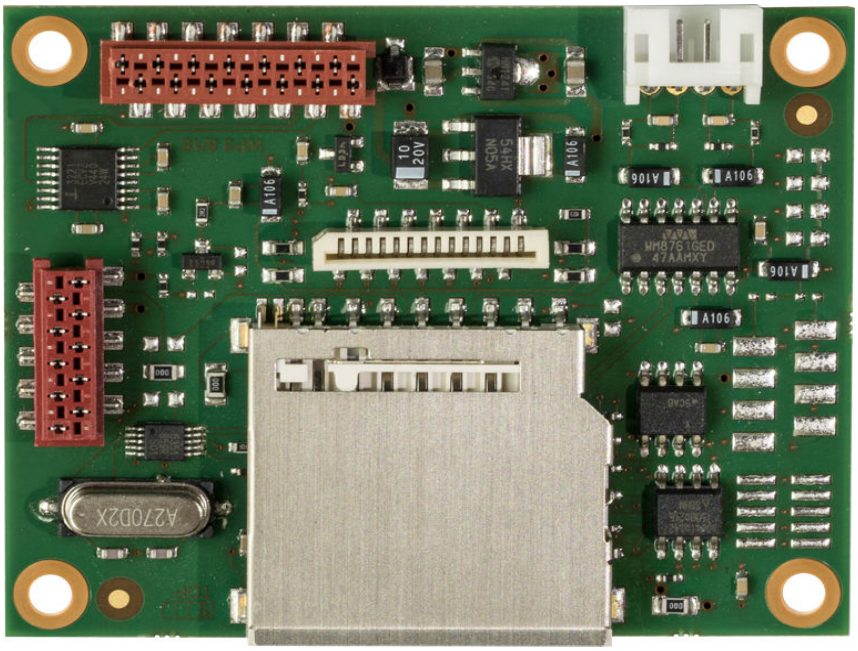

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Common

The waveplayer base board is available in two variants. 8-channel and 2-channel version.
The 8-channel version is working only with a 8-expansion board. The 2-channel version has thier own D/A converter.

First-Time Operation

Format a SD/SDHC/SDXC card with a common SD card reader (**FAT/FAT32**).
The size of Cluster hasn't to be lower than **32 kB**.
In the case of cluster size lower than this value you will see the following Message:
Format Error! ↵ Cluster < 32 kB
Now copy the all files to use to the SD card. You can create folders and subfolders as much as you want.

Now insert the SD card into the SD connector. Insert the Display (optional) into the Display connector and connect button or interface connectors to the board. If you want to use a 8-channel expansions board with the waveplayer main board connect it with a 10-pin flex cable.

Now the player has to be connected with a power. The display will show the version of software for a short time period. After that the player is sorting the files alphabetically. Depending from the count of files and the length of the file names this can take some seconds.

The next step recommended is to take all settings in the config menu.
The settings are the same as for „WavePlayer8" final unit.

Button Control Logic

Button	Player in Stop	Player in Play	Player in Pause
+	next song	fast-forwared	fast-forwared
-	previous song	fast-rewind	fast-rewind
Stop	-	stop	stop
Play	play	display of : song name, main volume, channel volume 1-x, playinfo(fs,bits,ch)	play
Pause	pause	pause or main/channel volume reverse	play
Menu	config menu	-	light on/off

Main Volume & Channel Volume Setting

By repeatedly pressing the start button in play mode you can reach the main and channel volume settings of all 8 channels. By pressing the ± buttons you can change the volume in steps of 0.5dB. This settings are automatically saved if you go to the next(play) or the last(pause) parameter.

Timecode

The time value of the timecode is identical to the play time of the current song.
If a valid timecode is received (5 consecutive frames) and this value is in the range of the playtime of the current song, the playtime will be adapted. The maximum deviation between master and slave is ± 0.5ms. The frame rate is 25 f/s.

RS-232 Protocol

Please check the manual of „WavePlayer8“ final unit for the protocol documentation.

Software-Update

Copying „wp3image.bin“ to the SD card and instert them in a running device.
If the player find the update he will offer the update. Press „Play“ and wait for the ready message. After this a restart is required. Done!

Description of the Board Connectors

Voltage and Signal Connectors (red 14-pin)

Pin	Assignment	Comment
1	GND	
2	VCC (5-9V)	
3	RS232(RXD)	DB9 plug (pin 2)
4	RS232(TXD)	DB9 plug (pin 3)
5		
6		
7	P0	pause
8	P1	stop
9	P2	+
10	P3	-
11	P4	play
12	P5	menu
13	SMPTE timecode	input (CMOS level 3.3V)
14	SMPTE timecode	output(CMOS level 3.3V)

Note: The buttons are related to GND.

Expansion Connector (red 10-pin)

Pin	Assignment	Comment
1	GND	
2		
3	GND	
4	3.3V (out)	
5	Data In	I2S interface
6	Data Out	I2S interface
7	Bit Clock	I2S interface
8	Word Clock	I2S interface
9	SDA	I2C interface
10	SCL	I2C interface

Expansion Connector (8-pin not mounted)

Pin	Assignment	Comment
1	PX1	play song „01 ...“
2	PX2	play song „02 ...“
3	PX3	play song „03 ...“
4	PX4	play song „04 ...“
5	GND	
6	3.3V (out)	
7	PX5	play song „05 ...“
8	PX6	play song „06 ...“

Display Connector (white 14-pin)

Pin	Assignment	Display Signals
1	PB7	DB7
2	PB6	DB6
3	PB5	DB5
4	PB4	DB4
5	PB3	DB3
6	PB2	DB2
7	PB1	DB1
8	PB0	DB0
9	PD2	EN
10	PD1	R/W
11	PD0	RS
12	-1V (out)	Vo
13	3.3V (out)	VDD
14	GND	VSS

Audio Connector (white 4-pin)

Pin	Assignment
⊥	Analog GND
L	Left out
⊥	Analog GND
R	Right out

Supported sample rates

Sample Frequency	2-channel version	8-channel version
32 kHz	yes	yes
44.1 kHz	yes	yes
48 kHz	yes	yes
96 kHz	yes	-
192 kHz	yes	-

Technical Data

Mainboard

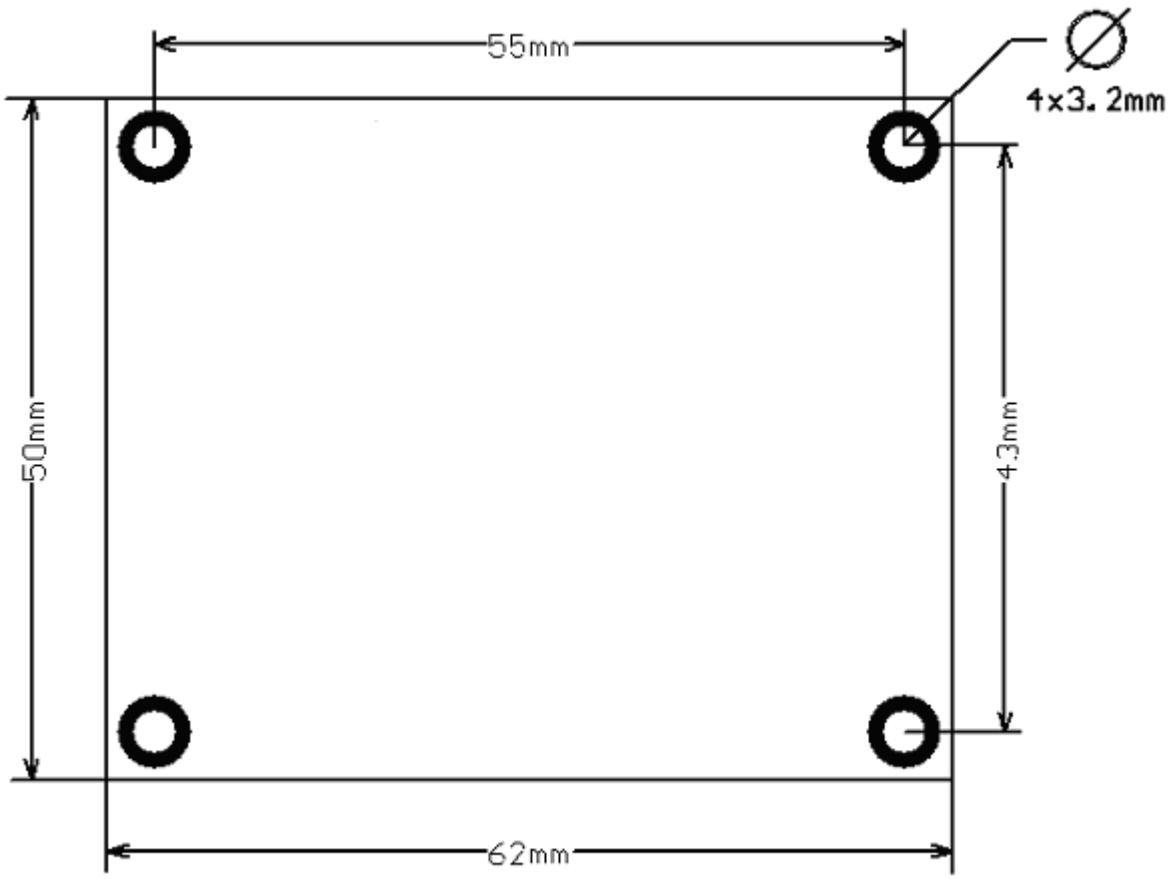
Operating voltage	5-9V DC
Current draw	90mA
with SD card (8GB)	110mA
Line level output max.	2.0Vpp
Load resistance optimal	10kOhm
Temperature range	0-70'C
Dimensions	50mm x 62mm x 8mm
Weight	18g

8 Channel Expansion

Operating voltage	3.3V DC[1]
Current draw	130mA
Line level output max.	2.4Vpp (0dBu)
Load resistance optimal	10kOhm
Temperature range	0-70'C
Dimensions	50mm x 62mm x 8mm
Weight	12g

1) Supplied by mainboard

Drawing with Dimensions



Accessories

Provided:

- 14-pin ribbon cable with one side plug (13cm)
- CD rom audio cable (0.5m)

Optional available:

- LCD display (2x16 character)
- Button board (6 buttons with connector for power wall supply)
- Power wall supply (5V/0.5A)
- 8-channel audio expansion