WallboxPlayer Install - Seeburg 3WA-3W1

www.wallboxplayer.com

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This WallboxPlayer is a device that turns your wallbox into a music player. This manual provides basic instructions on how to install and operate the WallboxPlayer.

1 General Description

The WallboxPlayer supports a range of 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 wallbox, and speakers. The on-board MP3 player accepts a user-filled microSD card. It has a jack plug for external audio. The board has an optional data microSD slot for supporting functions. 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. Optionally, the board features header connectors for an external 16x2 I2C LCD display. 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 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, 3W1, Consolette or other popular wallboxes, or outside in a separate housing.

The 24VAC power from the wallbox is used, either through the jukebox or a separate widely available 24VAC 48VA; 2A transformer or adapter. The WallboxPlayer can also be powered by the 24VAC transformer installed in a jukebox. Do not use 28VAC.

The MP3 SD card slot can be found on the top left under the MP3 player. The 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 16GB). The number of (.MP3/.WAV) files can be as many as the wallbox can select, with some extra music files that will be played in AutoPlay mode. Music files can be saved in the root, numbered in an /MP3/ folder, or in an Album-mode. See the manual for details on how to best put your music files onto the music SD card.

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 between wiring two separate speakers or a 3-lead speaker connection (see further below in this document)!

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
- Cntrl [blue] – indicates enabling 'make selection' lightbulb
- 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 or small smd, depending on board version) 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

Connectors on the WallboxPlayer board:

Overview of wiring to wallbox:

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. 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 set up 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 (depending on board and application):

3 INSTALLATION:

Seeburg 3WA:

The best place is replacing the coin unit with the black coin unit housing (remove pins that are not needed. For direct mount in the Wallbox (right), ensure there is isolation between board and unit.

3.1 Preparing the wallbox

- Enable Freeplay (depends on 3WA Wallbox type). Alternatively, use optional 2nd relay as "WBCOIN" and provide a coin drop pulse shorting the coin flippers. Freeplay on 3W1 looks tricky, the option to add a coin-drop pulse after each song is selected can be used to add a credit.

3.2 Mounting the board and button INSIDE the wallbox and making connections

- Remove coin unit.
- Use the coin slide mount or make 4 M3 holes, use screws to mount the board at a distance and isolate 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

- **3WA**: Connect the 2 power leads (BLACK to GND; and WHITE to ~24V) and the signal lead (BLU to SIGNAL) from wallbox to WallboxPlayer (large middle screw connector, only 3 of 4p will be used).

- **3W1**: Connect the 2 power wires (BLACK to GND; and WHITE to ~24V) and the signal lead (BLU to SIGNAL) from wallbox to WallboxPlayer (large middle screw connector, only 3 of 4p will be used).

- The wallbox now still needs to be powered by 24VAC adapter on the ~24VAC and GND slugs (that at this point have the black and white cables also running to the WallboxPlayer). See below
- Connect the select/cancel/setup button (on the board next to the button, latest boards have screw connector, polarity/wire order or is not important). This external 'select' button will allow cancel and adding random songs.
- Note: If 24V and GND are reversed, the display will mention this at startup (and indicate the pulse signal is already high).
- If applicable, connect the speaker wallbox wires to the external speakers. Or audio jack plug to your audio device (see note).
- For 3W1 Freeplay. Make the red connection wire as shown in the picture. If present, connect the optional CONTROL relay to enable the Wallbox "Make selection" lightbulb or as extra coin-drop for systems where Freeplay is difficult. Behavior can be changed in setup. (bottom 2p 'control' small screw connector).

3.3 Mounting the board and button OUTSIDE the wallbox and making connections

- Mount the board in the external housing
- Mount the select/cancel/setup button in one of the holes and connect the select/cancel/setup button on the board next to the button, latest boards have screw connector, polarity/wire order or is not important)
- If there is an optional external display, connect the 4 wires as shown on the photo.
- The three wires (GND, 24V, SIGNAL) from the wallbox must be connected to the inputs of the WallboxPlayer (GND-black, 24V-white, SIGNAL-blue).
- There are two options to connect the 24V AC adapter onto the Wallbox. The first/left is preferred/most used with the transformer cables onto/powering the wallbox. See below. The right one is an alternative (e.g. for external housing).

- **3WA / 3W1/3W100**: Connect the 2 power leads from the 24VAC adapter, one cable to ~24V, and the other cable to GND.

- Note: If black and white cables to the wallboxplayer (24V and GND) are reversed, the display will mention this at startup (and indicate the pulse signal is already high). Try reversing them.

- If applicable, connect the external speakers. Or audio jack plug to your audio device (see note).
- Optionally, connect the external LCD or OLED (option), note different wiring.

3.4 Connecting the speakers (for versions with an onboard amplifier)

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

Important: connecting one or more of the 4 leads to the wallbox chassis ground can cause irreparable damage to the board and amplifier.

3.5 Connecting the 24VAC transformer and powering up

- 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, “Select Song” 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 are counted. Song will start and number played will be shown.

3.6 Pairing optional Bluetooth (option)

- When paired and connected, the red BT board LED blinks twice at ~5 sec interval.
- When idle and unpaired, the red led flashes slowly (~1sec interval)
- Short press the button for unpairing.
- To pair with a Bluetooth device, ensure it is not paired (with other device) now, put the Bluetooth speaker in pairing mode and press (2sec) the pair button, the red led will blink slowly (at ~2sec interval) and start pairing
- For more information look at the KCX BT module documentation.

3.7 Setup

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 by pressing the 'select' button for 5 seconds. After the instruction, which will be displayed for a few seconds, subsequent settings 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 you to configure the following settings:

- **Tools:** This menu choice will allow system updates, reset values, restart and a measure/listen utility mode. "RESTART" will restart the device. Note that the 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, …
- **Wallbox In:** Also see note below. 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_3W1_A1B1, Sb_3W1_AltFix,** 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, and others…
- **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.
- **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 and BOOST modes (+20%). Suggested are Pop or Bass.
- **AutoPlay_number**: If selecting this number with the buttons, (1=A1 etc.) autoplay starts and plays random songs until selected again. (0, 1 … 159, 160, 200 (default is 0). Suggested is 1 = A1.
- **Control_mode**: This 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. WBCOIN (3WA) to generate a coin drop after a selection is made.
- **AutoPlay_startup:** 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 idle minute. Choices: 0, 15, 60, 300, 3600.

- **! Note1: Some 3W1 have one less number pulse for A C E G J as of rotor contact synchronization issue. Use this setting for that situation as a workaround fix.**
- **Note2: Use Sb_3W1_A1B1 for alternative labeling A1, B1, C1, D1 etc.**

4 OPERATION:

- See the WallboxPlayer operation manual for how to select songs, fill the SD card and perform setup changes.

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

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

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Pictures: 3W1, 3W160, 3WA.