WallboxPlayer – QuickStart – SC1 Consolette

www.wallboxplayer.com

Aug 2024 – V2.0

This 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. 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**
- **Can be used to connect to wallbox and/or jukebox**
- **Wireless/remote control capabilities**
- **Audio (3.5mm jack) and 2 speaker outputs**
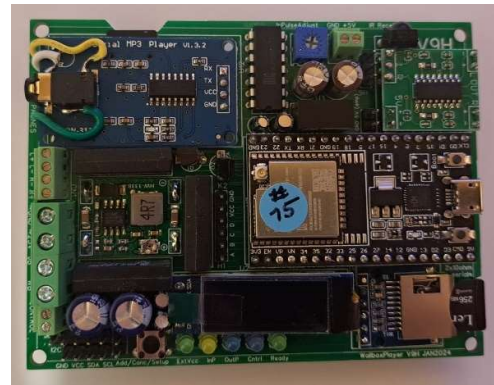- **Range of compatible wallboxes**

Specifications
Compact 75 * 90mm
State-of-the-art onboard processor
Can use wallbox 24VAC (or 5VDC)
MicroSD (FAT32 max 32GB): max 999 MP3 songs
Optional jukebox control
Board version V9 E…J

1 General Description

The WallboxPlayer supports a range of Seeburg, AMI, Rockola and Wurlitzer pulse-controlled jukeboxes. Tuning and customization is possible. Power to the player is provided from the wallbox, reducing the need for an extra power supply. Music is stored on a microSD card and can be filled matching the wallbox titles.

The WallboxPlayer board has connectors for most of the connections to be made to jukebox, wallbox, speakers. The on-board MP3 player 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. 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. LEDs indicate pulses coming in or going out and an optional credit contact made. The board features header connectors for an external 16x2 I2C LCD display, a DEC wallbox or additional driver for jukebox functions. All settings are done in the setup through software and stored. It has one trimmer to tune the sensitivity/speed of the incoming pulse signal. The on-board processor can be programmed through a micro-USB connector (or updated over-the-air). Stand-alone, the board is powered through the external 24VAC and converts this to 5V through the on-board voltage converter. The board is 7.5 cm x 9 cm and can be mounted in a 3W100, 3WA/160, DEC, Consolette or other popular wallboxes, or outside in a separate housing.

The device has been designed for and tested on Seeburg and Wurlitzer wallboxes. All other wallboxes are implemented on basis of documentation/simulators and will be added to the compatibility list when verified.

The 24VAC power from the wallbox is used, either through the jukebox or a separate widely available 24VAC (48VA; 2A) transformer or adapter. Use a fuse in primary and/or secondary power lines to avoid short circuit issues. The WallboxPlayer can also be powered by the 24VAC transformer installed in a jukebox.

The MP3 SD card slot can be found on the top left under the MP3 player, contacts should be on your side and visible before inserting. 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. Refer to the full manual for details. When during startup, the MP3 files cannot be read, the status LED will blink twice, and the red MP3 player LED will not be on.

To get a matching listing of the order of the songs on the SD, use DOS command:
```
DIR /B /A:-D *.MP3 > SONGS.TXT
```

Speaker output is via the (optional) onboard amplifier, two speakers (max 2*3W) can be connected. These speakers can be within the wallbox or external. The speaker output is via the connector labeled SpL+ SpL-, SpR+ and SpR-. Note the difference for wiring two separate speakers or a 3-lead consolette (see further below in this doc)!

LEDs onboard are used to display status:
- ExtVcc [green] Lights when an external 24V is connected (converted to 5V), supplying the board
- InP   [yellow] – lights up when a wallbox pulse is detected
- OutP   [blue] – optional: when a pulse is given that drives the stepper/receiver in the jukebox.
- Cntrl   [blue] – indicates enabling 'make selection' lightbulb or external on/off.
- Ready   [green] – shows that system is listening/ready to accept inputs (from wallbox or app).

The MP3 player mounted on the board has a red light that lights when the player is ready and blinks when playing a song. The microprocessor mounted on the board has an onboard red light that is on when the system is ready.

Adjustments are not required. In case of issues the blue potentiometer can be used to tune the sensitivity of the input pulse from the wallbox, detected by the system. It allows for either slower turning motors or 60Hz to work properly.
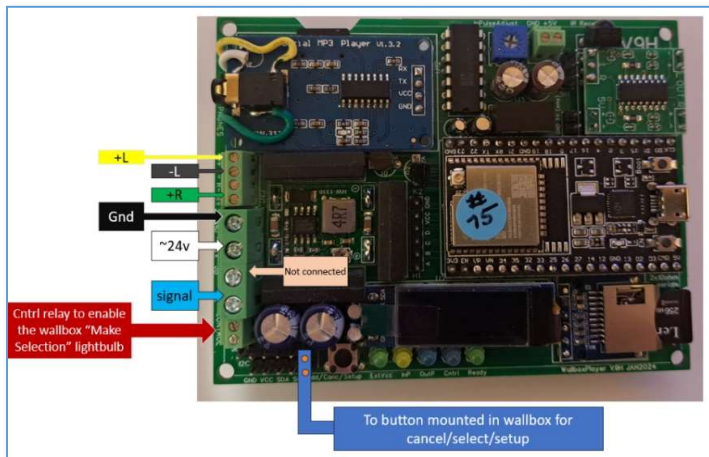
2   Installation

Setup, tools, and materials required for the installation:

- Screwdriver set, soldering iron (to extend cables if required), screws and isolation materials
- WallboxPlayer board V9 or higher
- Mounting materials for WallboxPlayer
- Optional enclosure case if not installed in wallbox
- Audio device or speakers
- Cables with fork /spade connector
- Jack plug for connection with amplifier / cables to internal or external speakers
- 24V AC power supply or power through jukebox (optional 1A fuse)
- Shrink tubing (optional) to make or extend cable connections
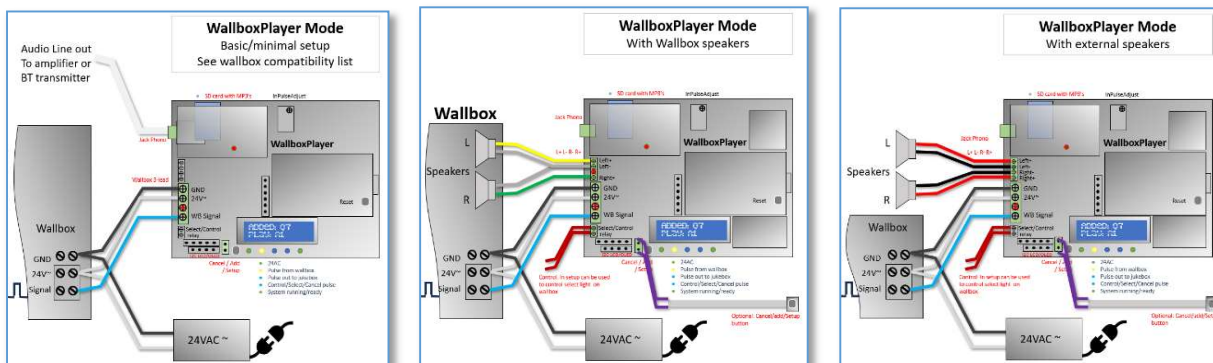
As a WallboxPlayer, connected to the wallbox only, make connections to the board as shown. Depending on installation connect to wallbox as shown below.

After connections have been made, powering up should show screen startup messages with release version, jukebox and wallbox type (including number of selections), operating mode and number of MP3 files on card, volume and equalizer setting, idle time before random play, selections before credit pulse, and number of plays/selects. After a few seconds the system will show the green status light and be available for selections and will display 'Make Selection'. If the control relay is setup to enable the lightbulb, the blue led will also be on. When during startup, the MP3 files cannot be read, the status LED will blink twice, and the red MP3 player LED will not be on.

Overview of wiring to wallbox:

The onboard 'select' 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 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, 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 MP3. For other selections, it will send out a pulse to a connected jukebox.

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 one of the available equalizers (jack output and speakers). Choices: FLAT, POP, ROCK, CLASSIC, BASS

Random_number: If selecting this number with the buttons, (1=A1 etc.) will select one random song. (0, 1 … 159, 160, (default is 0)

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, (default is 0)
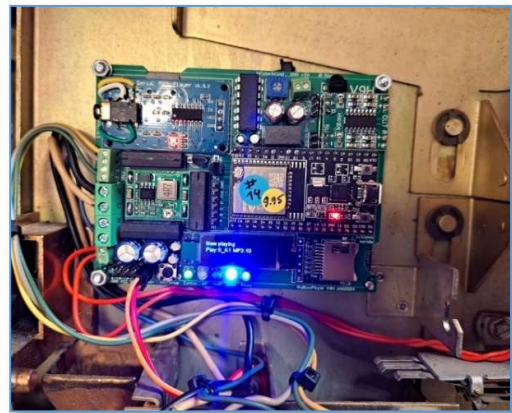
Control_mode: determines the function of the additional on-board relay: NONE, JBCANCEL,WBCOIN, WBCREDIT, SELECT, ON-OFF (default is ON-OFF). The "Select mode" can be used to enable the "Make selection" lightbulb in the wallbox.

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.

3   INSTALLATION:

Seeburg Consolette:

The best place is replacing the coin unit and putting the unit in freeplay mode. Alternatively, the board will fit underneath the lock bar next to the coin unit, under the title pages, or in place of the coin unit. Ensure there is an isolation layer or plate below the unit. Connect the three wires to the wallbox (black = ground; white = ~24V; 'signal' = wallbox signal, normally blue inside the box). Plug an audio device in the jack plug (or use the onboard optional amplifier to drive speakers. The wallbox needs to be powered by 24V on the black and white connector slugs. An optional I2C display (LCD or OLED) can be connected to display song information (in an enclosure box or one of the wallbox windows). Two other connections will greatly enhance the functionality:

- An optional external 'select' button will allow cancel and adding random songs.
- The control relay can be used to enable the lamp that lights up to select a song once the player is ready.
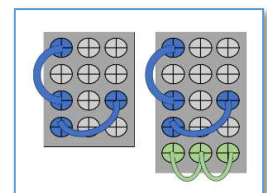
🌲 Ensure there is an isolation layer or plate below the unit

3.1   Prepare to mount the board

- Remove coin unit
- Remove any old grey 10lead cables that may have been cut
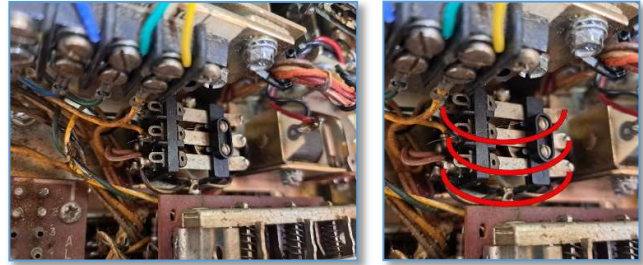- Mark position for WallboxPlayer

3.2   Preparing the wallbox

- To enable Freeplay, remove the credit unit (move the rotor and remove 2 screws, pull out plug and unit.
- Make connections to enable Freeplay (the relevant plug has 3*4 or 3*5 contacts. If the plag has 3*5 contacts, the lower 3 should be shorted to enable speakers.
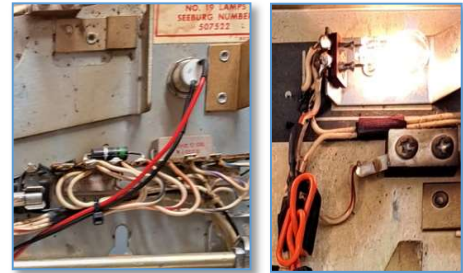
- The consolette has a relay to enable the speakers, in cases where the relay is not activated, the relay contacts must be bridged or otherwise no sound will be heard
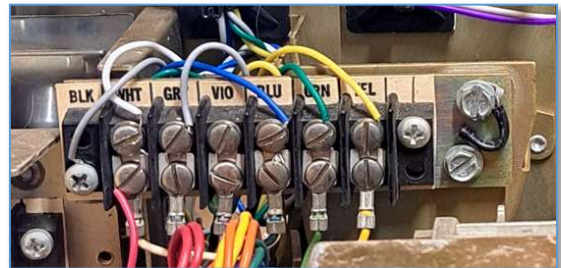

3.3 Mounting the board and button

- Make 4 M3 holes, use screws to mount the board at distance and isolated from the back cover (the black cover board can be used underneath)
- Mount the select/cancel/setup button in a (drilled) hole on the back or bottom
- Optional, if the select lightbulb is to be enabled, cut one of the leads and prepare to connect to the relay
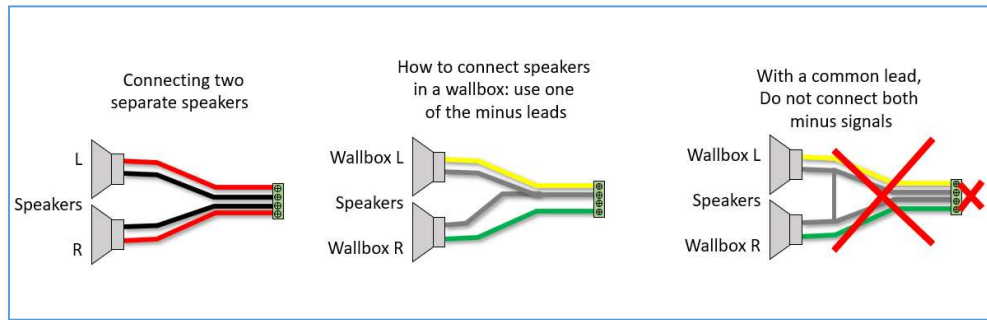

3.4 Making connections

- Connect the 2 power leads (BLK and WHT) and the signal lead (BLU) from wallbox to WallboxPlayer (large middle screw connector, only 3 of 4p will be used)
- Connect the 3 speaker wallbox leads (YEL, GRY, GRN) to the wallbox speakers (top small 4p screw connector) – for internal consolette speakers only 3 of 4p will be used.

- Connect the select/cancel/setup button (pin header on the board next to the button) – middle in picture
- Optional, connect the relay to enable the Wallbox "Make selection" lightbulb (bottom 2p small screw connector) top-left in picture

Important: Connecting the speakers in a wallbox (or a set of 2 speakers)

3.5　Connecting the 24VAC transformer and powering up

- Connect the 24VAC (2A) transformer to connector BLK (=gnd) and WHT (the first two screws from the left) on top of leads already in place.
- After powering up, the WallboxPlayer will also power up and the display will show relevant information on status and number of songs etc. After starting up, "Make selection" will show.
- Press the "Select/Cancel/Setup button on the board to test if song will start. Press again to cancel.
- Make selection on the Wallbox with the buttons A-V, 1-8. If blue lead is correctly connected, the yellow lamp will flash during rotor movement and pulses counted. Song will start and number played will be shown.

4　OPERATION:

The WallboxPlayer in the wallbox (or an enclosure) has following functions are available

- 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
- If an MP3 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 Random Play number/selection (as set in the setup, 1,2,159,160), one random song will automatically be added and played, even MP3's on the SD beyond the selection limit (of 160 or 200) – see instructions further below for how to do this.
- After choosing the AutoPlay number/selection (as set in the setup, 1,2,159,160), random songs will automatically be added and played (even MP3's on the SD beyond the selection limit of 160 or 200 – see instructions further below for how to do this.), select AutoPlay number again to switch off the function

(Re)loading songs, playing more than 160/200 and make listing
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.

The best way to get a matching listing of the order of the songs on the SD, use DOS command:
DIR /B /A:-D *.MP3 > SONGS.TXT

```
F:\>DIR /B /A:-D *.MP3 > SONGS.TXT

F:\>DIR /B /A:-D *.MP3
0001 - Queen - Bohemian Rhapsody.mp3
0002 - Eagles - Hotel California.mp3
0003 - Deep Purple - Child In Time.mp3
0004 - Led Zeppelin - Stairway To Heaven.mp3
0005 - Meat Loaf - Paradise By The Dashboard Light.mp3
0006 - Alan Parsons Project - Old And Wise.mp3
0007 - Animals - House Of The Rising Sun.mp3
0008 - Dire Straits - Brothers In Arms.mp3
0009 - Beatles - Hey Jude.mp3
0010 - John Lennon - Imagine.mp3
```

This will create a file that you can read and use for song titles.

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.

The WallboxPlayer will also play 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. In below, the folder "extra songs" contains (up to ~800) songs (Camel).

Troubleshooting

If for a consolette, the number selected by the MP3 player is higher than selected with the buttons, not enough pulses are received. Check if rotor contacts are clean. You can try to adjust the blue potentiometer on the board and turn more to the left or right, but this should not be needed.

Options:
- WiFi and Infrared control options are available – please inquire.
- WiFi requires a 2nd SD card. The network SSID and password need to be put in, an optional static IP address can be setup.
- Spotify – please inquire

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

Joop van den Heuvel
Sint-Oedenrode
The Netherlands

www.wallboxplayer.com
jhmheuvel1@gmail.com
Joopheuvel on Jukebox Addicts Board