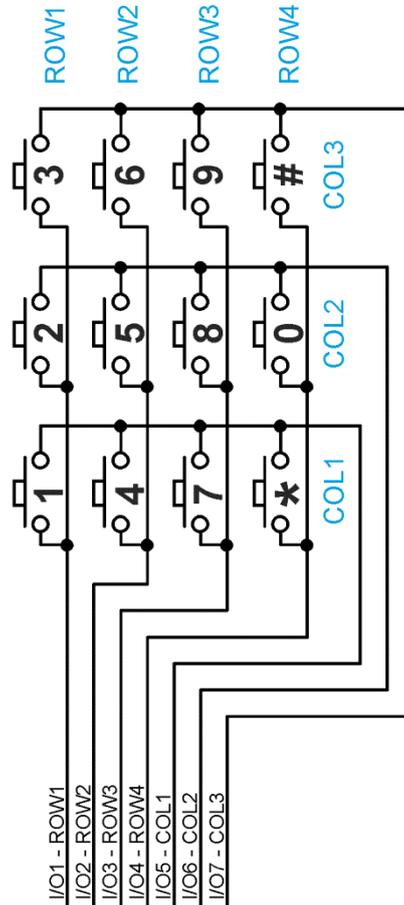
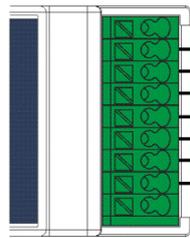
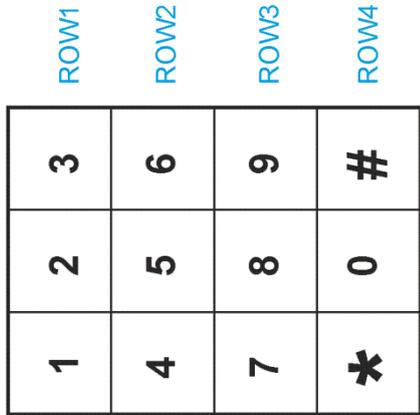


**ATTENTION:**

Internal source supply MAX. 500mA

### NP2 application example:

Telephone keypad connection 12 keys

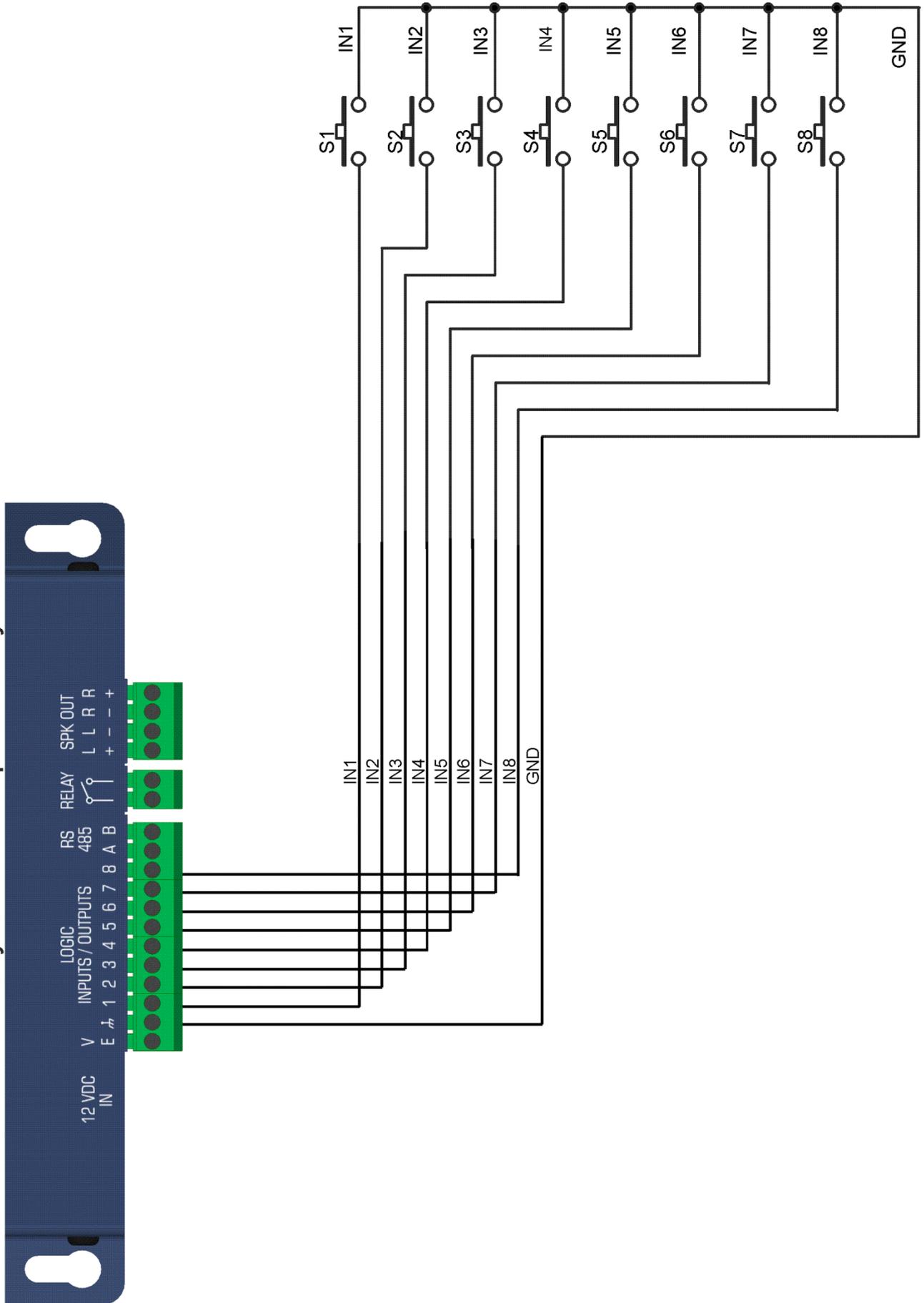


Enter the number and press # to play audio file

Press # to stop audio file

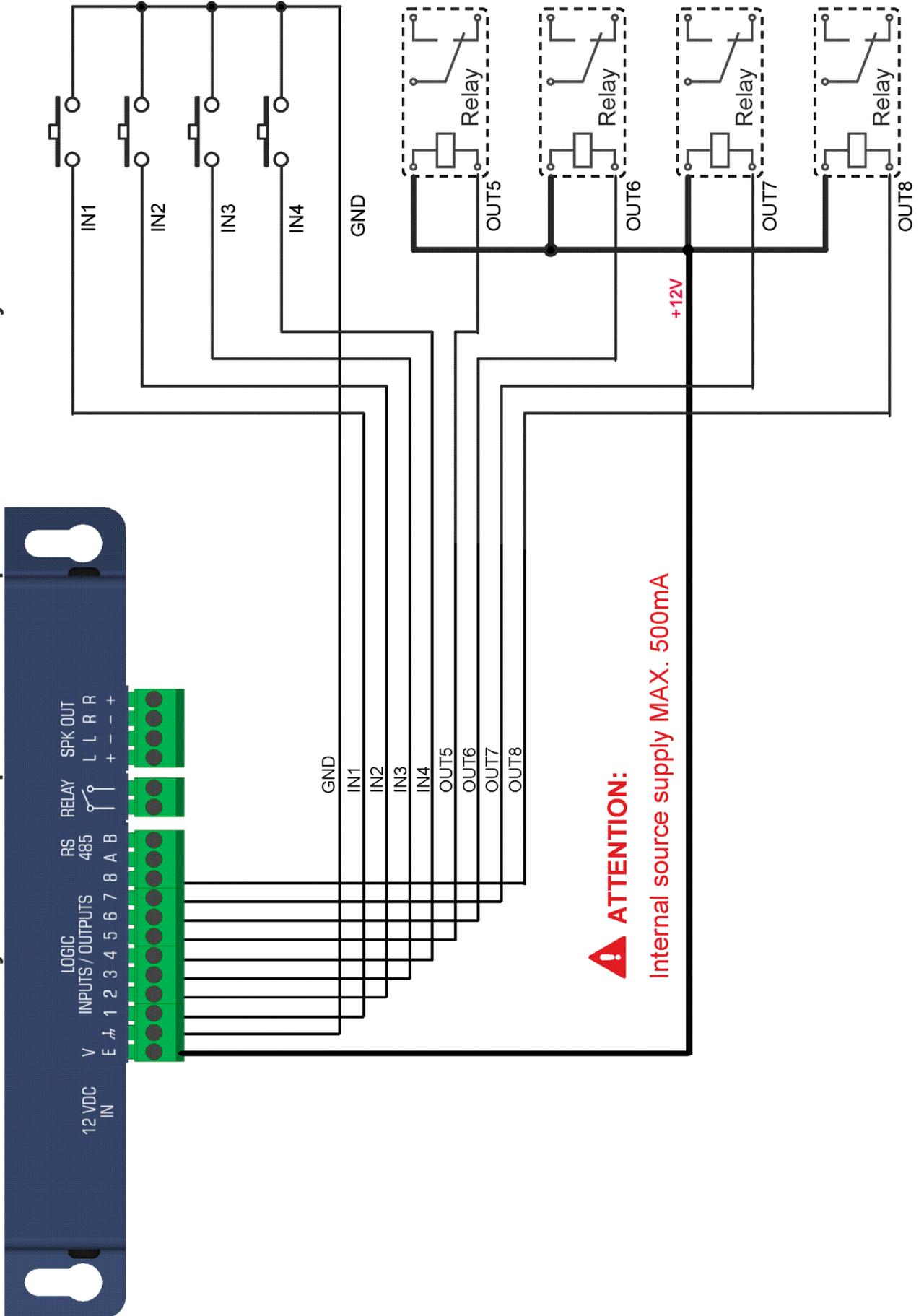
If you've pressed a wrong number, press \* to reset

## NP5 application example: Advance Player with 8 input Binary code



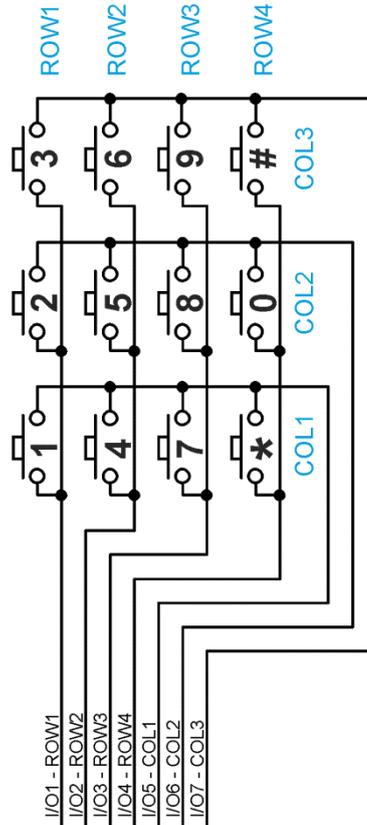
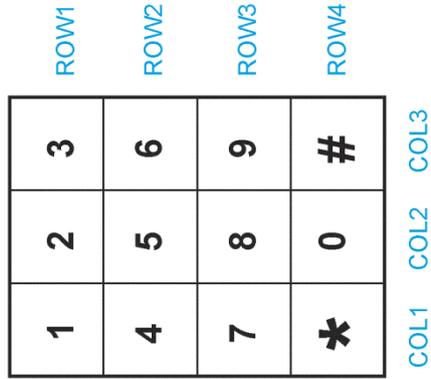
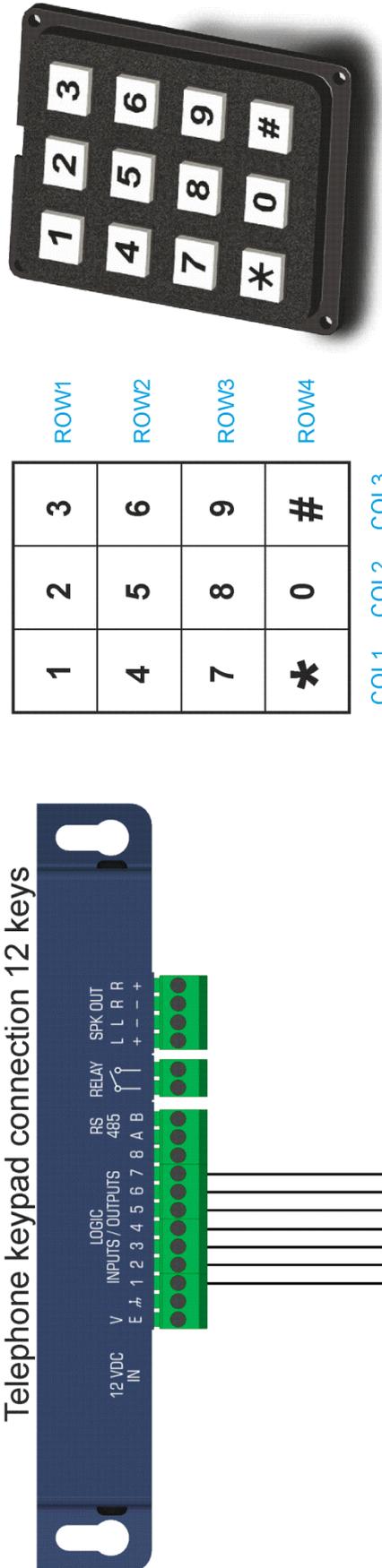
## NP5 application example:

Advance Player with 4 input and 4 output external Relay 12Vdc



**NP5 application example:**

Telephone keypad connection 12 keys



Enter the number and press # to play audio file

Press # to stop audio file

If you've pressed a wrong number, press \* to reset