



# WallboxPlayer – Spotify

[www.wallboxplayer.com](http://www.wallboxplayer.com)

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The WallboxPlayer is a device that turns your wallbox into a music player. This QuickStart manual provides basic instructions on how to install and operate the WallboxPlayer with **the Spotify option**. For complete instructions and options, refer to the full manual. In case you have any questions, contact me anytime.

## WallboxPlayer Features

- **Have your wallbox play your favorite music with or without a jukebox**
- **Song queue and/or random play**
- **Wireless/remote control capabilities**
- **Audio (3.5mm jack) and 2 speaker outputs, optional Spotify**

**This addendum describes the Spotify features. It is assumed the WallboxPlayer has been installed and setup in a Wallbox. The WallboxPlayer requires a 2<sup>nd</sup> SD card option and needs to have the short antenna installed for good WiFi reception.**

## 1 General Description

**The WallboxPlayer supports** a range of wallboxes. Music is stored on a microSD card and can be filled matching the wallbox titles or can be selected from a **Spotify Playlist**.

**The WallboxPlayer board** has an on-board MP3 player that accepts a user-filled microSD card. It has a jack plug for headphones or external audio. The board has a second microSD for supporting functions. Spotify is optional (beta). The board has optional WiFi /remote App capabilities. There are buttons for HW reset on the microprocessor and ('Select') to do the setup, cancel or add a play. All settings are done in the setup through software and stored.

**LEDs onboard** are used to display status:

- ExtVcc [green] Lights when an external 24V is connected (converted to 5V), supplying the board
- Ready [green] – shows that system is listening/ready to accept inputs (from wallbox or app). When player is transmitting or receiving, the green light will briefly be off.



## 2 Installation of Spotify

### 2.1 Setting the configuration file

The configuration SD card has a configuration text-file (JSON). Use a text or JSON editor to edit **CONFIG.JSON**. Numbers and text values between brackets can be changed. Please ensure the JSON consistency remains. The **CONFIG.JSON** file should be as follows with your Spotify credentials and token correctly filled in. At this point if you have a token (131 characters), you can fill it in. If you do not have the token, leave it empty and **follow the next steps (this beta and is not smooth yet)** if you want to generate this token using the WallboxPlayer, otherwise skip these steps.



1. Press onboard setup button for at least 5 seconds and release
2. Do not press any button until you get to "Tools"
3. Press the setup button a few times (5x) until you see SPOTIFYSETUP
4. The system will now tell you to use the browser to connect to your WallboxPlayer
5. Now quickly (within the timeout ~~10~~ 60 seconds) connect to the IP address of your player (e.g. 192.168.1.215/)
6. The page should show a text link saying "[Spotify Auth](#)", click this link and then the long token will appear.
7. Copy this token (should be 131 characters) and use this for the configuration file below. Latest versions of the WallboxPlayer save this key back into the config file on the SD card.

Fill in your settings and Spotify credentials (note the settings are also saved on the WallboxPlayer memory once entered).

```
{
  "Wallbox_in": 5,
  "Jukebox_out": 23,
  "Autoplay_mode": 0,
  "Volume": 19,
  "Equalizer": 5,
  "Control_relay": 0,
  "Pulse_adjust": 100,
  "Autoplay_number": 200,
  "This_device_name": "WBplayer_21",
  "This_device_ip": "192.168.1.215",
  "Network": "YOUR_WIFI_SSID",
  "Password": "YOUR_WIFI_PASSWORD",
  "Receiver_name": "",
  "Receiver_ip": "",
  "Blynk_token": "",
  "Spotify_token": "YOUR_131_CHARACTER_TOKEN_SHOULD_BE_FILLED_IN_HERE",
  "Spotify_id": "YOUR_32_CHARACTER_CLIENTID_HERE",
  "Spotify_secret": "YOUR_32_CHARACTER_CLIENTSECRET_HERE",
  "Spotify_playlist": "YOUR_SPOTIFYPLAYLIST_HERE",
  "Spotify_defaultlist": "",
  "//Comment0": "/// End of configuration - below is notes, not read",
  "//Comment1": "/// Use number [0,1] for y/n settings",
  "//Comment2": "/// Wallbox values Set to 1=MP3player to play songs",
  "//Comment3": "/// Wallbox/Jukebox values Seeburg 2=3W1 3=3W100 4=3W160 5=3WA 6=SC1 7=DEC_DMT 8=DEC_Direct",
  "//Comment4": "/// Wallbox/Jukebox values AMI 9=W40 10=W80 11=W120 12=W200",
  "//Comment5": "/// Wallbox/Jukebox values Rockola 13=1504 14=1544 15=1555 16=1558",
  "//Comment6": "/// Wallbox/Jukebox values Wurlitzer 17=5207 18=5210 19=5220 20=5225 21=5250",
  "//Comment7": "/// Wallbox/Jukebox values 22=Wireless, 23=Spotify",
  "//Comment8": "/// AutoPlay 0=no 1=3s 2=60s 3=5min 4=60min",
  "//Comment9": "/// Volume [0...24], Equalizer 0=Flat 1=Pop 2=Rock 4=Classic 5=Bass",
  "//Comment10": "/// Control_Relay 0=None 1=JBCancel 2=WBCoin 3=WBCredit, 4=WBSselect 5=ON-OFF"
}
```

#### Notes:

- ✓ Wallbox\_in is your wallbox type (see list of compatible devices in the comments).
- ✓ If you want the WallboxPlayer to startup using SD MP3 songs, the `Jukebox_out` should be set to 1 (is MP3\_player). If you want it to start using Spotify, set the configuration to 23 (Spotify).
- ✓ The playlist is a 22 character string taken from the URL (e.g. "[37i9dQZF1DX7KoFHqG7h6i](https://open.spotify.com/playlist/37i9dQZF1DX7KoFHqG7h6i)" from below <https://open.spotify.com/playlist/37i9dQZF1DX7KoFHqG7h6i?si=32c019f715144d00>). Please ensure your playlist **has at least 200 songs** (in this SW version).
- ✓ Use `This_device_ip` to use a **STATIC address** that can be easily found and accessed on your home network (e.g. 192.168.1.216). If left "", a dynamic address will be selected by your router (look for Espressif devices). Receiver name and IP do not need to be filled in. If the static IP is successfully



assigned, this will be shown in the display and this IP can be bookmarked on PC or Smartphone to easily access.

Reinsert the SD card with the configuration file and start the WallboxPlayer (you can have safety copies for yourself on the SD if you want, only CONFIG.JSON is read).

## 2.2 Starting the WallboxPlayer

After connections have been made, powering up should show screen startup messages with release version and wallbox type. **First make sure your Spotify is started and available on** your selected audio device. Following is displayed after startup...

- ❖ Reading configuration on 2<sup>ND</sup> SD card
- ❖ MP3 player check with number of music files on MP3 song SD
- ❖ Connecting WiFi with SSID
- ❖ Spotify Starting with IP address as connected to WiFi
- ❖ Spotify playing device name
- ❖ Spotify status, Spotify playing (or not), number of Spotify devices

After this, depending on the output device selected either “ Select Song” or “Select > Spotify” is shown.

## 2.3 Setup with onboard button

**The onboard ‘select’ (cancel/add/setup) button** to perform setup serves two functions, its primary function is to cancel the currently playing song or add a song when nothing is playing. The secondary function of this button is used within the setup menu which follows. The setup menu is accessed pressing the ‘select’ button **for 5 seconds**. After the instruction, which will be displayed for a few seconds, subsequent setting will be shown to be modified. Pressing the button will change the value of the item, waiting will show the next configuration item.

**The setup menu** allows to configure the following settings:

**Wallbox In:** This will configure what input signal is detected by the board, the type of wallbox the board is connected to. Compatible choices: **NONE, MP3, Sb\_3W1, Sb\_3W100, Sb\_3W160, Sb\_3WA, Sb\_SC1, Sb\_DEC, Sb\_DEC-direct, Ami\_W40, Ami\_W80, Ami\_W120, Ami\_W200, Roc\_1544, Roc\_1555, Roc\_1558, Wur\_5207, Wur\_5210, Wur\_5220, Wur\_5225, Wur\_5250, WiFiControl**

**Jukebox Out:** for WallboxPlayer mode and audio output, this must be **either 1 (for MP3) or for Spotify 23 (Spotify beta)**, and settings are correctly entered in the config, songs will be played on the linked Spotify account/device.

**AutoPlay:** This value sets the time in seconds until a random song is added to the queue. Selecting 0 will disable this function. Setting it to 60 will add song after one minute of idle time. Choices: **0, 15, 60, 300, 3600**.

**Volume:** This will determine the output volume of the MP3 player (jack output and speakers). It can be adjusted from 0 to 24. Choices: **0...24**.

**Equalizer:** This will select the available MP3 equalizer setting (jack output and speakers). Choices: **FLAT, POP, ROCK, CLASSIC, BASS**. **Suggested are Pop or Bass**.

**AutoPlay\_number:** If selecting this number with the buttons, (1=A1 etc.) will select autoplay and play random songs until selected again. **(0, 1 ... 159, 160, 200 (default is 0). Suggested is the highest number selectable (100 or 160 or 200)**.

**Random\_number:** This is optional, If selecting this number with the buttons, (1=A1 etc.) will select one random song. **(0, 1 ... 159, 160, (default is 0 = off)**



**Control\_mode:** determines the function of the additional on-board relay: **NONE, JBCANCEL, WBCOIN, WBCREDIT, SELECT, ON-OFF** (default is ON-OFF).

**Tools:** This menu choice will allow system updates, reset values, restart and a measure/listen utility mode. "RESTART" will restart the device. Note that MP3 player will keep playing until early in the startup process. Selecting "DEFAULTS" will set values of settings back to factory defaults. Choices: **NO, RESTART, DEFAULTS, UPDATEMODE, LISTEN, SPOTIFYSETUP**.

### 3 PLAYING MUSIC ON SPOTIFY OR MP3 SD-CARD

The **WallboxPlayer** has the following features:

The following features are available for SD card MP3 player **as well as Spotify**.

- Songs can be selected on the wallbox, play will start after selection or when a song is playing, song will be added to the queue (the WallboxPlayer will keep track of the queue).
- If a song is playing, the 'select' button will cancel the song (and play next in queue)
- If no song is playing, pressing the 'select' button will add a random song to the queue
- After choosing the AutoPlay number/selection (as set in the setup, e.g. 100, 160, 200), random songs will automatically be added and played (the MP3 player will select any song from the SD card; **Spotify any of 200 from a playlist**), select the AutoPlay number selection again to switch off the function

#### 3.1 Songs on the music SD card

The MP3 files are stored on a micro-SD card. Ensure the card is clicked in. The microSD card must be formatted as FAT32 (max 32GB)! The number of (.MP3) files can be as many selections as the wallbox can select. The best place for the MP3 files is in the root folder of the card. When copying files from the PC onto the SD card, Windows can hustle the order that then does not match the file/selections. A foolproof way to get the numbering and order right is as follows:

- Format the SD card
- Copy files from computer to SD with drag and drop, one at a time starting with the first one
- Wait until each file is copied, then copy the next (every time just one at a time)

This way, windows will not change the order as every file can only be added and has a later timestamp than the previous one. There is a second microSD (FAT32) slot for configuration settings and songname information.

Some configurations have a second SD card, this will store song titles that are displayed on the display (and web browser). A file **SONGS.TXT** with titles for each song will then be used. See WallboxPlayer manual.

The WallboxPlayer will also play MP3 songs that go beyond the selectable numbers (160/200). This is great for random play and hearing (random/surprise) songs other than the ones on the labels. For this, the best way is to create an extra folder (after having put the 160/200 songs on the SD) and simply fill it with the songs you want to hear in random play mode.

#### 3.2 Songs on a Spotify (Playlist)

Ensure the correct **Playlist** (not album) reference is in the config file.

- If Spotify is already playing a song, it is shown (including progress) in the display of the WallboxPlayer.
- If the song is selected by the Wallbox, it has a reference number (e.g. #K3 or #179), otherwise this label will be empty.



- If Spotify is connected and selectable (display shows “Song > Spotify”), a selection can be made. Pressing “Cancel” (on Wallbox button or in the App) will cancel current Spotify play.
- When making a selection (with Wallbox pushbuttons or with App keypad), the selected song will be added to the queue. If no song is playing or the previous song finished, the next song in the queue will be played.
- When selecting **AutoPlay** number (as defined in setup, e.g. K0, V8, V0 or 280), AutoPlay Random will start and stop.
- When switching from player by selecting “S” in the App, the current device will be stopped, control given to the other player device (MP3 or Spotify), and operation can continue by selecting songs.
- The default start device can be configured in the CONFIG.JSON file (Jukebox\_out; 1=MP3\_player, 23=Spotify).



## 4 THE WEB APP

Open a web browser on your PC or smartphone to the static address set in the configuration file. If the setting is left "", the WallboxPlayer will find a dynamic address.

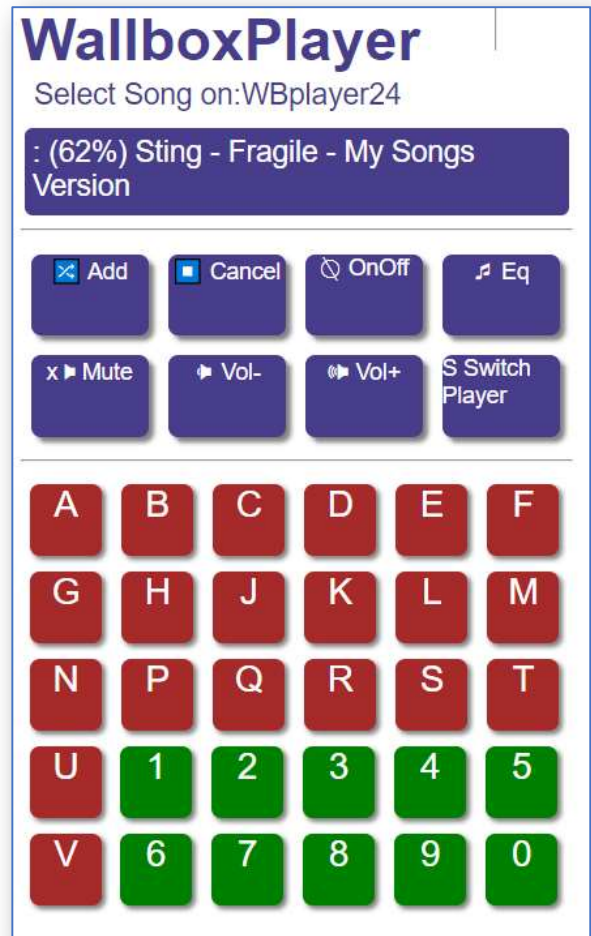
With the APP, you can now control the player and with the status of the player, and song being played is shown. Refresh is done regularly.

Display:

- ❖ **Line1:** the status line, added songs, queue
- ❖ **Line2:** shows currently playing song

Buttons:

- ❖ **Add:** adds a random song to the que
- ❖ **Cancel:** cancel current song and if there is a song in the que (or AutoPlay) play next song
- ❖ **On/Off:** control extra onboard relay
- ❖ **Eq:** toggle MP3 player equalizer between 5 different settings (not for Spotify)
- ❖ **Mute:** Mute and unmute
- ❖ **Vol- and Vol+:** Decrease and increase volume
- ❖ **Switch player:** from onboard MP3 to Spotify
- ❖ **Number and Letter keys:** Select a song and add to queue. If AutoPlay number is selected, AutoPlay will start/stop.



Please contact me in case of questions or inquiries or items not described here.

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